	Nomina generalia	**General terms**
E1.0.0.0.0.0.1	Modus reproductionis	Reproductive mode
E1.0.0.0.0.0.2	Reproductio sexualis	Sexual reproduction
E1.0.0.0.0.0.3	Viviparitas	Viviparity
E1.0.0.0.0.0.4	Heterogamia	Heterogamy
E1.0.0.0.0.0.5	Endogamia	Endogamy
E1.0.0.0.0.0.6	Sequentia reproductionis	Reproductive sequence
E1.0.0.0.0.0.7	Ovulatio	Ovulation
E1.0.0.0.0.0.8	Erectio	Erection
E1.0.0.0.0.0.9	Coitus	Coitus; Sexual intercourse
E1.0.0.0.0.0.10	Ejaculatio[1]	Ejaculation
E1.0.0.0.0.0.11	Emissio	Emission
E1.0.0.0.0.0.12	Ejaculatio vera	Ejaculation proper
E1.0.0.0.0.0.13	Semen	Semen; Ejaculate
E1.0.0.0.0.0.14	Inseminatio	Insemination
E1.0.0.0.0.0.15	Fertilisatio	Fertilization
E1.0.0.0.0.0.16	Fecundatio	Fecundation; Impregnation
E1.0.0.0.0.0.17	Superfecundatio	Superfecundation
E1.0.0.0.0.0.18	Superimpregnatio	Superimpregnation
E1.0.0.0.0.0.19	Superfetatio	Superfetation
E1.0.0.0.0.0.20	Ontogenesis	Ontogeny
E1.0.0.0.0.0.21	Ontogenesis praenatalis	Prenatal ontogeny
E1.0.0.0.0.0.22	Tempus praenatale; Tempus gestationis	Prenatal period; Gestation period
E1.0.0.0.0.0.23	Vita praenatalis	Prenatal life
E1.0.0.0.0.0.24	Vita intrauterina	Intra-uterine life
E1.0.0.0.0.0.25	Embryogenesis[2]	Embryogenesis; Embryogeny
E1.0.0.0.0.0.26	Fetogenesis[3]	Fetogenesis
E1.0.0.0.0.0.27	Tempus natale	Birth period
E1.0.0.0.0.0.28	Ontogenesis postnatalis	Postnatal ontogeny
E1.0.0.0.0.0.29	Vita postnatalis	Postnatal life
E1.0.1.0.0.0.1	**Mensurae embryonicae et fetales[4]**	**Embryonic and fetal measurements**
E1.0.1.0.0.0.2	Aetas a fecundatione[5]	Fertilization age
E1.0.1.0.0.0.3	Aetas ab ovulatione[6]	Ovulation age
E1.0.1.0.0.0.4	Aetas ab inseminatione[7]	Insemination age
E1.0.1.0.0.0.5	Hebdomades post coitum[8]	Coital weeks
E1.0.1.0.0.0.6	Hebdomades post menses ultimas[9]	Menstrual weeks

[1] E1.0.0.0.0.0.10 *Ejaculatio* The reflex process of *ejaculation* occurs in two phases: in the first – *emission* – contraction of smooth muscle of glands and ducts delivers the various components of semen into the prostatic urethra; in the second – *ejaculation proper* – the striated muscles of the urogenital triangle (particularly the bulbospongiosus muscles) contract spasmodically and expel semen from the urethra.

[2] E1.0.0.0.0.0.25 *Embryogenesis* Embryogenesis is the process of embryo formation. It entails the formation of the principal organs and systems and the acquisition of uniquely human surface features that are apparent with the unaided eye. The process begins at fertilization and ends, somewhat arbitrarily, 56 days later. It is divided into 23 internationally accepted Carnegie Stages (O'Rahilly R, Müller F. Developmental stages in human embryos. Washington DC: Carnegie Institution of Washington; 1987). Each Carnegie Stage is an arbitrarily defined cut through the time axis of the embryo but is based upon carefully-defined external and internal morphological criteria and not on either measured length or estimated age. Thus, an embryo of a particular length or age is not necessarily an embryo of a particular stage. It is important to note that, while the stages have not been redefined, the norm for the estimated age of certain stages has been revised in subsequent papers and textbooks by these authors on the basis of ultrasound investigations [see footnote[31]].

[3] E1.0.0.0.0.0.26 *Fetogenesis* Fetogenesis entails the growth and differentiation, particularly functional differentiation, of the conceptus after embryogenesis is completed. It thus begins on day 57, following the Stage 23 embryo that already has its principal organs, systems and distinctly human features, and ends at birth, when the fetus becomes a newborn infant or neonate. The time in which fetogenesis occurs may be divided into early, intermediate and late fetal periods, which correspond to the trimesters of pregnancy in which they occur. There is, however, no agreement on precisely which weeks are encompassed by the first trimester: here it is regarded as beginning at fertilization and as being occupied by embryogenesis and the early fetal period, the 9th to the 13th post fertilization week.

[4] E1.0.1.0.0.0.1 *Mensurae embryonicae et fetales* The norms for measurements of lengths, diameters and circumferences in mm and of weights in grams are given for each postfertilization week in Table A-4 in O'Rahilly R, Müller F. Human Embryology & Teratology. 3rd ed. New York: Wiley-Liss; 2001.

[5] E1.0.1.0.0.0.2 *Aetas a fecundiatione* *Fertilization age* begins at the time of fertilization with the sperm penetrating the oocyte and the formation of the zygote. It is the true age of the conceptus and the preferred measure.

[6] E1.0.1.0.0.0.3 *Aetas ab ovulatione* *Ovulation age* begins on the day of the ovulation that preceded fertilization and the formation of the zygote: it is about 0.5 day longer than fertilization age.

[7] E1.0.1.0.0.0.4 *Aetas ab inseminatione* *Insemination age* begins when the sperm and oocyte are introduced in artificial insemination or in vitro fertilization.

[8] E1.0.1.0.0.0.5 *Hebdomades post coitum* *Coital weeks* begin from the time of the coitus that resulted in the pregnancy. Normally, fertilization occurs early in the first coital week. Since the embryo does not exist for the first part of the first coital week, the term coital age is inappropriate.

E1.0.1.0.0.0.7	Longitudo corona calx	Crown-heel length; CHL; Total length; Standing height
E1.0.1.0.0.0.8	Longitudo maxima[10]	Greatest length; GL
E1.0.1.0.0.0.9	Longitudo corona nates	Crown-rump length; CRL; Sitting height
E1.0.1.0.0.0.10	Longitudo cervix nates	Neck-rump length
E1.0.1.0.0.0.11	Longitudo femoris ossificati	Length of ossified femur
E1.0.1.0.0.0.12	Longitudo pedis	Foot length; FL
E1.0.1.0.0.0.13	Diameter biparietalis	Biparietal diameter
E1.0.1.0.0.0.14	Diameter cavitatis amnioticae	Diameter of amniotic cavity
E1.0.1.0.0.0.15	Diameter cavitatis chorionicae	Diameter of chorionic cavity
E1.0.1.0.0.0.16	Diameter vesiculae umbilicalis; Diameter sacci vitellini	Diameter of umbilical vesicle; Diameter of yolk sac
E1.0.1.0.0.0.17	Circumferentia abdominis	Abdominal circumference
E1.0.1.0.0.0.18	Circumferentia capitis	Head circumference
E1.0.1.0.0.0.19	Pondus corporis	Body weight
E1.0.1.0.0.0.20	Pondus encephali	Brain weight
E1.0.1.0.0.0.21	Pondus placentae	Placental weight
E1.0.2.0.0.0.1	**Cycli genitales feminini**	**Female reproductive cycles**
E1.0.2.1.0.0.1	**PHASES OVARICAE**	**OVARIAN PHASES**
E1.0.2.1.0.0.2	Phasis infantilis	Infantile phase
E1.0.2.1.0.0.3	Phasis praepubertalis	Prepubertal phase
E1.0.2.1.0.0.4	Phasis pubertalis	Pubertal phase
E1.0.2.1.0.0.5	Phasis matura	Mature phase
E1.0.2.1.0.0.6	Phasis involutionis	Involution phase
E1.0.2.2.0.0.1	**CYCLUS OVARICUS**	**OVARIAN CYCLE**
E1.0.2.2.0.0.2	Oogenesis	Oogenesis
E1.0.2.2.0.0.3	Phases cycli ovarici	Phases of ovarian cycle
E1.0.2.2.0.0.4	Phasis follicularis	Follicular phase
E1.0.0.0.0.0.7	Ovulatio	Ovulation
E1.0.2.2.0.0.5	Phasis corporis lutei	Luteal phase; Corpus luteum phase
E1.0.2.2.0.0.6	Phasis involutionis	Involution phase
E1.0.2.2.0.0.7	Typi ovulationis	Types of ovulation
E1.0.2.2.0.0.8	Ovulatio uniovularis	Uni-ovular ovulation
E1.0.2.2.0.0.9	Ovulatio multiovularis	Multi-ovular ovulation
E1.0.2.2.0.0.10	Ovulatio spontanea	Spontaneous ovulation
E1.0.2.2.0.0.11	Ovulatio superovularis; Superovulatio	Superovulation
E1.0.2.2.0.0.12	Superovulatio inducta	Induced superovulation
E1.0.2.3.0.0.1	**CYCLUS MENSTRUALIS ENDOMETRII**	**ENDOMETRIAL MENSTRUAL CYCLE**
E1.0.2.3.0.0.2	Amenorrhoea primaria	Primary amenorrhoea▲
E1.0.2.3.0.0.3	Menarcha	Menarche
E1.0.2.3.0.0.4	Phasis proliferativa; Phasis follicularis	Proliferative phase; Follicular phase; Oestrogenic phase▲
E1.0.2.3.0.0.5	Phasis ovulatoria	Ovulatory phase
E1.0.2.3.0.0.6	Phasis secretoria; Phasis lutealis	Secretory phase; Luteal phase; Progesterone phase
E1.0.2.3.0.0.7	Phasis gestatoria	Gestatory phase
E1.0.2.3.0.0.8	Phasis ischaemiae	Ischaemic phase▲
E1.0.2.3.0.0.9	Phasis menstrualis; Phasis desquamativa	Menstrual phase; Desquamation phase
E1.0.2.3.0.0.10	Menses	Menses
E1.0.2.3.0.0.11	Phasis postmenstrualis	Postmenstrual phase
E1.0.2.3.0.0.12	Amenorrhoea secundaria	Secondary amenorrhoea▲
E1.0.2.3.0.0.13	Climacter	Climacteric

[9] E1.0.1.0.0.0.6 *Hebdomades post menses ultimas Menstrual ("gestational") weeks* begin from the first day of the mother's last menstrual period [LMP] before becoming pregnant and are the usual measure in obstetric practice. Since the embryo does not usually come into being until the first two menstrual weeks have passed, the term menstrual "age" is inappropriate. The term gestational age is superfluous, ambiguous and should be abandoned, it having been variously equated with menstrual weeks, ovulation age and fertilization age (O'Rahilly R, Müller F. Prenatal ages and stages: measures and errors. Teratology 2000;61:382-384).

[10] E1.0.1.0.0.0.8 *Longitudo maxima Greatest length* [GL] is the preferred measure of length, being independent of fixed points, which are not always easy to determine. GL coincides with crown-rump length [CRL] at Stages 11 and 12; GL is generally more than CRL and coincides with neck-rump length from Stages 13-17; GL and CRL again coincide from Stages 18-20 onwards (O'Rahilly R, Müller F. Embryonic length and cerebral landmarks in staged human embryos. Anat Rec 1984;209:265-271).

E1.0.2.3.0.0.14	Menopausa	Menopause
E1.0.2.4.0.0.1	**CYCLUS VAGINALIS**[11]	**VAGINAL CYCLE**
E1.0.2.4.0.0.2	Phasis initialis	Initial phase
E1.0.2.4.0.0.3	Phasis ovulationis	Ovulation phase
E1.0.2.4.0.0.4	Phasis sera	Later phase
E1.0.2.5.0.0.1	**CYCLUS GLANDULAE MAMMARIAE**	**MAMMARY GLAND CYCLE**
E1.0.2.5.0.0.2	Phasis inactiva	Inactive phase
E1.0.2.5.0.0.3	Phasis proliferativa	Proliferative phase
E1.0.2.5.0.0.4	Lactatio	Lactation
E1.0.2.5.0.0.5	Phasis colostralis	Colostral phase
E1.0.2.5.0.0.6	Phasis lactifera	Milk phase
E1.0.2.5.0.0.7	Phasis involutionis	Involution phase
E1.0.2.6.0.0.1	**PREGNATIO; GRAVIDITAS**	**PREGNANCY; GESTATION**
E1.0.2.6.1.0.1	**Graviditas**	**Gravidity**
E1.0.2.6.1.0.2	Nulligraviditas	Nulligravidity
E1.0.2.6.1.0.3	Nulligravida	Nulligravida
E1.0.2.6.1.0.4	Primigraviditas	Primigravidity
E1.0.2.6.1.0.5	Primigravida	Primigravida
E1.0.2.6.1.0.6	Multigraviditas	Multigravidity
E1.0.2.6.1.0.7	Multigravida	Multigravida
E1.0.2.6.2.0.1	**Paritas**	**Parity**
E1.0.2.6.2.0.2	Nulliparitas	Nulliparity
E1.0.2.6.2.0.3	Nullipara	Nullipara
E1.0.2.6.2.0.4	Primiparitas	Primiparity
E1.0.2.6.2.0.5	Primipara	Primipara
E1.0.2.6.2.0.6	Multiparitas	Multiparity
E1.0.2.6.2.0.7	Multipara	Multipara
E1.0.2.6.3.0.1	**Pregnatio uterina**	**Uterine pregnancy**
E1.0.2.6.3.0.2	Pregnatio cornualis	Cornual pregnancy
E1.0.2.6.3.0.3	Pregnatio fundica	Fundal pregnancy
E1.0.2.6.3.0.4	Pregnatio corporalis	Uterine body pregnancy
E1.0.2.6.3.0.5	Pregnatio cervicalis[12]	Cervical pregnancy
E1.0.2.6.3.0.6	Placenta praevia	Placenta praevia▲
E1.0.2.6.4.0.1	**Cyclus pregnationis**	**Pregnancy cycle**
E1.0.2.6.4.0.2	Conceptio	Conception
E1.0.2.6.4.0.3	Conceptus[13]	Conceptus
E1.0.2.6.4.0.4	Cyema[14]	Cyema
E1.0.2.6.4.0.5	Embryo [St.1 ad 23][15]	Embryo [St.1-23]
E1.0.2.6.4.0.6	Fetus[16]	Fetus

[11] E1.0.2.4.0.0.1 *Cyclus vaginalis* Cyclical changes in the stratified squamous epithelium of the vagina are not obvious in histological sections: under normal circumstances its desquamated cells remain nucleated and it does not keratinize. However, according to Papanicolaou, there is a relative increase in acidophilic cells with small dark nuclei at the time of ovulation and thus the three phases of the vaginal cycle may be recognized (Papanicolaou GN. The sexual cycle in the human female as revealed by vaginal smears. Am J Anat 1933;52:519-637). The changes at ovulation may represent a prekeratinization process, which is completed when the epithelium is exposed to the air, as in cases of prolapse.

[12] E1.0.2.6.3.0.5/ E1.0.4.0.1.1.1 *Pregnatio cervicalis/ Pregnatio ectopica; Pregnatio extrauterina* Although appropriately listed with uterine pregnancy sites, a cervical pregnancy is often considered to be an ectopic pregnancy.

[13] E1.0.2.6.4.0.3/ E1.0.2.7.1.0.1 *Conceptus* *Conceptus* refers to the entire product of conception from fertilization onwards.

[14] E1.0.2.6.4.0.4 *Cyema* The *cyema* is the embryonic or fetal part of the conceptus and thus excludes the *developmental adnexa* (q.v.), which are the placenta, umbilical cord and extra-embryonic membranes.

[15] E1.0.2.6.4.0.5 *Embryo* [St.1 ad 23] Both embryonic and extra-embryonic cell lineages extend forward from the zygote and both extra-embryonic and embryonic tissues are necessary for normal development. Nevertheless, it has been argued that to include the early stages in the use of the term embryo is misleading because a discrete and identifiable population of exclusively embryonic or cyemic cells does not exist until gastrulation is under way and because most of the tissues formed prior to this are extra-embryonic or adnexal (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). However, communication risks attend the redefining of a commonly and colloquially used term such as embryo and scientific purposes can be as well served by not redefining the term but defining the cells present at a particular time. Embryo remains the preferred term for all 23 Carnegie Stages.

[16] E1.0.2.6.4.0.6 *Fetus* There is no doubt that etymologically the correct spelling is *fetus* (from *fero* – I beget), as has been used in America for many years: in Europe the traditional use of the spelling *foetus* is decreasing.

E1.0.2.6.4.0.7	Adnexa[17]	Adnexa
E1.0.2.6.4.0.8	Tempus tubale	Tubal period
E1.0.2.6.4.0.9	Tempus uterinum	Uterine period
E1.0.2.6.4.0.10	Phasis praegastrulationis[18]	Pregastrulation phase
E1.0.2.6.4.0.11	Phasis praeimplantationis	Pre-implantation phase
E1.0.2.6.4.0.12	Phasis implantationis	Implantation phase
E1.0.2.6.4.0.13	Phasis gastrulationis	Gastrulation phase
E1.0.2.6.4.0.14	Phasis praeparatoria; Phasis embryogenica[19]	Preparative phase; Embryogenic phase
E1.0.2.6.4.0.15	Phasis postgastrulationis	Postgastrulation phase
E1.0.2.6.4.0.16	Phasis placentalis	Placental phase
E1.0.2.6.4.0.17	Terminus	Term; End of pregnancy
E1.0.2.6.4.0.18	Terminatio	Termination
E1.0.2.6.4.0.19	Parturitio	Parturition; Labour▲
E1.0.2.6.4.0.20	Parturitio praematura	Premature labour▲
E1.0.2.6.4.0.21	Parturitio matura	Mature labour; Full term labour▲
E1.0.2.6.4.0.22	Parturitio postmatura	Postmature labour▲
E1.0.2.7.0.0.1	**PARTUS**	**BIRTH**
E1.0.2.7.0.0.2	Partus praematurus	Premature birth
E1.0.2.7.0.0.3	Partus maturus	Full term birth
E1.0.2.7.0.0.4	Partus postmaturus	Postmature birth
E1.0.2.7.0.0.5	Infans	Infant
E1.0.2.7.0.0.6	Infans praematurus	Premature infant
E1.0.2.7.0.0.7	Infans maturus	Mature infant
E1.0.2.7.0.0.8	Infans postmaturus	Postmature infant
E1.0.2.7.0.0.9	Neonatus	Newborn;Neonate
E1.0.2.7.0.0.10	Tempus postnatale	Postnatal period; Postpartum period
E1.0.2.7.0.0.11	Puerperium	Puerperium
E1.0.2.7.0.0.12	Involutio	Involution
E1.0.2.7.1.0.1	**Numerus conceptuum**[13]	**Number of conceptuses**
E1.0.2.7.1.0.2	Pregnatio singularis	Single pregnancy
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E1.0.2.7.1.0.4	Pregnatio duplex	Twin pregnancy
E1.0.2.7.1.0.5	Gemini	Twins
E1.0.2.7.1.0.6	Gemini dizygotici	Dizygotic twins
E1.0.2.7.1.0.7	Gemini monozygotici	Monozygotic twins
E1.0.2.7.1.0.8	Gemini monozygotici dichorionici diamniotici	Dichorial di-amniotic monozygotic twins
E1.0.2.7.1.0.9	Gemini monochorionici diamniotici	Monochorial di-amniotic twins
E1.0.2.7.1.0.10	Gemini monochorionici monoamniotici	Monochorial mono-amniotic twins
E1.0.2.7.1.0.11	Pregnatio multiplex	Multiple pregnancy
E1.0.2.7.1.0.12	Plurigemini polyzygotici	Polyzygotic fetuses
E1.0.2.7.1.0.13	Pseudopregnatio; Pseudocyesis	Pseudopregnancy; False pregnancy
E1.0.3.0.0.0.1	**Cyclus genitalis masculinus**	**Male reproductive cycle**
E1.0.3.0.0.0.2	Phases testiculares	Testicular phases
E1.0.3.0.0.0.3	Phasis infantilis	Infantile phase
E1.0.3.0.0.0.4	Phasis praepubertalis	Prepubertal phase
E1.0.3.0.0.0.5	Phasis pubertalis	Pubertal phase
E1.0.3.0.0.0.6	Phasis matura	Mature phase

---

[17] E1.0.2.6.4.0.7 *Adnexa/Membranae embryonicae et fetales; Adnexa developmentalia/Adnexa embryonica/Adnexa fetalia* The Latin word *adnexum* has been used almost exclusively in this plural form to indicate the structures (more than one) adjacent to or subservient to a major structure. The form *adnexae,* although frequently used, is incorrect.

[18] E1.0.2.6.4.0.10 *Phasis praegastrulationis* The pregastrulation and postgastrulation phases of the embryonic period and the fetal period are stages of prenatal development, each with its own distinctive characteristics, particularly in respect of its responses to teratogens. The *pre-gastrulation phase* begins at fertilization, continues through cleavage and implantation and ends with the establishment of a definite primitive streak in Carnegie Stage 6b at about 2 and a half weeks. It is a phase characterized by rapid increase in cell numbers and by regulation. As a result, response to teratogens is uncertain: induced errors of development may *regulate* but, if they do not, the errors are likely to be of such magnitude that early spontaneous abortion follows.

[19] E1.0.2.6.4.0.14 *Phasis praeparatoria; Phasis embryogenica* The characteristic of the *preparative phase* is that it is spent preparing extra-embryonic membranes and presumptive embryonic cells but that no cells of the conceptus have yet been determined as substantive embryonic cells. It has therefore been called the embryogenic phase (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). The term “pre-embryonic stage”, which has been used in legal and clinical contexts, is not recommended.

E1.0.3.0.0.0.7	Phasis involuta	Involutionary phase
E1.0.4.0.0.0.1	**Anomaliae reproductionis**	**Reproductive anomalies**
E1.0.4.0.0.0.2	Infertilitas	Infertility
E1.0.4.0.0.0.3	Sterilitas	Sterility
E1.0.4.0.0.0.4	Mors praenatalis	Prenatal death
E1.0.4.0.0.0.5	Abortio	Abortion
E1.0.4.0.0.0.6	Abortus	Abortus
E1.0.4.0.0.0.7	Abortio voluntaria; Abortio therapeutica	Elective abortion; Therapeutic abortion
E1.0.4.0.0.0.8	Abortio spontanea	Spontaneous abortion
E1.0.4.0.0.0.9	Abortio imminens	Threatened abortion
E1.0.4.0.0.0.10	Abortio omissa	Missed abortion
E1.0.4.0.0.0.11	Resorptio	Resorption
E1.0.4.0.0.0.12	Retentio	Retention
E1.0.4.0.0.0.13	Retentio cum calcificatione	Retention with calcification
E1.0.4.0.0.0.14	Retentio cum compressione	Retention with compression
E1.0.4.0.0.0.15	Retentio cum mummificatione	Retention with mummification
E1.0.4.0.0.0.16	Partus mortuus	Stillbirth
E1.0.4.0.0.0.17	Fetus natus mortuus	Stillborn fetus
E1.0.4.0.1.0.1	**Anomaliae implantationis**	**Implantation defects**
E1.0.4.0.1.0.2	Implantatio corrupta	Defective implantation
E1.0.4.0.1.0.3	Implantatio ectopica	Ectopic implantation
E1.0.4.0.1.1.1	**Pregnatio ectopica; Pregnatio extrauterina**	**Ectopic pregnancy; Extra-uterine pregnancy**
E1.0.4.0.1.1.2	Pregnatio abdominalis	Abdominal pregnancy
E1.0.4.0.1.1.3	Pregnatio abdominalis primaria	Primary abdominal pregnancy
E1.0.4.0.1.1.4	Pregnatio abdominalis secundaria	Secondary abdominal pregnancy
E1.0.4.0.1.1.5	Pregnatio ovarica	Ovarian pregnancy
E1.0.4.0.1.1.6	Pregnatio tubalis	Tubal pregnancy
E1.0.4.0.1.1.7	Pregnatio tubalis infundibularis	Infundibular tubal pregnancy
E1.0.4.0.1.1.8	Pregnatio tubalis ampullaris	Ampullary tubal pregnancy
E1.0.4.0.1.1.9	Pregnatio tubalis isthmicaris	Isthmic tubal pregnancy
E1.0.4.0.1.1.10	Pregnatio tubalis partis uterinae	Intramural tubal pregnancy; Interstitial tubal pregnancy
E1.0.4.0.2.0.1	**Anomaliae fetales**	**Fetal anomalies**
E1.0.4.0.2.0.2	Fetus amorphicus	Amorphic fetus
E1.0.4.0.2.0.3	Fetus calcificatus	Calcified fetus
E1.0.4.0.2.0.4	Fetus papyraceus	Fetus papyraceus
E1.0.4.0.2.0.5	Geminus acardiacus	Acardiac twin
E1.0.4.0.2.0.6	Absentia totalis cordis	Total absence of heart
E1.0.4.0.2.0.7	Absentia subtotalis cordis	Subtotal absence of heart
E1.0.4.0.2.0.8	Gemini conjuncti[20]	Conjoined twins
E1.0.4.0.2.0.9	Gemini symmetrici	Symmetrical twins
E1.0.4.0.2.0.10	Conjunctio ventralis	Ventral conjunction
E1.0.4.0.2.0.11	Conjunctio ventralis rostralis	Rostral ventral conjunction
E1.0.4.0.2.0.12	Omphalopagia[20]	Omphalopagy
E1.0.4.0.2.0.13	Thoracopagia[20]	Thoracopagy
E1.0.4.0.2.0.14	Cephalopagia[20]	Cephalopagy
E1.0.4.0.2.0.15	Conjunctio ventralis caudalis	Caudal ventral conjunction
E1.0.4.0.2.0.16	Ischiopagia[20]	Ischiopagy
E1.0.4.0.2.0.17	Conjunctio ventralis lateralis	Lateral ventral conjunction
E1.0.4.0.2.0.18	Parapagia[20]	Parapagy
E1.0.4.0.2.0.19	Conjunctio dorsalis	Dorsal conjunction
E1.0.4.0.2.0.20	Craniopagia[20]	Craniopagy
E1.0.4.0.2.0.21	Rachipagia[20]	Rachipagy
E1.0.4.0.2.0.22	Pygopagia[20]	Pygopagy
E1.0.4.0.2.0.23	Gemini asymmetrici	Asymmetrical twins

[20] E1.0.4.0.2.0.8 *Gemini conjuncti* See Spencer R. Conjoined twins. Baltimore: Johns Hopkins University Press; 2003. In conjoined twins,as elsewhere, convention has the suffixes –ia in Latin and –y in English indicating the condition; the suffix –us, in either language, refers to an individual with that condition.

E1.0.4.0.2.0.24	Inclusio	Inclusion
E1.0.4.0.2.0.25	Hospes	Host
E1.0.4.0.2.0.26	Parasitus	Parasite
E1.0.4.0.2.0.27	Junctio superior	Superior junction
E1.0.4.0.2.0.28	Junctio superior cranialis parasitica	Cranial parasite
E1.0.4.0.2.0.29	Junctio superior mandibularis parasitica	Mandibular parasite
E1.0.4.0.2.0.30	Junctio media	Middle junction
E1.0.4.0.2.0.31	Junctio media thoracoepigastrica parasitica	Thoraco-epigastric parasite
E1.0.4.0.2.0.32	Junctio media abdominalis parasitica	Abdominal parasite
E1.0.4.0.2.0.33	Junctio inferior	Inferior junction
E1.0.4.0.2.0.34	Junctio inferior pygalis parasitica	Buttocks parasite
E1.0.4.0.2.0.35	Gigantismus	Gigantism
E1.0.4.0.2.0.36	Nanismus	Dwarfism
E1.0.4.0.2.0.37	Achondroplasia	Achondroplasia
E1.0.4.0.2.0.38	Ateliosis	Ateliosis
E1.0.4.0.2.0.39	Cretinismus	Cretinism
E1.0.5.0.0.0.1	**Gametogenesis**	**Gametogenesis**
	Nomina generalia	*General terms*
E1.0.5.0.0.1.1	**Interphasis**	**Interphase**
E1.0.5.0.0.1.2	Phasis G_1; Intervallum postmitoticum	G_1 phase; Postmitotic interval; First gap
E1.0.5.0.0.1.3	Phasis G_0	G_0 phase; Resting phase
E1.0.5.0.0.1.4	Phasis S; Phasis synthetica	S phase; Synthesis phase
E1.0.5.0.0.1.5	Phasis G_2; Intervallum praemitoticum	G_2 phase; Premitotic interval; Second gap
E1.0.5.0.0.2.1	**Mitosis; Phasis M**[21]	**Mitosis; M phase**
E1.0.5.0.0.2.2	Prophasis	Prophase
E1.0.5.0.0.2.3	Prometaphasis	Prometaphase
E1.0.5.0.0.2.4	Metaphasis	Metaphase
E1.0.5.0.0.2.5	Anaphasis	Anaphase
E1.0.5.0.0.2.6	Telophasis	Telophase
E1.0.5.0.0.3.1	**Meiosis**[21]	**Meiosis**
E1.0.5.0.0.3.2	Meiosis I	Meiosis I
E1.0.5.0.0.3.3	Prophasis I	Prophase I
E1.0.5.0.0.3.4	Chromosoma bivalens	Bivalent chromosome
E1.0.5.0.0.3.5	Prometaphasis I	Prometaphase I
E1.0.5.0.0.3.6	Metaphasis I	Metaphase I
E1.0.5.0.0.3.7	Anaphasis I	Anaphase I
E1.0.5.0.0.3.8	Telophasis I	Telophase I
E1.0.5.0.0.3.9	Meiosis II	Meiosis II
E1.0.5.0.0.3.10	Prometaphasis II	Prometaphase II
E1.0.5.0.0.3.11	Metaphasis II	Metaphase II
E1.0.5.0.0.3.12	Anaphasis II	Anaphase II
E1.0.5.0.0.3.13	Telophasis II	Telophase II
E1.0.5.0.0.3.14	Chromosoma univalens	Univalent chromosome
E1.0.5.0.0.4.1	**Status ploideus**	**Ploidy**
E1.0.5.0.0.4.2	Status euploideus	Euploidy
E1.0.5.0.0.4.3	Status diploideus	Diploidy
E1.0.5.0.0.4.4	Status haploideus	Haploidy
E1.0.5.0.0.5.1	**Complementum chromosomatum**	**Chromosome complement**
E1.0.5.0.0.5.2	I; 1N	1N
E1.0.5.0.0.5.3	II; 2N	2N
E1.0.5.0.0.5.4	IV; 4N	4N
E1.0.5.0.1.0.1	**Sequentia gametogenesis**	**Gametogenetic sequence**
E1.0.5.0.1.0.2	Genum a parente impressum[22]	Parental gene imprinting; Genome imprinting; Genetic imprinting
E1.0.5.0.1.1.1	**Cellula germinalis praecursoria** [Diploidia II]	**Primordial germ cell [**Diploid 2N**]**

[21] E1.0.5.0.0.2.1/ E1.0.5.0.0.3.1 *Mitosis; Phasis M/Meiosis* Only the main stages of *Mitosis* and *Meiosis* are listed here: a fuller listing is in Terminologia Histologica.

[22] E1.0.5.0.1.0.2 *Genum a parente impressum* *Genomic imprinting* occurs during meiosis II of gametogenesis and persists until the primary gametocyte stage in the next generation.

E1.0.5.0.1.1.2	Mitosis	Mitosis
E1.0.5.0.1.2.1	**Gametogonium** [Diploidia II]	**Gametogonium [**Diploid 2N]
E1.0.5.0.1.2.2	Gametogonium in phasi G_2 [Diploidia IV]	Gametogonium in G_2 phase [Diploid 4N]
E1.0.5.0.1.1.2	Mitosis	Mitosis
E1.0.5.0.1.3.1	**Gametocytus primarius** [Diploidia IV]	**Primary gametocyte** [Diploid 4N]
E1.0.5.0.1.3.2	Erasio impressionis parentalis prioris	Erasure of previous parental imprinting
E1.0.5.0.0.3.2	Meiosis I	Meiosis I
E1.0.5.0.1.4.1	**Gametocytus secundarius** [Haploidia II]	**Secondary gametocyte** [Haploid 2N]
E1.0.5.0.1.4.2	Interkinesis	Interkinesis
E1.0.5.0.0.3.9	Meiosis II	Meiosis II
E1.0.5.0.1.4.3	Impressio parentalis nova	New parental imprinting
E1.0.5.0.1.5.1	**Gametus; Gonocytus** [Haploidia I]	**Gamete; Germ cell** [Haploid N]
E1.0.5.0.0.3.14	Chromosoma univalens	Univalent chromosome
E1.0.5.0.1.5.2	Autosoma	Autosome
E1.0.5.0.1.5.3	Chromosoma sexuale; Gonosoma	Sex chromosome
E1.0.5.0.1.5.4	Chromosoma X; Gonosoma femininum	X chromosome
E1.0.5.0.1.5.5	Inactivatio chromosomatis X; Inactivatio gonosomatis feminini	X chromosome inactivation
E1.0.5.0.1.5.6	Chromosoma Y; Gonosoma masculinum	Y chromosome
E1.0.2.2.0.0.2	**OOGENESIS**	**OOGENESIS**
E1.0.5.1.0.0.1	Cyclus oogeneticus	Oogenetic cycle
E1.0.5.1.0.0.2	Oogonium [Diploidia II]	Oogonium [Diploid 2N]
E1.0.5.1.0.0.3	Oogonium in phasi G_2 [Diploidia IV]	Oogonium in G_2 phase [Diploid 4N]
E1.0.5.1.0.0.4	Oocytus primarius [Diploidia IV]	Primary oocyte [Diploid 4N]
E1.0.5.1.0.0.5	Polus animalis; Polus embryonicus praesumptivus[23]	Animal pole; Presumptive embryonic pole
E1.0.5.1.0.0.6	Polus vegetalis	Vegetal pole
E1.0.5.1.0.0.7	Corpus polare primum [Diploidia II]	First polar body; First polocyte [Diploid 2N]
E1.0.5.1.0.0.8	Oocytus secundarius; Gametus femininus [Diploidia II]	Secondary oocyte; Female gamete [Diploid 2N]
E1.0.5.1.0.0.9	Genum a matre impressum	Maternally imprinted gene
E1.0.5.1.0.0.10	Genum cum effectibus maternis	Maternal effect gene
E1.0.5.1.0.0.11	Genum extrachromosomale	Extrachromosomal gene
E1.0.5.1.0.0.12	Genum mitochondriale	Mitochondrial gene
E1.0.5.1.0.0.13	Oocytus secundarius repressus in Metaphasi II [Diploidia IV]	Secondary oocyte arrested in Metaphase II [Diploid 4N]
E1.0.5.1.0.0.5	Polus animalis; Polus embryonicus praesumptivus[23]	Animal pole; Presumptive embryonic pole
E1.0.5.1.0.0.6	Polus vegetalis	Vegetal pole
E1.0.5.2.0.0.1	**PELLUCIDAGENESIS; ZONAGENESIS**[24]	**ZONA PELLUCIDA FORMATION; CAPSULA PELLUCIDA FORMATION**
E1.0.5.2.0.0.2	Epithelium simplex cuboideum folliculi ovarici	Simple cuboidal epithelium of ovarian follicle
E1.0.5.1.0.0.4	Oocytus primarius [Diploidia IV]	Primary oocyte [Diploid 4N]
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.2.0.0.4	Processus cellulae cuboidalis follicularis et oocyti	Processes of cuboidal epithelial follicle cell and oocyte
E1.0.5.2.0.0.5	Proteina zonae pellucidae 1-3	Zona pellucida proteins [ZP] 1-3

[23] E1.0.5.1.0.0.5 *Polus animalis* Being microlecithal, the human primary oocyte does not exhibit the obvious polarity characteristic of more richly yolked oocytes. It does, however, exhibit some degree of asymmetry in distribution of cytoplasmic elements. The *animal pole* of the arrested secondary oocyte is identified by the position of the second meoitic spindle and the lack of microvilli on the cell membrane overlying it. After fertilization, the animal pole of the ootid is characterized by the presence of the female and male pronuclei. There is no necessary relationship between the animal-vegetal axis and the future embryonic-abembryonic (dorsoventral) axis. In some (but not all) mouse zygotes, the animal-vegetal axis corresponds to the long axis of the ellipsoid blastocyst and thus to the anteroposterior axis of the embryo. In these cases the animal-vegetal axis is orthogonal to the embryonic-abembryonic axis (Selwood L, Johnson MH. Trophoblast and hypoblast in the monotreme, marsupial and eutherian mammal: evolution and origins. BioEssays 2006;28:128-145).

[24] E1.0.5.2.0.0.1 *Pellucidagenesis: Zonagenesis* Although the term *zonagenesis* is widely used in zoology, it is not recommended as it lacks a locational adjective and could thus apply to any zone. Although the *zona pellucida* cannot be seen with the light microscope before the *primary ovarian follicle* has developed, the heavily glycosylated proteins ZP 1-3 can be demonstrated in the oocytes and follicle cells of *primordial follicles* (Gook DA, Edgar DH, Borg J and Martic M. Detection of zona pellucida proteins during human folliculogenesis. Hum Reprod 2008;23:394-402).

[25] E1.0.5.2.0.0.3 *Zona pellucida; Capsula pellucida* The term *capsula pellucida* (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978) is included because it appropriately describes the three-dimensional structure, which successively encloses the oocyte, the zygote, the morula and the unhatched blastocyst.

E1.0.5.3.0.0.1	**SPERMATOGENESIS**	**SPERMATOGENESIS: SPERMATOGENY**
E1.0.5.3.0.0.2	Unda spermatogenetica; Unda epithelii spermatogenici	Spermatogenic wave; Wave of spermatogenic epithelium
E1.0.5.3.0.0.3	Cyclus spermatogeneticus; Cyclus epithelii spermatogenici	Spermatogenic cycle; Cycle of spermatogenic epithelium
E1.0.5.3.0.0.4	Spermatogonium [Diploidia II] {vide Terminologia Histologica}	Spermatogonium [Diploid 2N] {see Terminologia Histologica}
E1.0.5.3.0.0.5	Spermatogonium in phasi G_2 [Diploidia IV]	Spermatogonium in G_2 phase [Diploid 4N]
E1.0.5.3.0.0.6	Spermatocytogenesis	Spermatocytogenesis
E1.0.5.3.0.0.7	Spermatocytus primarius [Diploidia IV]	Primary spermatocyte [Diploid 4N]
E1.0.5.3.0.0.8	Spermatocytus secundarius [Haploidia II]	Secondary spermatocyte [Haploid 2N]
E1.0.5.3.0.0.9	Spermatidium [Haploidia I]	Spermatid [Haploid 1N]
E1.0.5.3.0.0.10	Spermiatio; Disjunctio ab sustentatocyto	Spermiation; Detachment from sustentacular cell
E1.0.5.3.0.0.11	Spermiogenesis {vide Terminologia Histologica}	Spermiogenesis {see Terminologia Histologica}
E1.0.5.3.0.0.12	Spermatozoon; Spermium; Gametus masculinus [Haploidia I] {vide Terminologia Histologica}	Sperm; Sperm cell; Male gamete [Haploid 1N] {see Terminologia Histologica}
E1.0.5.3.0.0.13	Genum a patre impressum	Paternally imprinted gene
E1.0.5.3.0.0.14	Genum cum effectibus paternis	Paternal effect gene
E1.0.5.3.0.0.15	Capacitatio	Capacitation
E1.0.5.4.0.0.1	**FERTILISATIO ANTE PENETRATIONEM SPERMATOZOI**	**FERTILIZATION BEFORE SPERM PENETRATION**
E1.0.5.4.0.0.2	Via spermatica; Iter spermaticum	Sperm track
E1.0.5.4.0.0.3	Corona radiata	Corona radiata
E1.0.5.4.0.0.4	Via per coronam radiatam	Coronal penetration track
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.4.0.0.5	Contactum spermatozoi capacitati cum zona pellucida	Sperm-zona contact
E1.0.5.4.0.0.6	Reactio acrosomalis	Acrosome reaction
E1.0.5.4.0.0.7	Via per zonam pellucidam; Via penetrationis	Pellucidal penetration track
E1.0.5.4.0.0.8	Spatium subzonale; Spatium subcapsulare	Subzonal space; Subcapsular space
	Ontogenesis[26]	**Ontogeny**
E2.0.0.0.0.0.1	**Ordo ontogeneticus**	**Ontogenetic sequence**
E1.0.0.0.0.0.21	Ontogenesis praenatalis	**Prenatal ontogeny**
E2.0.1.1.0.0.1	**FERTILISATIO POST PENETRATIONEM SPERMATOZOI**[27]	**FERTILIZATION FROM SPERM PENETRATION**
E2.0.1.1.0.0.2	Monospermia	Monospermy
E2.0.1.1.0.0.3	Dispermia	Dispermy
E2.0.1.1.0.0.4	Polyspermia	Polyspermy
E2.0.1.1.0.0.5	Coagmentatio spermatozoi ad oocytum	Binding of sperm to oocyte
E2.0.1.1.0.0.6	Conjunctio inter plasmalemmata spermatozoi et oocyti	Fusion between plasma membranes of sperm and oocyte
E2.0.1.1.0.0.7	Ingressio spermatozoi	Entry of sperm
E2.0.1.1.0.0.8	Determinatio sexus genetici	Determination of genetic sex
E2.0.1.1.0.0.9	Aditus natrii ionici in oocytum provocans reactionem positivam eius partis interioris	Sodium ion inflow into oocyte making internal charge positive
E2.0.1.1.0.0.10	Obsidio subita polyspermiae	Fast polyspermy block
E2.0.1.1.0.0.11	Propagatio undae calcii in oocyto	Calcium wave spreads in oocyte
E2.0.1.1.0.1.1	**Activatio oocyti**	**Activation of oocyte**
E2.0.1.1.0.1.2	Peractio divisionis meioticae secundae	Completion of second meiotic division
E2.0.1.1.0.1.3	Pronucleus femininus; Pronucleus maternus [Haploidia I]	Female pronucleus; Maternal pronucleus [Haploid 1N]

[26] *Ontogenesis* Ontogenesis is defined here as the development of the individual, beginning at fertilization and ending at death. It thus covers the principal concerns of this terminology (embryogenesis, fetogenesis and immediate postnatal development) but extends beyond them.

[27] E2.0.1.1.0.0.1 *Fertilisatio postpenetrationem spermatozoi* Some of the features included in this section are inferred because they are common to all mammalian fertilization: others, such as *Zonal reaction* and *Fertilization cone*, have been observed in the human as a result of *in vitro* fertilization.

E2.0.1.1.0.1.4	Corpus polare secundum; Polocytus secundarius[28] [Haploidia I]	Second polar body; Second polocyte[Haploid 1N]
E2.0.1.1.0.1.5	(Divisio corporis polaris primarii)	(Division of first polar body; Division of first polocyte)
E2.0.1.1.0.1.6	(Corpora polaria duo descendentia) [Haploidia I]	(Two daughter polocytes) [Haploid 1N]
E2.0.1.1.0.1.7	Reactio corticalis	Cortical reaction
E2.0.1.1.0.1.8	Conjunctio granulorum corticalium cum plasmalemmate oocytico	Fusion of cortical granules with oocytic plasma membrane
E2.0.1.1.0.1.9	Liberatio enzymatum in spatium zonale; Liberatio enzymatum in spatium subcapsulare	Enzyme release into subzonal space; Enzyme release into subcapsular space
E2.0.1.1.0.1.10	Discessio receptorum ligantium spermatozoa	Removal of sperm-binding receptors
E2.0.1.1.0.1.11	Obsidio lenta polyspermiae	Slow polyspermy block
E2.0.1.1.0.1.12	Renegativatio interna	Return of internal charge to negative
E2.0.1.1.0.1.13	Dilatatio spatii subzonalis; Dilatatio spatii subcapsularis	Expansion of subzonal space; Expansion of subcapsular space
E2.0.1.1.0.1.14	Liquor subzonalis copiosus	Plenteous subzonal fluid
E2.0.1.1.0.1.15	Reactio zonalis; Reactio capsularis	Zonal reaction; Capsular reaction
E2.0.1.1.0.1.16	Induratio zonae pellucidae; Induratio capsulae pellucidae	Hardening of zona pellucida; Hardening of capsula pellucida
E2.0.1.1.0.1.17	Conus fertilisationis	Fertilization cone
E2.0.1.1.0.1.18	Positio intraoocytica nuclei spermatozoi [Haploidia I]	Intra-oocytic sperm nucleus [Haploid 1N]
E2.0.1.1.0.1.19	Numerus diploideus chromosomatum non replicatorum in oocyto penetrato; Numerus diploideus chromosomatum non replicatorum in oocyto definitivo [II]	Diploid number of unreplicated chromosomes in penetrated oocyte; Diploid number of unreplicated chromosomes in definitive oocyte [2N]
E2.0.1.1.0.1.20	Dissolutio tegumenti nuclearis spermatozoi et decondensatio chromatini	Dissolution of sperm nuclear envelope and decondensation of chromatin
E2.0.1.1.0.1.21	Reconstitutio tegumenti nuclearis spermatozoi et reorganisatio chromatini formans pronucleum masculinum in ootidio	Reconstitution of sperm nuclear envelope and re-organization of chromatin to form male pronucleus in ootid
E2.0.1.1.0.1.22	Appropinquatio pronucleorum	Approximation of pronuclei
E2.0.1.1.0.1.23	Syngamia[29]	Syngamy
E2.0.1.1.0.1.24	Vesiculatio et disintegratio tegumentorum nuclearium	Vesiculation and disintegration of nuclear envelopes
E2.0.1.1.0.1.25	Coniugatio; Synapsis	Conjugation
E2.0.1.1.0.1.26	Formatio genomi embryonici	Formation of embryonic genome
E2.0.1.1.0.1.27	Activatio prima genorum zygoticorum [30]	First transcription; First zygotic activation [ZGA1]
E2.0.1.1.0.1.28	Dispositio chromosomatum homologorum conjunctorum super fusum fissionis primae extra centrum positum	Arrangement of paired homologous chromosomes on eccentric first cleavage spindle
E2.0.1.1.0.1.29	Axis polaris[28]	Plane of first cleavage division; Polar axis
E2.0.1.1.0.1.30	Fissio prima	First cleavage division
E2.0.1.1.0.2.1	**Fertilisatio simplex**	**Single fertilization**
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E2.0.1.1.0.3.1	**Fertilisatio duplex**	**Double fertilization**
E1.0.2.7.1.0.6	Gemini dizygotici	Dizygotic twins

[28] E2.0.1.1.0.1.4 *Corpus polare secundum; Polocytus secundarius* A line through the centres of the zygote and the second polar body defines the polar axis and indicates the plane of the first cleavage division (Veeck L L, Zaninovic N. An atlas of human blastocysts. New York: Parthenon Publishing Group 2003).

[29] E2.0.1.1.0.1.23 *Syngamia* Traditionally, *syngamy* has meant sexual reproduction or, more specifically, the fusion of gametes. However, in *in vitro* fertilization it has come to describe a stage, beginning some 21-32 hr after insemination, in which maternal and paternal chromosomes intermingle, although this is not easily discernible by ordinary microscopy (Sathananthan H, Trounson AO, Wood C. Atlas of fine structure of human sperm penetration, eggs and embryos cultured in vitro. New York: Praeger Publishers 1986).

[30] E2.0.1.1.0.1.27 *Activatio geni zygotici una* This *first transcription* produces only a minor population of mRNAs whereas the second transcription (ZGA2), in the two-celled embryo, produces a major population: most maternal mRNA is degraded at this time although maternal proteins persist into the blastocyst stage (Selwood L, Johnson MH. Trophoblast and hypoblast in the monotreme, marsupial and eutherian mammal: evolution and origins. BioEssays 2006;28:128-145).

E2.0.1.2.0.0.1	TEMPUS EMBRYONICUM; GRADUS CARNEGIENSES [St.1 ad 23][31]	EMBRYONIC PERIOD; CARNEGIE STAGES [St. 1-23]
E1.0.0.0.0.0.25	Embryogenesis[2]	Embryogenesis; Embryogeny
E2.0.1.2.0.0.2	Blastogenesis [St.1-7]	Blastogenesis [St.1-7]
E1.0.2.6.4.0.5	Embryo [St.1 ad 23][15]	Embryo [St.1-23]
E2.0.1.2.0.0.3	Embryo praegastrulationis [St.1 ad 6a][32]	Pregastrulation embryo [St.1-6a]
E2.0.1.2.0.0.4	Embryo praeimplantationis [St.1 ad 4]	Pre-implantation embryo [St.1-4]
E2.0.1.2.0.0.5	Embryo praeblastocysticum [St.1 ad 2]	Preblastocystic embryo [St.1-2]
E2.0.1.2.0.0.6	Gradus cellulae unicae; Embryo unicellulare [St.1]	One-cell stage; Single cell embryo [St.1]
E2.0.1.2.0.0.7	Oocytus penetratus; Oocytus definitivus; Embryo primordiale [St.1a]	Penetrated oocyte; Definitive oocyte; Primordial embryo [St.1a]
E2.0.1.2.0.0.8	Ootidium; Ovum; Embryo pronuclearis [St.1b]	Ootid; Ovum; Pronuclear embryo [St.1b]
E2.0.1.2.0.0.9	Zygotum; Embryo syngamicum [St.1c]	Zygote; Syngamic embryo [St.1c]
E2.0.1.2.0.0.10	Zygotum findens [St.2]	Cleaving zygote [St. 2]
E2.0.1.2.0.0.11	Morula	Morula
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E1.0.2.7.1.0.8	Gemini monozygotici dichorionici diamniotici	Dichorial di-amniotic monozygotic twins
E2.0.1.2.0.0.12	Blastocystis [St.3 ad 5]	Blastocyst [St.3-5]
E2.0.1.2.0.0.13	Blastocystis libera [St.3]	Free blastocyst [St.3]
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E2.0.1.2.0.0.15	Facies dorsalis embryonis	Dorsal embryonic surface
E2.0.1.2.0.0.16	Facies ventralis embryonis	Ventral embryonic surface
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E1.0.2.7.1.0.9	Gemini monochorionici diamniotici	Monochorial di-amniotic twins
E2.0.1.2.0.0.17	Adplantatio[33]	Adplantation
E2.0.1.2.0.0.18	Blastocystis adhaerens [St.4]	Attaching blastocyst [St.4]
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E1.0.2.7.1.0.9	Gemini monochorionici diamniotici	Monochorial di-amniotic twins
E2.0.1.2.0.0.19	Implantatio interstitialis	Interstitial implantation
E2.0.1.2.0.0.20	Blastocystis implantata; Blastocystis invadens; Conceptus praevillosus [St.5]	Implanted blastocyst; Invading blastocyst; Previllous conceptus[St.5]
E1.0.2.7.1.0.3	Cyema singulare	Singleton; Single cyema
E1.0.2.7.1.0.10	Gemini monochorionici monoamniotici	Monochorial mono-amniotic twins
E2.0.1.2.0.0.21	Blastocystis invadens sine lacunis trophoblasticis [St.5a]	Invading blastocyst without trophoblastic lacunae [St.5a]
E2.0.1.2.0.0.22	Blastocystis invadens cum lacunis trophoblasticis separatis [St.5b]	Invading blastocyst with isolated trophoblastic lacunae [St.5b]
E2.0.1.2.0.0.23	Blastocystis invadens cum lacunis communicantibus [St.5c]	Invading blastocyst with intercommunicating lacunae [St.5c]
E2.0.1.2.0.0.24	Margo disci embryonici	Border of embryonic disc
E2.0.1.2.0.0.25	Polus caudalis embryonis	Caudal pole of embryo; Caudal end of embryo
E2.0.1.2.0.0.26	Polus rostralis embryonis[34]	Rostral pole of embryo; Rostral end of embryo
E2.0.1.2.0.0.27	Latus dextrum embryonis[35]	Right side of embryo

[31] E2.0.1.2.0.0.1 *Tempus embryonicum; Gradus carnegiensis [1-23]* There are 23 defined stages of development during the embryonic period, which begins at fertilization and ends, somewhat arbitrarily, 56 days later, by which time the embryo has already acquired uniquely human surface features that are apparent with the unaided eye. The stages are the internationally accepted Carnegie Stages (O'Rahilly R, Müller F. Developmental stages in human embryos. Washington DC: Carnegie Institution of Washington; 1987). Each Carnegie Stage is an arbitrarily defined cut through the time axis of the embryo and is based upon carefully-defined external and internal morphological criteria and not length or age. Thus, embryos of a particular length or age are not necessarily embryos of a particular stage. Carnegie Stage cannot be assigned solely on the basis of such measurements. Details of the individual Stages and related footnotes begin on page XX E7.0.1.1.1.0.1.Their corresponding ages, which are given in footnotes, are based on current data from ultrasonic studies (Dickey RP, Gasser RF. Ulltrasound evidence for variability in the size and development of normal human embryos before the tenth postinsemination week after assisted reproductive technologies. Hum Reprod 1993;8:331-337; Wisser J, Dirschedl P, Krone S. Estimation of gestational age by transvaginal sonographic measurement of greatest embryonic length in dated human embryos. Ultrasound Obstet Gynecol 1994;4:457-462).

[32] E2.0.1.2.0.0.3 *Embryo praegastrulationis [St.1 ad 6a]* The term *pregastrulation embryo* is useful because such an embryo has distinctive attributes (see footnote[18]). The foreshortened term "pre-embryo", which has been used in legal and clinical contexts, is not recommended.

[33] E2.0.1.2.0.0.17 *Adplantatio* *Adplantation* is a useful term defined as "the act of the blastocyst drawing towards and attaching to the uterine mucosa" (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978).

[34] E2.0.1.2.0.0.26 *Polus rostralis embryonis* Although *rostrum* means a beak, a snout or the prow of a ship, *rostral* is commonly used as the opposite of caudal, particularly before the appearance of cephalic structures in Stage 8 or cranial structures in Stage 13, but also thereafter: it is also used in neuro-anatomy to mean nearer the *rostrum* of the *corpus callosum* in the unfolded nervous system.

E2.0.1.2.0.0.28	Latus sinistrum embryonis	Left side of embryo
E2.0.1.2.0.0.29	Conceptus villosus [St.6]	Villous conceptus [St.6]
E2.0.1.2.0.0.30	Conceptus villosus sine linea primitiva manifesta [St.6a]; Conceptus villosus sine linea gastrulationis manifesta [St.6a]	Villous conceptus without obvious primitive streak [St.6a]; Villous conceptus without obvious gastrulation streak [St.6a]
E2.0.1.2.0.0.31	Conceptus villosus cum linea primitiva manifesta [St.6b]; Conceptus villosus cum linea gastrulationis manifesta [St.6b]	Villous conceptus with obvious primitive streak [St.6b]; Villous conceptus with obvious gastrulation streak [St.6b]
E2.0.1.2.0.0.32	Embryo postgastrulationis [St.6b ad 23][36]	Postgastrulation embryo [St.6b-23]
E2.0.1.2.0.0.33	Embryo cum processu notochordali [St.7]; Embryo cum processu axiali [St.7]; Embryo cum chordomesoderma [St.7]	Embryo with notochordal process [St.7]; Embryo with axial process [St.7]; Embryo with chordamesoderm [St.7]
E2.0.1.2.0.0.34	Embryo praesomiticum [St.8]	Presomite embryo [St.8]
E2.0.1.2.0.0.35	Embryo praesomiticum sine sulco neurale [St.8a]	Presomite embryo without neural groove [St.8a]
E2.0.1.2.0.0.36	Embryo praesomiticum cum sulco neurale [St.8b]	Presomite embryo with neural groove [St.8b]
E2.0.1.2.0.0.37	Polus cephalicus embryonis[37]	Cephalic pole of embryo; Cephalic end of embryo
E2.0.1.2.0.0.38	Embryo somiticum [St.9 ad 13]	Somite embryo [St.9-13]
E2.0.1.2.0.0.39	Embryo cum somitis I ad III [St.9]	1-3 somite embryo [St.9]
E2.0.1.2.0.0.40	Embryo cum somitis IV ad XII [St.10]	4-12 somite embryo [St.10]
E2.0.1.2.0.0.41	Embryo cum somitis XIII ad XX [St.11]]	13-20 somite embryo [St.11]
E2.0.1.2.0.0.42	Embryo cum somitis XXI ad XXIX [St.12]	21-29 somite embryo [St.12]
E2.0.1.2.0.0.43	Embryo cum somitis XXX+ [St.13]	30+ somite embryo [St.13]
E2.0.1.2.0.0.44	Polus cranialis embryonis[38]	Cranial end of embryo
E2.0.1.2.0.0.45	Embryo gradus XIV [St.14]	Stage 14 embryo [St.14]
E2.0.1.2.0.0.46	Embryo gradus XV [St.15]	Stage 15 embryo [St.15]
E2.0.1.2.0.0.47	Embryo gradus XVI [St.16]	Stage 16 embryo [St.16]
E2.0.1.2.0.0.48	Embryo gradus XVII [St.17]	Stage 17 embryo [St.17]
E2.0.1.2.0.0.49	Embryo gradus XVIII [St.18]	Stage 18 embryo [St.18]
E2.0.1.2.0.0.50	Embryo gradus XIX [St.19]	Stage 19 embryo [St.19]
E2.0.1.2.0.0.51	Embryo gradus XX [St.20]	Stage 20 embryo [St.20]
E2.0.1.2.0.0.52	Embryo gradus XXI [St.21]	Stage 21 embryo [St.21]
E2.0.1.2.0.0.53	Embryo gradus XXII [St.22]	Stage 22 embryo [St.22]
E2.0.1.2.0.0.54	Embryo gradus XXIII [St.23]	Stage 23 embryo [St.23]
E2.0.1.3.0.0.1	**TEMPUS FETALE[39]**	**FETAL PERIOD**
E1.0.0.0.0.0.26	Fetogenesis[3]	Fetogenesis
E1.0.2.6.4.0.6	Fetus	Fetus
E2.0.1.3.0.0.2	Aetas fetalis[40]	Fetal age

---

[35] E2.0.1.2.0.0.27 *Latus dextrum embryonis* Although the sides of the embryo can be recognized and cranial patterning occurs in Stage 5, it is not until Stage 6b, with the formation of the primitive node, that the molecular basis for left-right asymmetry is established.

[36] E2.0.1.2.0.0.32 *Embryo postgastrulationis [St.6b ad 23]* The pregastrulation and postgastrulation phases of the embryonic period and the fetal period are stages of prenatal development, each with its own distinctive characteristics, particularly in respect of its responses to teratogens. In *postgastrulation embryos* the main events of organ formation occur. These entail delicate and complex tissue interactions that are particularly susceptible to teratogens, which have dramatic effects upon morphology. Palate and lips, eyes, ears, brain, spinal cord and heart are all highly susceptible. Susceptibility diminishes as the main events of organ formation are completed by Carnegie Stage 23.

[37] E2.0.1.2.0.0.37 *Polus cephalicus embryonis* *Cephalic* is a positional term that may appropriately be used in Stage 8 and thereafter, when there is a presumptive brain.

[38] E2.0.1.2.0.0.44 *Polus cranialis embryonis* *Cranial* is a positional term that may appropriately be used in Stage 13, when the first elements of the primordial neurocranium are present in the form of a parachordal blastemal basicranium, and thereafter.

[39] E2.0.1.3.0.0.1 *Tempus fetale* The pregastrulation and postgastrulation phases of the embryonic period and the fetal period are stages of prenatal development, each with their own distinctive characteristics, particularly in respect of their responses to teratogens. The *fetal period* is taken, somewhat arbitrarily, to begin on day 57, by which time the embryo has already acquired the distinctly human features that are apparent with the unaided eye, and ends at birth, when the fetus becomes a newborn infant or neonate. The main events of organ formation having been completed by Carnegie Stage 23, the fetal period is mainly one of growth and differentiation, particularly functional differentiation, in preparation for extra-uterine life. Notable in this context is the skeletal system, in which cartilaginous precursors are being replaced by bone, and the nervous system, which is forming functional connections. Thus abnormalities arising during this period entail disturbances of growth, of hard tissues and of neural connections, which may result in impairment of neuropsychological function.

[40] E2.0.1.3.0.0.2 *Aetas fetalis* *Fetal age* is usually given in weeks and is determined by the use of various starting points, of which only fertilization, insemination and ovulation are valid (see footnotes[6 & 7]).

E2.0.1.3.0.0.3	Tempus fetale primum; Fetus hebdomadis nonae ad hebdomadem tertiam decimam[41]	Early fetal period; Ninth-thirteenth week fetus
E2.0.1.3.0.0.4	Tempus fetale intermedium; Fetus trimestri secundi[42]	Intermediate fetal period; Second trimester fetus
E2.0.1.3.0.0.5	Tempus fetale serum; Fetus trimestri tertii[43]	Late fetal period; Third trimester fetus
E1.0.0.0.0.0.28	Ontogenesis postnatalis	**Postnatal ontogeny**
E1.0.0.0.0.0.27	**TEMPUS NATALE**	**BIRTH PERIOD**
E2.0.2.0.0.0.1	Tempus perinatale[44]	Perinatal period
E2.0.2.0.0.0.2	Infantia	Infancy
E1.0.2.7.0.0.10	Tempus postnatale	Postnatal period; Postpartum period
E2.0.2.0.0.0.3	Tempus neonatale[45]	Neonatal period
E2.0.2.0.0.0.4	Tempus neonatale initiale	Early neonatal period
E2.0.2.0.0.0.5	Tempus neonatale serum	Later neonatal period
E2.0.2.1.0.0.1	**TEMPORA SERIORA**	**LATER PERIODS**
E2.0.2.1.0.0.2	Pueritia	Childhood
E2.0.2.1.0.0.3	Phasis prima pueritiae	Early childhood
E2.0.2.1.0.0.4	Phasis secunda pueritiae	Later childhood
E2.0.2.1.0.0.5	Acceleratio praepubertalis crescentiae	Prepubertal growth spurt
E2.0.2.1.0.0.6	Neotenia[46]	Neoteny
E2.0.2.1.0.0.7	Paedomorphosis[47]	Paedomorphosis
E2.0.2.1.0.0.8	Pubertas	Puberty
E2.0.2.1.0.0.9	Adolescentia	Adolescence
E2.0.2.1.0.0.10	Acceleratio crescentiae adolescentiae	Adolescent growth spurt
E2.0.2.1.0.0.11	Aetas adulta	Adulthood
E2.0.2.1.0.0.12	Juvenilitas	Young adulthood
E2.0.2.1.0.0.13	Maturitas	Middle age
E2.0.2.1.0.0.14	Senectus	Old age
E2.0.2.1.0.0.15	Senescentia	Senescence
	Embryogenesis	**Embryogenesis; Embryogeny**
E3.0.0.0.0.0.1	**Processus embryonici**	**Embryonic processes**
E3.0.0.1.0.0.1	**FISSIO**	**CLEAVAGE**
E3.0.0.1.0.0.2	Fissio totalis	Total cleavage
E3.0.0.1.0.0.3	Fissio aequalis	Equal cleavage
E3.0.0.1.0.0.4	Fissio indeterminata	Indeterminate cleavage
E3.0.0.1.0.0.5	Fissio determinata	Determinate cleavage
E3.0.0.1.0.0.6	Planum fissionis	Cleavage plane
E3.0.0.1.0.0.7	Planum aequatoriale	Equatorial plane
E3.0.0.1.0.0.8	Planum latitudinale	Latitudinal plane

[41] E2.0.1.3.0.0.3 *Tempus fetale primum; fetus hebdomadis nonae ad hebdomadam tertiam decimam* The *early fetal period* here corresponds to that of the 9th to 13th week fetus and ends at 90 days and about 90mm: the conclusion of the "second sous-stade de finition histogénétique, de réglage des proportions" (Guyot R. Théorie nouvelle sur les âges de la vie. 2nd ed. Paris: Barré & Dayez; 1985) and probably the end of the first trimester. There is, however, no agreement on precisely which weeks are encompassed by the first trimester. The attributes of fetuses have not been subjected to the same systematic, intensive, investigation as have embryos. Nevertheless, there are attributes other than size and weight that characterize progression during the early fetal period.

[42] E2.0.1.3.0.0.4 *Tempus fetale intermedium; Fetus trimestris secundi* The *intermediate fetal period* here corresponds to that of the second trimester fetus and thus begins at 90 days and about 90mm, after the conclusion of the "second sous-stade de finition histogénétique, de réglage des proportions" (Guyot R. Théorie nouvelle sur les âges de la vie. 2nd ed. Paris: Barré & Dayez; 1985). The attributes of fetuses have not been subjected to the same systematic, intensive investigation as have embryos. Nevertheless, there are attributes other than size and weight that characterize the progression during the intermediate fetal period.

[43] E2.0.1.3.0.0.5 *Periodus definitivus fetalis; Fetus trimestri tertii* The *late fetal period* corresponds to that of the third trimester fetus. The attributes of fetuses have not been subjected to the same systematic, intensive investigation as have embryos. Nevertheless, there are attributes other than size and weight that characterize the progression during the late fetal period.

[44] E2.0.2.0.0.0.1 *Tempus perinatale* The *perinatal period* extends from immediately prior to birth, through birth and through the first 7 days of postnatal life, the early neonatal period.

[45] E2.0.2.0.0.0.3 *Tempus neonatale* The first 7 days after birth constitute the early *neonatal period*. The following 21 days of postnatal life constitute the late neonatal period, which thus ends with day 28.

[46] E2.0.2.1.0.0.6 *Neotenia* Neoteny in man is the retention of juvenile features in sexually mature adults when compared with other primates. It may be full or partial.

[47] E2.0.2.1.0.0.7 *Paedomorphosis* Paedomorphosis is exhibited in features such as the human flat face, position of the foramen magnum, retarded skeletal development and continuation of fetal growth rates into infancy and childhood.

E3.0.0.1.0.0.9	Planum meridionale	Meridional plane
E3.0.0.1.0.0.10	Nucleus fissionis	Cleavage nucleus
E3.0.0.2.0.0.1	**REGULATIO**[48]	**REGULATION**
E3.0.0.3.0.0.1	**FORMATIO TYPORUM**	**PATTERN FORMATION**
E3.0.0.3.0.0.2	Cognitio loci	Positional information
E3.0.0.3.0.0.3	Indicium a loco	Positional value
E3.0.0.3.0.0.4	Confector morphogeneticus	Morphogen
E3.0.0.3.0.0.5	Clivus densitatis	Concentration gradient
E3.0.0.3.0.0.6	Limen clivi	Gradient boundary
E3.0.0.3.0.0.7	Limen densitatis	Concentration threshold
E3.0.0.3.0.0.8	Inhibitio lateralis	Lateral inhibition
E3.0.0.4.0.0.1	**COMPACTIO**	**COMPACTION**
E3.0.0.4.0.0.2	Differentiatio cellularum in zygoto findenti[49]	Differentiation of cells of cleaving zygote; Outside-inside differentiation
E3.0.0.4.0.0.3	Polarisatio cellularum externarum[50]	Polarization of outer cells
E3.0.0.4.0.0.4	Divisio conservativa	Conservative division
E3.0.0.4.0.0.5	Divisio differentiativa	Differentiative division
E3.0.0.4.0.0.6	Divisio differentiativa embryoblasti[51]	Differentiative division of embryoblast
E3.0.0.5.0.0.1	**INDUCTIO ET INTERACTIO**	**INDUCTION AND INTERACTION**
E3.0.0.5.0.0.2	Inductor	Inducer
E3.0.0.5.0.0.3	Signum	Signal
E3.0.0.5.0.0.4	Indicium rectionis	Guidance cue
E3.0.0.5.0.0.5	Chemotropismus	Chemotropism; Chemotaxis
E3.0.0.5.0.0.6	Rectio per contactum	Contact guidance
E3.0.0.5.0.0.7	Indicium per ambitum	Environmental cue
E3.0.0.5.0.0.8	Signum pheromonale	Pheromone signal
E3.0.0.5.0.0.9	Signum intracrinum	Intracrine signal
E3.0.0.5.0.0.10	Indicium autocellulare	Autocellular cue
E3.0.0.5.0.0.11	Signum autocrinum	Autocrine signal
E3.0.0.5.0.0.12	Indicium intercellulare	Intercellular cue
E3.0.0.5.0.0.13	Signum juxtacrinum	Juxtacrine signal
E3.0.0.5.0.0.14	Signum paracrinum	Paracrine signal
E3.0.0.5.0.0.15	Signum endocrinum	Endocrine signal
E3.0.0.5.0.0.16	Signum neurocrinum	Neurocrine signal
E3.0.0.5.0.0.17	Textus reagens	Reacting tissue; Responding tissue
E3.0.0.5.0.0.18	Cellula reagens	Reacting cell; Receiving cell; Responding cell
E3.0.0.5.0.0.19	Transductio significationis	Signal transduction
E3.0.0.5.0.0.20	Mediatio	Mediation
E3.0.0.5.0.0.21	Mediatio a moleculis diffusibilibus	Mediation by diffusible molecules
E3.0.0.5.0.0.22	Mediatio a contactu cellulomatricale	Mediation by cell-matrix contact
E3.0.0.5.0.0.23	Mediatio a contactu cellulocellare	Mediation by cell-cell contact
E3.0.0.5.0.0.24	Mediatio e superficie ad superficiem	Mediation from cell surface-to cell surface
E3.0.0.5.0.0.25	Mediatio a junctionibus adhaesionis	Mediation by adhering junctions
E3.0.0.5.0.0.26	Mediatio a junctione occludente	Mediation by tight junction

[48] E3.0.0.2.0.0.1 *Regulatio* The process by which the developmental fates or rates of development of cells of embryonic subsystems may change during embryonic development, thereby permitting normal integrated development of the embryo as a whole and compensating for anomalies. It is the result of changes in gene expression; moreover, since the DNA sequence that comprises the genome remains unchanged during the differentiation of systems, organs, tissues and cell-types, regulation is said to be an epigenetic process. The human zygote is said to be regulatory because in it the primordia of tissues and organs are not determined at the outset but they become so according to the relation of different parts to one other. The term regulation is applied also at the genetic level: thus, regulatory genes control development by regulating the switching on and off of structural genes that make proteins to build body parts.

[49] E3.0.0.4.0.0.2 *Differentiatio cellularum in zygoto findenti* Differentiation of the cells of the cleaving zygote into outer blastomeres, which are polarized, and inner blastomeres, which are not.

[50] E3.0.0.4.0.0.3 *Polarisatio cellularum externarum* Transformation of rounded, radially symmetrical outer blastomeres into highly asymmetric cells with the characteristics of epithelia. Longitudinal divisions of polarized cells are conservative, resulting only in more polarized cells. Transverse divisions of polarized cells are differentiative, resulting in both embryoblastic cells and polarized cells. Cells remaining polarized give rise to trophoblast (Johnson MH. Origin of pluriblast and trophoblast in the eutherian conceptus. Reprod Fertil Dev 1996;8:699-709).

[51] E3.0.0.4.0.0.6 *Divisio differentiativa embryoblasti; Divisio differentiativa massae cellularis internae/ Divisio differentiativa pluriblasti* Differentiation of the cells of the embryoblast, inner cell mass or pluriblast into the dorsal cells of the epiblast and the ventral cells of the hypoblast, with a basal lamina between them.

E3.0.0.5.0.0.27	Mediatio a zonula adhaerente	Mediation by adhesive belt
E3.0.0.5.0.0.28	Mediatio a fascia adhaerente	Mediation by adhesive strip
E3.0.0.5.0.0.29	Mediatio a macula adhaerente	Mediation by desmosome
E3.0.0.5.0.0.30	Mediatio a hemidesmosomate	Mediation by hemidesmosome
E3.0.0.5.0.0.31	Mediatio a junctione intercellulare	Mediation by intercellular junction
E3.0.0.5.0.0.32	Mediatio a macula communicante	Mediation by gap junction
E3.0.0.5.0.0.33	Competentia	Competence
E3.0.0.5.0.0.34	Factor competentiae	Competency factor
E3.0.0.5.0.0.35	Interactio	Interaction
E3.0.0.5.0.0.36	Interactio epithelioepithelialis	Epithelio-epithelial interaction
E3.0.0.5.0.0.37	Interactio epitheliomesenchymalis	Epitheliomesenchymal interaction
E3.0.0.5.0.0.38	Interactio instructiva	Instructive interaction
E3.0.0.5.0.0.39	Interactio permissiva	Permissive interaction
E3.0.0.5.0.0.40	Interactio reciproca; Inductio reciproca	Reciprocal interaction; Reciprocal induction
E3.0.0.5.0.0.41	Interactio supprimens	Suppressive interaction
E3.0.0.5.0.0.42	Interactio reprimens	Repressive interaction
E3.0.0.5.0.0.43	Moleculae signantes	Signalling molecules
E3.0.0.5.0.0.44	Factor crescentiae	Growth factor
E3.0.0.5.0.0.45	Factor extracellularis	Extracellular factor
E3.0.0.5.0.0.46	Factor neurotransmittens	Neurotransmitter
E3.0.0.5.0.0.47	Hormonum	Hormone
E3.0.0.5.0.0.48	Tullius significationum transductionis	Signal transduction cascade
E3.0.0.5.0.0.49	Cellula inducens	Inducing cell; Sending cell
E3.0.0.5.0.0.43	Molecula signans	Signalling molecule
E3.0.0.5.0.0.50	Matrix extracellularis	Extracellular matrix
E3.0.0.5.0.0.18	Cellula reagens	Reacting cell; Receiving cell; Responding cell
E3.0.0.5.0.0.51	Receptor superficiei membranae	Surface membrane receptor
E3.0.0.5.0.0.52	Proteinum transducens signum	Signal transduction protein
E3.0.0.5.0.0.53	Nucleus	Nucleus
E3.0.0.5.0.0.54	Acidum desoxyribonucleare	Deoxyribonucleic acid; DNA
E3.0.0.5.0.0.55	Transcriptio corrupta	Altered transcription
E3.0.0.5.0.0.56	Translatio corrupta	Altered translation
E3.0.0.5.0.0.57	Frux geni nova	New gene product
E3.0.0.6.0.0.1	**MORPHOGENESIS**[52]	**MORPHOGENESIS**
	Nomina generalia	*General terms*
E3.0.0.6.0.0.2	Blastema[53]	Blastema
E3.0.0.6.0.0.3	Primordium[54]	Primordium; Anlage
E3.0.0.6.0.0.4	Rudimentum[55]	Rudiment
E3.0.0.6.0.0.5	Status praesumptivus[56]	Presumptive state
E3.0.0.6.0.0.6	Vestigium[55]	Vestige
E3.0.0.6.1.0.1	**Phenomena morphogenetica**	**Morphogenetic phenomena**
E3.0.0.6.1.0.2	Adhaesio	Adhesion
E3.0.0.6.1.0.3	Appropinquatio	Approximation
E3.0.0.6.1.0.4	Bifurcatio	Bifurcation
E3.0.0.6.1.0.5	Canalisatio	Canalisation

[52] E3.0.0.6.0.0.1 *Morphogenesis* The development of shape, size or other feature of a particular organ or of a part or the whole of the body. "The word '*morphogenesis'* is often used in a broad sense to refer to many aspects of development, but when used strictly it should mean the moulding of cells and tissues into definite shapes" (Waddington CH. Principles of Embryology. London: George Allan & Unwin; 1956). In this strict sense, it refers particularly to the wide-ranging phenomena associated with gastrulation and organogenesis and to local phenomena like budding, branching and clefting (Hogan BLM. Morphogenesis. Cell 1999;96:225-233).

[53] E3.0.0.6.0.0.2 *Blastema* An identifiable mass of rapidly proliferating undifferentiated cells that gives rise to a differentiated structure/organ.

[54] E3.0.0.6.0.0.3 *Primordium* A term applied to a structure making its first appearance as a differentiating structure. *Anlage*, from the German, is a synonym. It is now appreciated that, particularly in branching morphogenesis, an epithelial primordium may be preceded by a mesenchymal primordium, which determines the pattern of arborization (Denny PC, Ball WD, Redman RS. Salivary glands: a paradigm for diversity of gland development. Crit Rev Biol Med 1997;8:51-75).

[55] E3.0.0.6.0.0.4/ E3.0.0.6.0.0.6 *Rudimentum/Vestigium* These terms are not interchangeable: a *rudiment* (from the Latin *rudimentum* – that which is unwrought) is an underdeveloped or immature part or organ; a *vestige* (from the Latin *vestigium* – that which is tracked) is a part or organ that has become reduced in function and/or size in the course of phylogeny; some vestiges, nevertheless, play an important part in ontogeny.

[56] E3.0.0.6.0.0.5 *Status praesumptivus* The condition of a tissue, region or organ that will, in the course of normal development, become a morphologically differentiated tissue, region or organ. A structure may be *presumptive* solely by virtue of its position or it may have undergone determination or chemodifferentiation but as yet show no visible signs of differentiation.

E3.0.0.6.1.0.6	Cavitatio	Cavitation
E3.0.0.6.1.0.7	Coalescentia	Coalescence
E3.0.0.4.0.0.1	Compactio	Compaction
E3.0.0.6.1.0.8	Condensatio	Condensation
E3.0.0.6.1.0.9	Congrutio	Pairing
E3.0.0.6.1.0.10	Conjunctio	Fusion
E3.0.0.6.1.0.11	Conservatio	Conservation
E3.0.0.6.1.0.12	Convergentia	Convergence
E3.0.0.6.1.0.13	Corrosio	Corrosion
E3.0.0.6.1.0.14	Crescentia	Growth
E3.0.0.6.1.0.15	Crescentia accretionalis	Accretional growth
E3.0.0.6.1.0.16	Crescentia appositionalis	Appositional growth
E3.0.0.6.1.0.17	Crescentia auxetica; Hypertrophia auxetica	Auxetic growth; Hypertrophy
E3.0.0.6.1.0.18	Crescentia compensatoria	Compensatory growth
E3.0.0.6.1.0.19	Crescentia differentialis	Differential growth
E3.0.0.6.1.0.20	Crescentia interstitialis	Interstitial growth
E3.0.0.6.1.0.21	Crescentia multiplicativa; Hyperplasia	Multiplicative growth; Hyperplasia
E3.0.0.6.1.0.22	Cytogenesis	Cytogenesis; Cytogeny
E3.0.0.6.1.0.23	Cytokinesis	Cytokinesis
E3.0.0.6.1.0.24	Deminutio	Diminution
E3.0.0.6.1.0.25	Delaminatio	Delamination
E3.0.0.6.1.0.26	Differentiatio	Differentiation
E3.0.0.6.1.0.27	Determinatio	Determination
E3.0.0.6.1.0.28	Differentiatio chemica	Chemodifferentiation
E3.0.0.6.1.0.29	Differentiatio cellularis	Cytodifferentiation
E3.0.0.6.1.0.30	Differentiatio textuum	Histodifferentiation
E3.0.0.6.1.0.31	Differentiatio functionalis	Functional differentiation
E3.0.0.6.1.0.32	Dilatatio	Dilation
E3.0.0.6.1.0.33	Dispositio	Arrangement
E3.0.0.6.1.0.34	Divergentia	Divergence
E3.0.0.6.1.0.35	Elongatio	Elongation
E3.0.0.6.1.0.36	Emanatio	Emergence
E3.0.0.6.1.0.37	Exstinctio	Elimination
E3.0.0.6.1.0.38	Extensio	Elongation; Extension
E3.0.0.6.1.0.39	Expansio	Expansion
E3.0.0.6.1.0.40	Fatum praesumptivum	Prospective fate; Presumptive fate
E3.0.0.1.0.0.1	Fissio	Cleavage
E3.0.0.6.1.0.41	Formatio ansae[57]	Loop formation
E3.0.0.6.1.0.42	Formatio primaria corporis[58]	Primary body development
E3.0.0.6.1.0.43	Formatio secundaria corporis[59]	Secondary body development
E3.0.0.6.1.0.44	Gastrulatio[60]	Gastrulation
E3.0.0.6.1.0.45	Histogenesis	Histogenesis; Histogeny
E3.0.0.6.1.0.46	Incrementum {vide Crescentia}	Growth
E3.0.0.6.1.0.47	Ingressio	Ingression
E3.0.0.6.1.0.48	Impansio[61]	Impansion
E3.0.0.6.1.0.49	Impedimentum	Constraint; Limitation

[57] E3.0.0.6.1.0.41 *Formatio ansae* See, for example, Männer J. The anatomy of cardiac looping: a step towards the understanding of the morphogenesis of several forms of congenital heart malformations. Clin Anat 2009;22:21-35.

[58] E3.0.0.6.1.0.42 *Formatio primaria corporis* *Primary body development* involves the primary germ layers and neural plate more or less directly. It includes primary neurulation, the formation of somites 1-29, of spinal ganglia 1-25, of the foregut, midgut and hindgut and of the corresponding part of the notochord.

[59] E3.0.0.6.1.0.43 *Formatio secundaria corporis* *Secondary body development* does not involve the germ layers: in it structures develop directly from the axial dense mesenchyme of the caudal eminence or tail bud. It includes secondary neurulation, the formation of somites 30-39, of spinal ganglia 26-35, of the most caudal gut and of the corresponding part of the notochord.

[60] E3.0.0.6.1.0.44 *Gastrulatio* It has been said that the term *gastrulation* is inappropriate as it refers to the invagination of a monolayered blastula to form a bilayered gastrula containing an endoderm-lined archenteron (O'Rahilly R and Müller F. Human embryology and teratology. 3rd ed. New York: Wylie-Liss; 2001). While this was the original meaning of gastrulation, its meaning has undergone a profound change (Collins P and Billett FS. The terminology of early development: history, concepts, and current usage. Clin Anat 1995;8:418-25). It may now be defined as the formative process by which the three germ layers and an axial organization are established in embryos, a process that probably begins in the attaching human blastocyst [St.4], before the establishment of a definite primitive streak in Stage 6b.

[61] E3.0.0.6.1.0.48 *Impansio* The antonym of expansion, *impansion* describes depression of the caudal part of the embryonic disc due to reduced growth (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978).

E3.0.0.6.1.0.50	Inflatio[62]	Ballooning
E3.0.0.5.0.0.35	Interactio	Interaction
E3.0.0.5.0.0.37	Interactio epitheliomesenchymalis	Epitheliomesenchymal interaction
E3.0.0.6.1.0.51	Interactio mesenchymoepithelialis	Mesenchymo-epithelial interaction
E3.0.0.6.1.0.52	Intussusceptio	Intussusception
E3.0.0.6.1.0.53	Invaginatio	Invagination
E3.0.0.6.1.0.54	Invectio[63]	Recruitment
E3.0.0.6.1.0.55	Laxatio	Loosening
E3.0.0.6.1.0.56	Maturatio[64]	Maturation
E3.0.0.6.1.0.57	Mitosis proliferativa	Proliferative mitosis
E3.0.0.6.1.0.58	Mitosis quantalis	Quantal mitosis
E3.0.0.6.1.0.59	Optio binaria	Binary choice
E3.0.0.6.1.0.60	Morphogenesis gemmans[65]	Budding morphogenesis
E3.0.0.6.1.0.61	Morphogenesis ramificans[66]	Branching morphogenesis
E3.0.0.6.1.0.62	Morphogenesis findens [67]	Clefting morphogenesis
E3.0.0.6.1.0.63	Mors cellularum programmata	Programmed cell death
E3.0.0.6.1.0.64	Apoptosis	Apoptosis
E3.0.0.6.1.0.65	Autophagocytosis	Autophagy
E3.0.0.6.1.0.66	Autoschisis	Autoschizis
E3.0.0.6.1.0.67	Chondroptosis	Chondroptosis
E3.0.0.6.1.0.68	Paraptosis	Paraptosis
E3.0.0.6.1.0.69	Motus	Movements
E3.0.0.6.1.0.70	Motus biokinetici	Biokinetic movements
E3.0.0.6.1.0.71	Motus condensationis; Motus densationis[68]	Condensation movement; Densation movement
E3.0.0.6.1.0.72	Motus compressionis longitudinalis; Motus concursionis	Longitudinal compression movement; Contusional movement
E3.0.0.6.1.0.73	Motus detractionis[69]	Detractional movement
E3.0.0.6.1.0.74	Motus detondens[69]	Shearing movement
E3.0.0.6.1.0.75	Motus dilatationis[70]	Dilation movement
E3.0.0.6.1.0.76	Motus expansionis longitudinalis; Motus distusionalis [71]	Elongation movement; Distusional movement

[62] E3.0.0.6.1.0.50 *Inflatio* The ballooning model has succeeded the segmental model of heart chamber formation (Horsthuis T, Christoffels VM, Anderson RH, Moorman AFM. Can recent insights into cardiac development improve our understanding of congenitally malformed hearts? Clin Anat 2009;22:4-20).

[63] E3.0.0.6.1.0.54 *Invectio* An example is the process by which material from the mesocardium is added to the venous and arterial poles of the early heart tube (Horsthuis T, Christoffels VM, Anderson RH, Moorman AFM. Can recent insights into cardiac development improve our understanding of congenitally malformed hearts? Clin Anat 2009;22:4-20)..

[64] E3.0.0.6.1.0.56 *Maturatio* *Maturation* may be defined as the acquisition of definitive structure and function: its prenatal aspects, particularly, are within the compass of Terminologia Embryologica.

[65] E3.0.0.6.1.0.60 Morphogenesis *gemmans* *Budding morphogenesis* and the ensuing canalisation have been most widely studied in the submandibular gland and the processes detailed for it are generally followed elsewhere.

[66] E3.0.0.6.1.0.61 *Morphogenesis ramificans* *Branching morphogenesis* is the process of forming organized patterns of epithelial cords and then tubules in organs such as the kidney, glands and lungs. It appears to be determined by mesenchyme and regulated by a wide range of factors (Williams MJ, Clark P. Microscopic analysis of the cellular events during scatter factor/hepatocyte growth factor-induced epithelial tubulogenesis. J Anat 2003;203:483-503). The term *tubulogenesis* is not recommended in this context as the product is initially solid and only canalises later.

[67] E3.0.0.6.1.0.62 *Morphogenesis findens* *Clefting* is the process in which a terminal bud is cleaved into multiple lobules with the ingrowth of mesenchyme and the deposition of extracellular matrix. In some organs, such as the lung, budding, branching and clefting each occur at different stages of development whereas in salivary glands clefting appears to predominate (Hogan BLM. Morphogenesis. Cell 1999;96:225-233).

[68] E3.0.0.6.1.0.71 *Motus condensationis; Motus densationis* Movement occurring in a morphogenetic field, called a densation field (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978). With loss of intercellular fluid, the cells come closer together. The first appearance of the skeleton is as mesenchymal condensations. The cells have rather spherical cell bodies and very little intercellular substance present between them. They show no particular orientation which means that they are under tension stresses that are equal in all directions. A densation field is characterized by its position.

[69] E3.0.0.6.1.0.73/74 *Motus detractionis/Motus detondens* Movement occurring in a morphogenetic field, called a detraction field (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978). Mesenchymal cell aggregations slide along hardened ground substance and are variably compressed. This leads to squeezing fluid out of the ground substance with subsequent hardening and ossification.

[70] E3.0.0.6.1.0.75 *Motus dilatationis* Movement occurring in a morphogenetic field, called a dilation field (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978). The field is spatially and kinetically highly organized. Dilation occurs in mesenchymal tissue when it becomes elongated and slenderized by pull in a particular direction without transverse compression. The primordia of skeletal, cardiac and smooth muscle fibres and fibre systems arise in dilation fields. The shape of a muscle is closely related to its position while its structure is closely related to its shape.

[71] E3.0.0.6.1.0.76 *Motus expansionis longitudinalis; Motus distusionalis* Movement occurring in a morphogenetic field, called a distusion field (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978).). The spherical mesenchymal cells of a densation field become compressed by opposing forces in

E3.0.0.6.1.0.77	Motus involutionis; Involutio[72]	Involutionary movement; Involution
E3.0.0.6.1.0.78	Motus morphogenetici	Morphogenetic movements
E3.0.0.6.1.0.79	Motus epibolicus	Epiboly, Spreading
E3.0.0.6.1.0.80	Motus embolicus	Emboly; Ingression
E3.0.0.6.1.0.81	Motus convergens	Convergence
E3.0.0.6.1.0.82	Motus extendens	Extension
E3.0.0.6.1.0.83	Motus extensionis convergentis	Convergent extension
E3.0.0.6.1.0.84	Motus translationis; Migratio[73]	Changing positional relationships; Migration
E3.0.0.6.1.0.85	Migratio vera	True migration
E3.0.0.6.1.0.86	Migratio ficta	False migration
E3.0.0.6.1.0.87	Motus relativus	Relative movement
E3.0.0.6.1.0.88	Motus ascensionis	Relative ascent
E3.0.0.6.1.0.89	Motus descensionis	Relative descent
E3.0.0.6.1.0.90	Neurulatio	Neurulation
E3.0.0.6.1.0.91	Neurulatio primaria[74]	Primary neurulation
E3.0.0.6.1.0.92	Neurulatio secundaria[75]	Secondary neurulation
E3.0.0.6.1.0.93	Organogenesis	Organogenesis; Organogeny
E3.0.0.6.1.0.94	Phenomena campi	Field phenomena
E3.0.0.6.1.0.95	Campus morphogeneticus; Campus biodynamicus	Morphogenetic field; Biodynamic field
E3.0.0.6.1.0.96	Plicatio	Folding
E3.0.0.6.1.0.97	Polarisatio	Polarization
E3.0.0.6.1.0.98	Ramificatio	Branching
E3.0.0.6.1.0.99	Reconstitutio	Reconstitution
E3.0.0.6.1.0.100	Reorganisatio	Re-organization
E3.0.0.6.1.0.101	Resegmentatio	Resegmentation
E1.0.4.0.0.0.11	Resorptio	Resorption
E3.0.0.6.1.0.102	Restrictio	Restriction
E3.0.0.6.1.0.103	Retractio	Retraction
E3.0.0.6.1.0.104	Segmentatio; Metamerismus	Segmentation; Metamerism
E3.0.0.6.1.0.105	Situs	Position
E3.0.0.6.1.0.106	Situs solitus viscerum	Normal position of viscera
E3.0.0.6.1.0.107	Specificatio	Specification
E3.0.0.6.1.0.108	Transformatio	Transformation
E3.0.0.6.1.0.109	Transformatio epitheliomesenchymalis[76]	Epitheliomesenchymal transformation
E3.0.0.6.1.0.110	Transformatio mesenchymoepithelialis[77]	Mesenchymo-epithelial transformation
E3.0.0.6.1.0.111	Tubulatio	Tubulation
E3.0.0.6.1.0.112	Vesiculatio	Vesiculation

---

the longitudinal axis of the field. Initially, such zones of flattened cells are located only in the centre of a field that has attained sufficient size. Cells in this contusion field become disc-shaped and develop into cartilage cells.

[72] E3.0.0.6.1.0.77 *Motio involutionis; Involutio* The rolling-in of cells over a rim. In this context the term *involutionary movement* is preferred because of the different connotations of the term involution.

[73] E3.0.0.6.1.0.84 *Motus translationis; Migratio* When re-examined appropriately (Gasser RF. Evidence that some events in mammalian embryogenesis can result from differential growth, making migration unnecessary.Anat Rec B New Anat.2006;289B:53-63), many examples of changing positional relations turn out not to be examples of true migration. *Migration* may be *false* or *true*. In *false migration*, structures do not move from one site to another but their positional relationships change and they become separated as an embryo enlarges and changes shape (see, for example, Freeman B. The active migration of germ cells in the embryos of mice and men is a myth. Reproduction 2003;125:635-643, which explains the relocation of primordial germ cells from the wall of the umbilical vesicle to that of the hindgut by growth movements and shape changes). *True migration,* such as occurs in cytokinesisis in the cerebellum and the cerebral cortex, is the movement of cells, cell groups and organs from one site to another, among, around, through or over other structures, in relation to a central reference point that moves minimally as the embryo enlarges or changes shape.

[74] E3.0.0.6.1.0.91 *Neurulatio primaria* *Primary neurulation*, as distinct from secondary neurulation, is the process entailing *tubulation* in which the neural plate folds and forms, in turn, a neural groove and then a neural tube, which separates from the surface ectoderm. The process concludes with the closure of the caudal neuropore in Stage 12, at about the level of somites 31 (Müller F, O'Rahilly R. The first appearance of the neural tube and optic primordium in the human embryo at stage 10. Anat Embryol 1985;172:157-69). The term primary neurulation is best confined to the process rather than applied to the phase of development in which it occurs, which is best referred to as primary body development.

[75] E3.0.0.6.1.0.92 *Neurulatio secundaria* *Secondary neurulation* is the process entailing *canalization* that leads to the formation of the spinal cord beyond the limits of primary neurulation: it occurs after the closure of the caudal neuropore in Stage 12, and thus in Stages 13-18. Axial dense mesenchyme in the caudal eminence forms a neural cord in continuity with the neural tube: the cavity in the neural tube extends into the neural cord (Müller F, O'Rahilly R. The development of the human brain, the closure of the caudal neuropore, and the beginning of secondary neurulation at stage 12. Anat Embryol 1987:176:413-30). The term secondary neurulation is best confined to the process rather than applied to the phase of development in which it occurs, which is best referred to as secondary body development.

[76] E3.0.0.6.1.0.109 *Transformatio epitheliomesenchymalis* For sessile cells to become free and migrate they must undergo an *epitheliomesenchymal transformation*, first becoming flask-shaped, with the dissolution of juxtaluminal junctions, and then becoming frankly mesenchymal.

[77] E3.0.0.6.1.0.110 *Transformatio mesenchymoepithelialis* Mesenchyme cells that have reached their destinations may condense and revert to sessile epithelial cells, by polarizing, developing basal laminae and specialized juxtaluminal junctions. Some such epithelia may subsequently undergo an epitheliomesenchymal transformation.

	Histogenesis generalis	**General histogenesis; General histogeny**
E4.0.0.0.0.0.1	**Cellulae antecedentes**[78]	**Antecedent cells**
	Nomina generalia	*General terms*
E4.0.0.0.0.0.2	Potestas totalis[79]	Totipotency
E4.0.0.0.0.0.3	Potestas pluralis[80]	Pluripotency
E4.0.0.0.0.0.4	Potestas multiplex[81]	Multipotency
E4.0.0.0.0.0.5	Potestas una[82]	Unipotency
E4.0.0.0.0.0.6	Formabilitas[83]	Plasticity
E4.0.0.0.0.0.7	Adaptabilitas	Adaptability
E4.0.0.0.0.0.8	Flexibilitas	Flexibility
E4.0.0.0.0.0.9	Versabilitas	Versatility
E4.0.0.1.0.0.1	**TYPI CELLULARUM ANTECEDENTIUM**	**VARIETIES OF ANTECEDENT CELLS**
E4.0.0.1.0.0.2	Cellula primordialis[84]	Primordial cell
E4.0.0.1.0.0.3	Cellula fundatoria[85]	Founder cell
E4.0.0.1.0.0.4	Cellula propraecursoria[86]	Prestem cell [PSC]
E4.0.0.1.0.0.5	Cellula praecursoria[87]	Stem cell
E4.0.0.1.0.0.6	Cellula progenetrix	Progenitor cell
E4.0.0.1.0.1.1	**Cellulae praenatales praecursoriae**	**Prenatal stem cells**
E4.0.0.1.0.1.2	Cellula praecursoria trophoblastica	Trophoblastic stem cell [TSC]
E4.0.0.1.0.1.3	Cellula praecursoria trophoblastica apparens spontaniter	Trophoblastic stem cell generated spontaneously *in vivo* [TSC GS]
E4.0.0.1.0.1.4	Cellula praecursoria trophoblastica artificialis	Trophoblastic stem cell induced artificially *in vitro* [TSC IA]
E4.0.0.1.0.1.5	Cellula praecursoria embryonica; Stipitoblastus	Embryonic stem cell [ESC]
E4.0.0.1.0.1.6	Cellula praecursoria embryonica spontanea; Stipitoblastus verus	Embryonic stem cell generated spontaneously *in vivo* [ESC GS]
E4.0.0.1.0.1.7	Cellula praecursoria embryonica artificialis; Stipitoblastus artificialis	Embryonic stem cell induced artificially *in vitro* [ESC IA]
E4.0.0.1.0.1.8	Cellula praecursoria fetalis	Fetal stem cell
E4.0.0.1.0.2.1	**Cellulae perinatales praecursoriae**	**Perinatal stem cells**
E4.0.0.1.0.2.2	Cellula praecursoria neonatalis	Neonatal stem cell
E4.0.0.1.0.3.1	**Cellulae postnatales praecursoriae**	**Postnatal stem cells**
E4.0.0.1.0.3.2	Cellula praecursoria adulta	Adult stem cell
E4.0.0.1.1.0.1	**Cellulae propraecursoriae; Cellulae pluripotentes**	**Prestem cells [PSCs]; Pluripotent stem cells**
E4.0.0.1.1.0.2	Cellula externa morulae	Outer cell of morula
E4.0.0.1.0.1.2	Cellula praecursoria trophoblastica	Trophoblastic stem cell [TSC]
E4.0.0.1.1.0.3	Cellula interna morulae	Inner cell of morula
E4.0.0.1.0.1.5	Cellula praecursoria embryonica; Stipitoblastus	Embryonic stem cell [ESC]

[78] E4.0.0.0.0.0.1 *Cellulae antecedentes* The term antecedent cell is used here solely in a generic sense and without any specific connotation. The term *precursor* is not used in a generic sense, to avoid confusion with the specific term *cellula praecursoria, a stem cell.*

[79] E4.0.0.0.0.0.2 *Potestas totalis* *Totipotency* is the capacity to form all cell lineages, embryonic and extra-embryonic.

[80] E4.0.0.0.0.0.3 *Potestas pluralis* *Pluripotency* is the capacity to form all embryonic or all extra-embryonic cell lineages.

[81] E4.0.0.0.0.0.4 *Potestas multiplex* *Multipotency* is the capacity of adult stem cells to form multiple cell types of one cell lineage

[82] E4.0.0.0.0.0.5 *Potestas una* *Unipotency* is the capacity of adult stem cells to form only one cell type

[83] E4.0.0.0.0.0.6 *Formabilitas* *Plasticity* is the ability of a stem cell population to match its output to variable demands. To adjust its output of precursors to a single maturation compartment (adaptability), to regulate the distribution of such adjustments between two or more maturation compartments (flexibility) or to contribute to the production of previously unexpected progeny (versatility).

[84] E4.0.0.1.0.0.2 *Cellula primordialis* A *primordial cell* is totipotent; the zygote and its immediate progeny are primordial cells.

[85] E4.0.0.1.0.0.3 *Cellula fundatoria* Founder cells are capable of contributing to the establishment of one or more cell populations.

[86] E4.0.0.1.0.0.4 *Cellula propraecursoria* A prestem cell is capable of contributing to the establishment of one or more stem cell populations.

[87] E4.0.0.1.0.0.5 *Cellula praecursoria* A stem cell is a constituent of a population that is capable of maintaining its own size while exporting an appropriate output of progeny to one or more cell lineages. In a future edition the term *Cellula staminalis* may be preferred if in due course it is approved by the member societies of the IFAA.

E4.0.0.1.1.0.4	Cellula epiblastica	Epiblastic cell
E4.0.0.1.1.0.5	Cellula hypoblastica	Hypoblastic cell
E4.0.0.1.2.0.1	**Cellulae praecursoriae; Cellulae multipotentes et unipotentes**[88]	**Lineage-restricted stem cells; Multipotent and unipotent cells**
E4.0.0.1.2.0.2	Cellula conjunctivalis praecursoria	Conjunctival stem cell
E4.0.0.1.2.0.3	Cellula cornealis praecursoria	Corneal stem cell
E4.0.0.1.2.0.4	Cellula endothelialis praecursoria	Endothelial stem cell
E4.0.0.1.2.0.5	Cellula ependymalis praecursoria	Ependymal stem cell
E4.0.0.1.2.0.6	Cellula epidermalis praecursoria	Epidermal stem cell
E4.0.0.1.2.0.7	Cellula epidermalis praecursoria cellularum cristae neuralis	Epidermal neural crest cell stem cell [eNCSC]
E4.0.0.1.2.0.8	Cellula epithelialis praecursoria	Epithelial stem cell
E4.0.0.1.2.0.9	Cellula gastrointestinalis praecursoria	Gastro-intestinal stem cell
E4.0.0.1.2.0.10	Cellula glialis praecursoria	Glial stem cell
E4.0.0.1.2.0.11	Cellula haematopoietica praecursoria	Haematopoietic stem cell▲
E4.0.0.1.2.0.12	Cellula hepatopancreatica praecursoria	Hepatopancreatic stem cell
E4.0.0.1.2.0.13	Cellula hypophysealis praecursoria	Hypophyseal stem cell
E4.0.0.1.2.0.14	Cellula mesechymatica praecursoria	Mesenchymal stem cell [hMSC]
E4.0.0.1.2.0.15	Cellula myogenica praecursoria	Myogenic stem cell
E4.0.0.1.2.0.16	Cellula nervosa praecursoria	Neural stem cell
E4.0.0.1.2.0.17	Cellula olfactoria praecursoria	Olfactory stem cell
E4.0.0.1.2.0.18	Cellula spermatogonica praecursoria	Spermatogonial stem cell
E4.0.0.1.3.0.1	**Cellulae progenetrices {**vide derivativa idonea cum textibus}	**Progenitor cells {**see relevant tissue derivative}
E4.0.1.0.0.0.1	**Factores crescentiae**[89]	**Growth factors**
E4.0.1.0.0.0.2	Receptor tyrosinum kinasis	Receptor tyrosine kinase
E4.0.1.0.0.0.3	Familia factoris crescentiae fibroblasticae	Fibroblast growth factor [FGF] family
E4.0.1.0.0.0.4	Familia ephrini	Ephrin family
E4.0.1.0.0.0.5	Receptor maculatus	Receptor patched
E4.0.1.0.0.0.6	Familia erinacea	Hedgehog family
E4.0.1.0.0.0.7	Receptor crispatus	Receptor frizzled
E4.0.1.0.0.0.8	Familia receptoris non alati	Wingless-type [WNT] family
E4.0.1.0.0.0.9	Receptor serini/threonini kinasis	Receptor serine/threonine kinase
E4.0.1.0.0.0.10	Superfamilia factoris epidermalis [EGF] crescentiae	Epidermal growth factor [EGF] superfamily
E4.0.1.0.0.0.11	Superfamilia factoris transformantis crescentiam β	Transforming growth factor beta [TGF- β] superfamily
E4.0.1.0.0.0.12	Familia activini	Activin family
E4.0.1.0.0.0.13	Familia factoris morphogenetici ossium	Bone morphogenetic factor [BMP] family
E4.0.1.0.0.0.14	Familia factoris transformantis crescentiam	Transforming growth factor [TGF] family
E4.0.1.0.0.0.15	Factor transformans crescentiam α	Transforming growth factor [TGF- α]
E4.0.1.0.0.0.16	Familia vitellogenini 1	Vitellogenin [Vg1] family
E4.0.1.0.0.0.17	Familia nodalis	Nodal family
E4.0.1.0.0.0.18	Receptor integrini	Integrin receptor
E4.0.1.0.0.0.19	Ligantia fibronectini/laminini	Fibronectin/Laminin ligands
E4.0.1.0.0.0.20	Receptor incisurans	Notch receptor
E4.0.1.0.0.0.21	Ligantia delta/serrata	Delta/Serrate ligands
E4.0.2.0.0.0.1	**Factores transcriptionis**[90]	**Transcription factors**

[88] E4.0.0.1.2.0.1 *Cellulae praecursoriae; Cellulae multipotentes et unipotentes* Cells are here usually listed according to both their derivation and their potential: an exception is the *epidermal neural crest cell stem cell [eNCSC], which* is derived from epidermis but is capable of giving rise to neural crest cells.

[89] E4.0.1.0.0.0.1 *Factores crescentiae* The factors listed here are only representative but all are known to be active in normal embryogenesis and specific congenital anomalies are known to be associated with disturbances of all but one of them (TGF-α). Whether or not these criteria are appropriate and whether or not other growth factors should be included here is debatable. The number of growth factors and their families that have been identified continues to increase as does knowledge of their activities. A periodically-updated list of growth factors and their activities may be found at http://www.med.unibs.it/~marchesi/growfact.html while a more comprehensive listing is available at http://www.copewithcytokines.de/cope.cgi Growth factors and cytokines and more general biochemical information can be found at http://themedicalbiochemistrypage.org

[90] E4.0.2.0.0.0.1 *Factores transcriptiones* Transcription factors are proteins that interact with specific DNA sequences to enable transcription to occur (Latchmann D S. Transcription factors: an overview. Int J Biochem Cell Biol 1997;29:1305-12): their number is enormous and there is no obvious way to limit their numbers in a way that would permit their inclusion here. A transcription factor classification may be found at http://www.gene-regulation.com/pub/databases/transfac/cl.html Again, what should be included in a terminology that is

E4.0.3.0.0.0.1	**Structurae cristae neuralis**[91]	**Neural crest structures**
E4.0.3.1.0.0.1	**COMPLEXUS CRISTAE NEURALIS NASALIS**[92]	**NASAL NEURAL CREST COMPLEX**
E4.0.3.1.0.0.2	Mesenchyma olfactorium [partim]	Olfactory mesenchyme [in part]
E4.0.3.1.0.0.3	Basicranium anterius [partim]	Anterior basicranium [in part]
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.1.0.0.5	Epithelium olfactorium	Olfactory epithelium
E4.0.0.1.2.0.17	Cellula olfactoria praecursoria	Olfactory stem cell
E4.0.3.1.0.0.6	Neuroblastus olfactorius	Olfactory neuroblast
E4.0.3.1.0.0.7	Neuron olfactorium immaturum	Immature olfactory neuron
E4.0.3.1.0.0.8	Epitheliocytus sustenans olfactorius	Olfactory supporting epithelial cell
E4.0.3.1.0.0.9	Cellula olfactoria implicans; Gliocytus olfactorius implicans	Olfactory ensheathing cell [OEC]; olfactory ensheathing glial cell
E4.0.3.1.0.0.10	Epitheliocytus basalis olfactorius	Olfactory basal epithelial cell
E4.0.3.1.0.0.11	Neuroblastus vomeronasalis	Vomeronasal neuroblast
E4.0.3.1.0.0.12	Neuron immaturum vomeronasale	Immature vomeronasal neuron
E4.0.3.1.0.0.13	Neuron gonadotropinum liberans nervi vomeronasalis	Gonadotropin-releasing hormone [GnRH] neuron of vomeronasal nerve
E4.0.3.1.0.0.14	Gliocytus vomeronasalis implicans	Vomeronasal ensheathing glial cell
E4.0.3.1.0.0.15	Neuroblastus nervi terminalis	Neuroblast of nervus terminalis
E4.0.3.1.0.0.16	Neuron immaturum nervi terminalis	Immature neuron of nervus terminalis
E4.0.3.1.0.0.17	Neuron gonadotropinum liberans nervi terminalis	Gonadotropin-releasing hormone [GnRH] neuron of terminal nerve
E4.0.3.1.0.0.18	Cellula nervi terminalis implicans; Gliocytus nervi terminalis implicans	Ensheathing cell of terminal nerve; Ensheathing glial cell of terminal nerve
E4.0.3.2.0.0.1	**COMPLEXUS CRISTAE NEURALIS OPTICAE**[93]	**OPTIC NEURAL CREST COMPLEX**
E4.0.3.2.0.0.2	Mesenchyma oculi [partim]	Optic mesenchyme [in part]
E4.0.3.1.0.0.3	Basicranium anterius [partim]	Anterior basicranium [in part]
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.2.0.0.3	Tunica fibrosa bulbi	Fibrous layer of eyeball
E4.0.0.1.2.0.3	Cellula cornealis praecursoria[94]	Corneal stem cell
E4.0.3.2.0.0.4	Melanocytus	Melanocyte
E4.0.3.2.0.0.5	Tunica vasculosa bulbi; Uvea	Vascular layer of eyeball; Uvea
E4.0.3.2.0.0.6	Pigmentocytus uvealis	Pigment cell of uvea
E4.0.3.3.0.0.1	**CRISTA NEURALIS PRAEOTICA**	**PRE-OTIC NEURAL CREST**
E4.0.3.3.1.0.1	**Complexus cristae neuralis mesencephalicae**[95]	**Mesencephalic neural crest complex**
E4.0.3.3.1.0.2	Mesenchyma frontonasale	Frontonasal mesenchyme
E4.0.3.1.0.0.3	Basicranium anterius [partim]	Anterior basicranium [in part]
E4.0.3.3.1.0.3	Os frontale	Frontal bone
E4.0.3.3.1.0.4	Pars squamosa ossis temporalis	Squamous part of temporal bone

primarily structure-and time-related is debatable but for the present it has been felt that the inclusion of the sections headed Induction and interaction (page XX E3.0.0.5.0.0.1), Growth factors (page XX E4.0.1.0.0.0.1) and this footnote is appropriate.

[91] E4.0.3.0.0.0.1 *Structurae cristae neuralis* *Neural crest* tissue is dealt with under General histogenesis because of the wide range and distribution of its derivatives outside the nervous system. *Neural crest cells* separate from the neurosomatic ectodermal junction of the *primary neural tube* to give rise to the *mesencephalic, rhombencephalic* and *spinal neural crest* down to S_1. Following secondary neurulation, cells delaminate from the surface of the *secondary neural tube* and give rise to *spinal neural crest* beyond S_1. Groups of cells, which behave in a similar manner but arise from some placodes and by delamination from the optic and otic vesicles are classified here as *neural crest-like* cells. *Neural crest cells* and *neural crest-like cells* meld seamlessly into *neural crest complexes* and are no longer morphologically distinguishable (O'Rahilly R, Müller F. The development of the neural crest in the human. J Anat 2007;211:335-351). Here the term *neural crest* is used *in sensu stricto* and the term *neural crest complex* recognizes the dual lineage of its component cells.

[92] E4.0.3.1.0.0.1 *Complexus cristae neuralis nasalis* *The nasal neural crest complex* develops from the epithelium of the *nasal placodes* in Stage 13 and migrates towards the telencephalon, reaching it in Stage 15, at which stage complex-derived olfactory fibres enter the region of the future olfactory bulb.

[93] E4.0.3.2.0.0.1 *Complexus cristae neuralis opticae* *The optic neural crest complex* develops from the optic primordium in Stages 11 and 12 at the level of Diencephalon1 and is the only forebrain-derived *neural crest-like tissue*.

[94] E4.0.0.1.2.0.3 *Cellula cornealis praecursoria* Corneal stem cells come from the corneoscleral junction.

[95] E4.0.3.3.1.0.1 *Complexus cristae neuralis mesencephalicae* *The mesencephalic neural crest complex* appears at Stage 9 and at Stage 11 spreads out towards the frontonasal region where it mingles with the *optic neural crest complex*.

E4.0.3.3.1.0.5	Viscerocranium membranaceum [partim]	Membranous viscerocranium [in part]
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.2.0.0.2	Mesenchyma oculi [partim]	Optic mesenchyme [in part]
E4.0.0.1.2.0.3	Cellula cornealis praecursoria[94]	Corneal stem cell
E4.0.3.3.1.0.6	Keratocytus	Keratocyte
E4.0.3.3.1.0.7	Adipocytus	Adipocyte
E4.0.3.2.0.0.4	Melanocytus	Melanocyte
E4.0.3.3.1.0.8	Epithelium posterius corneae	Endothelium of anterior chamber
E4.0.3.3.1.0.9	Stroma iridis	Stroma of iris
E4.0.3.3.1.0.10	Membrana pupillaris [partim]	Pupillary membrane; Iridopupillary membrane [in part]
E4.0.3.3.1.0.11	Ectomesenchyma dentale	Dental ectomesenchyme
E4.0.3.3.1.0.12	Papilla dentis	Dental papilla
E4.0.3.3.1.0.13	Odontoblastus	Odontoblast
E4.0.3.3.2.0.1	**Crista neuralis isthmica**[96]	**Isthmic neural crest**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.3.2.0.3	Mesenchyma capitis [partim]	Head mesenchyme [in part]
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.3.3.0.1	**Crista neuralis rhombencephalica**	**Rhombencephalic neural crest**
E4.0.3.3.3.1.1	**Complexus cristae neuralis trigeminalis**[97]	**Trigeminal neural crest complex**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.3.2.0.3	Mesenchyma capitis [partim]	Head mesenchyme [in part]
E4.0.3.3.3.1.2	Dermis capitis	Dermis of head
E4.0.3.3.1.0.7	Adipocytus	Adipocyte
E4.0.3.2.0.0.4	Melanocytus	Melanocyte
E4.0.3.3.1.0.5	Viscerocranium membranaceum [partim]	Membranous viscerocranium [in part]
E4.0.3.3.3.1.3	Cartilago arcus pharyngei primi [1]	First pharyngeal arch cartilage [1] §Meckel§
E4.0.3.3.3.1.4	Ossicula auditus [partim]	Auditory ossicles [in part]
E4.0.3.3.3.1.5	Fasciae propriae musculorum arcus pharyngei primi [1]	First pharyngeal arch muscle sheaths [1]
E4.0.3.3.3.1.6	Via migrationis ventrolateralis	Ventrolateral migration pathway
E4.0.3.3.3.1.7	Neuron sensorium ganglii trigeminalis	Trigeminal ganglion cell
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.3.3.2.1	**Complexus cristae neuralis facialis**[98]	**Facial neural crest complex**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.3.2.0.3	Mesenchyma capitis [partim]	Head mesenchyme [in part]
E4.0.3.3.3.2.2	Dermis cervicalis [partim]	Dermis of neck [in part]
E4.0.3.3.1.0.7	Adipocytus	Adipocyte
E4.0.3.2.0.0.4	Melanocytus	Melanocyte
E4.0.3.3.1.0.5	Viscerocranium membranaceum [partim]	Membranous viscerocranium [in part]
E4.0.3.3.3.2.3	Cartilago arcus pharyngei secundi [2]	Second pharyngeal arch cartilage [2] §Reichert§
E4.0.3.3.3.1.4	Ossicula auditus [partim]	Auditory ossicles [in part]
E4.0.3.3.3.2.4	Os hyoideum [partim]	Hyoid bone [in part]
E4.0.3.3.3.2.5	Fasciae propriae musculorum arcus pharyngei secundi [2]	Second pharyngeal arch muscle sheaths [2]
E4.0.3.3.3.1.6	Via migrationis ventrolateralis	Ventrolateral migration pathway
E4.0.3.3.3.2.6	Neuron sensorium ganglii geniculi	Geniculate ganglion cell

[96] E4.0.3.3.2.0.1 *Crista neuralis isthmica* *Neural crest cells,* seen in the roof of the isthmic rhombomere in Stage 13, appear to be destined more for the leptomeninges than for the mesencephalic nucleus of the trigeminal nerve.

[97] E4.0.3.3.3.1.1 *Complexus cristae neuralis trigeminalis* At Stage 10 *neural crest cells* migrate mainly from future rhombomere 2 but with contributions from adjacent future rhombomeres and with *neural crest-like cells* from the overlying ectoderm form the *trigeminal neural crest complex*.

[98] E4.0.3.3.3.2.1 *Complexus cristae neuralis facialis* At Stage 10 *neural crest cells* migrate mainly from rhombomere 4 but with contributions from adjacent rhombomeres and with *neural crest-like cells* from the overlying ectoderm form the *facial neural crest complex.*

E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.4.0.0.1	**COMPLEXUS CRISTAE NEURALIS OTICAE**[99]	**OTIC NEURAL CREST COMPLEX**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.4.0.0.2	Mesenchyma oticum [partim]	Otic mesenchyme [in part]
E4.0.3.4.0.0.3	Capsula otica [partim]	Otic capsule [in part]
E4.0.3.4.0.0.4	Arcus pharyngei secundi et tertii [2&3]	Second and third pharyngeal arches [2&3]
E4.0.3.3.3.1.6	Via migrationis ventrolateralis	Ventrolateral migration pathway
E4.0.3.4.0.0.5	Neuron sensorium ganglionare vestibulare	Vestibular ganglion cell
E4.0.3.4.0.0.6	Neuron sensorium ganglionare cochleare	Cochlear ganglion cell
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.0.0.1	**CRISTA NEURALIS POSTOTICA**	**POST-OTIC NEURAL CREST**
E4.0.3.5.0.1.1	**Complexus cristae neuralis glossopharyngealis**[100]	**Glossopharyngeal neural crest complex**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.5.0.1.2	Crista neuralis cardiaca [partim][101]	Cardiac neural crest [in part]
E4.0.3.5.0.1.3	Cartilago arcus pharyngei tertii [3]	Third pharyngeal arch cartilage [3]
E4.0.3.3.3.2.4	Os hyoideum [partim]	Hyoid bone [in part]
E4.0.3.5.0.1.4	Fascia propria musculi stylopharyngei	Stylopharyngeus muscle sheath
E4.0.3.3.3.1.6	Via migrationis ventrolateralis	Ventrolateral migration pathway
E4.0.3.5.0.1.5	Neuron sensorium ganglii glossopharyngealis	Glossopharyngeal ganglion cell
E4.0.3.5.0.1.6	Ganglion glossopharyngeale superius	Superior glossopharyngeal ganglion
E4.0.3.5.0.1.7	Ganglion glossopharyngeale inferius	Inferior glossopharyngeal ganglion
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.0.2.1	**Complexus cristae neuralis vagalis**[100]	**Vagal neural crest complex**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.5.0.1.2	Crista neuralis cardiaca [partim][101]	Cardiac neural crest [in part]
E4.0.3.5.0.2.2	Cartilago arcus pharyngei quarti [4]	Fourth pharyngeal arch cartilage [4]
E4.0.3.5.0.2.3	Cartilagines laryngeae	Laryngeal cartilages
E4.0.3.5.0.2.4	Fasciae propriae musculorum arcus pharyngei quarti [4]	Fourth pharyngeal arch muscle sheaths [4]
E4.0.3.3.3.1.6	Via migrationis ventrolateralis	Ventrolateral migration pathway
E4.0.3.5.0.2.5	Neuron sensorium ganglii vagalis	Vagal ganglion cell
E4.0.3.5.0.2.6	Ganglion vagale superius	Superior vagal ganglion
E4.0.3.5.0.2.7	Ganglion vagale inferius	Inferior vagal ganglion
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.0.2.8	Linea generationis cellularum parasympathicarum	Parasympathetic cell lineage
E4.0.3.5.0.2.9	Pars enterica systematis nervosi	Enteric nervous system
E4.0.3.5.0.2.10	Ganglion entericum	Enteric ganglion
E4.0.3.5.0.2.11	Plexus entericus ganglionaris	Ganglionic enteric plexus; Enteric nerve plexus
E4.0.3.5.0.2.12	Plexus nervosus myentericus	Myenteric plexus §Auerbach§

[99] E4.0.3.4.0.0.1 *Complexus cristae neuralis oticae* *Neural crest-like cells* migrate from the otic placode at Stage 10 and, becoming attached to the *facial neural crest complex,* represent the primordial *vestibular ganglion*; the *cochlear ganglion* is recognizable at Stage 15.

[100] E4.0.3.5.0.1.1/ E4.0.3.5.0.2.1 *Complexus cristae neuralis glossopharyngealis/ Complexus cristae neuralis vagalis* At Stage 10 *neural crest cells* migrate mainly from the roof of rhombomere 6 and probably from adjacent rhombomeres and meld with *neural crest-like* cells from the overlying ectoderm to form part of a continuous *glossopharyngeal/vagal neural crest complex*: in Stage 13, the glossopharyngeal and vagal parts separate and each develops superior and inferior ganglia, of which only the superior ganglia are believed to be derived from neural crest *per se*.

[101] E4.0.3.5.0.1.2 *Crista neuralis cardiaca* At Stage 12 some *neural crest cells* from rhombomeres 6 and 7, which are in continuity ventrally with the *hypoglossal neural crest*, proceed via pharyngeal arches towards the truncus arteriosus; at Stage 13 they are joined by *neural crest* and *neural crest-like cells* and, continuing beyond the inferior glossopharyngeal and vagal ganglia, migrate into the 3rd and 4th pharyngeal arches; these components are interpreted as human *cardiac neural crest tissue*.

E4.0.3.5.0.2.13	Plexus nervosus submucosus externus	Outer submucous plexus §Schabadasch§
E4.0.3.5.0.2.14	Plexus nervosus submucosus internus	Inner submucous plexus §Meissner§
E4.0.3.5.0.2.15	Plexus entericus aganglionaris	Aganglionic enteric plexus
E4.0.3.5.0.2.16	Gliocytus entericus	Enteric glial cell
E4.0.3.5.0.3.1	**Complexus cristae neuralis cardiacus**[101]	**Cardiac neural crest complex**
E4.0.3.5.0.3.2	Arcus pharyngei tertii, quartii et sexti	Third, fourth and sixth pharyngeal arches
E4.0.3.5.0.3.3	Aa. arcuum pharyngeorum[223]	Pharyngeal arch arteries; Aortic arches
E4.0.3.5.0.3.4	Paraganglia	Paraganglia
E4.0.3.5.0.3.5	Paragangliocytus; Cellula typi I	Paragangliocyte; Type I cell
E4.0.3.5.0.3.6	Glandulae parathyroideae [partim]	Parathyroid glands [in part]
E4.0.3.5.0.3.7	Stroma glandulae parathyroideae	Parathyroid stroma
E4.0.3.5.0.3.8	Cor [partim]	Heart [in part]
E4.0.3.5.0.3.9	Basis cordis [partim]	Base of heart [in part]
E4.0.3.5.0.3.10	Ductus communis egressionis cordis [partim]	Common outflow tract of heart [in part]
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E4.0.3.5.0.3.12	Septum aorticopulmonale [partim]	Aorticopulmonary septum [in part]
E4.0.3.5.0.3.13	Valva aortae [partim]	Aortic valve; Aortic arterial valve [in part]
E4.0.3.5.0.3.14	Valva trunci pulmonalis [partim]	Pulmonary valve; Pulmonary arterial valve [in part]
E4.0.3.5.0.3.15	Tubera endocardiaca atrioventricularia [minimum]	Atrioventricular endocardiac cushions [minimum]
E4.0.3.5.0.3.16	Cardiomyocytus atrialis secretans	Endocrine atrial cardiomyocyte; Atrial myo-endocrine cell
E4.0.3.5.0.3.17	Trachea et bronchi [partim]	Trachea and bronchi [in part]
E4.0.3.5.0.3.18	Neuroendocrinocytus respiratorius	Respiratory neuro-endocrine cell
E4.0.3.5.0.3.19	Gemma thymica [partim]	Thymic bud [in part]
E4.0.3.5.0.3.20	Stroma thymi	Thymic stroma
E4.0.3.5.0.3.21	Glandula thyroidea [partim]	Thyroid gland [in part]
E4.0.3.5.0.3.22	Thyrocytus C	C thyrocyte; C cell; Parafollicular cell
E4.0.3.5.0.4.1	**Crista neuralis nervi accessorii**[102]	**Neural crest of accessory nerve**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.0.5.1	**Crista neuralis hypoglossalis; Crista neuralis occipitalis**[103]	**Hypoglossal neural crest; Occipital neural crest**
E4.0.3.3.2.0.2	Via migrationis dorsolateralis	Dorsolateral migration pathway
E4.0.3.1.0.0.4	Leptomeninx	Leptomeninx
E4.0.3.3.1.0.7	Adipocytus	Adipocyte
E4.0.3.2.0.0.4	Melanocytus	Melanocyte
E4.0.3.5.0.5.2	Chorda hypoglossalis [partim]	Hypoglossal cord [in part]
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.1.0.1	**Crista neuralis spinalis**[104]	**Spinal neural crest**
E4.0.3.3.2.0.2	**Via migrationis dorsolateralis**[105]	**Dorsolateral migration pathway**
E4.0.3.2.0.0.4	Melanocytus	Melanocyte

[102] E4.0.3.5.0.4.1 *Cristae neuralis nervi accessorii* At Stage 12 *neural crest cells* from rhombomere 7 migrate and form the *neural crest of the accessory nerve*, which, by Stage 13, extends uninterruptedly between the *vagal neural crest* and the *spinal neural crest.*

[103] E4.0.3.5.0.5.1 *Cristae neuralis hypoglossalis; Crista neuralis occipitalis* In Stage 10 *neural crest cells* migrate from rhombomere 8 and spread between occipital somites where they mingle with myotomic cells to form the *hypoglossal cell cord;* at Stage 12 the cord has reached the 1st pharyngeal arch; by Stage 16 the cord has reached the lateral lingual swelling.

[104] E4.0.3.5.1.0.1 *Crista neuralis spinalis* The spinal leptomeninges, mesenchyme of the neck, trunk and lower limb dermis and adipocytes were formerly attributed to the *spinal neural crest* but are now known to be derived from somites (Christ B, Huang R, Scaal M. Amniote somite derivatives. Dev Dyn 2007;236:2382-2396).The traditional distinction between trunk and lumbosacral *spinal neural crest* seems inappropriate because the trunk lumbar and 1st sacral *spinal neural crest* all form in the same way whereas the remaining sacral and coccygeal *spinal neural crest,* which form after the caudal neuropore closes at Stage 12, do so by direct outgrowth from the secondary neural tube. The caudal limit of the *spinal neural crest* descends with each Stage, as does the formation of primordial spinal ganglia; some 19 at Stage 13 and 33 at Stage 14.

[105] E4.0.3.3.2.0.2 *Via migrationis dorsolateralis* Dorsolateral migration from the *spinal neural crest* passes between the surface ectoderm and the dermatomyotome.

E4.0.3.3.3.1.6	**Via migrationis ventrolateralis**[106]	**Ventrolateral migration pathway**
E4.0.3.5.1.2.1	Neuron sensorium ganglii spinalis	Spinal ganglion cell
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E4.0.3.5.1.3.1	**Via ventromedialis**[107]	**Ventromedial migration pathway**
E4.0.3.5.1.3.2	Linea generationis cellularum sympathicosuprarenalium	Sympathosuprarenal cell lineage; Sympatho-adrenal cell lineage
E4.0.3.5.1.3.3	Ganglion trunci sympathici	Ganglion of sympathetic trunk
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.5.1.3.4	Medulla suprarenalis	Suprarenal medulla
E4.0.3.5.1.3.5	Endocrinocytus chromophilus medullaris	Medullary chromaffin cell
E4.0.3.5.1.3.6	Ganglia praeaortica	Pre-aortic ganglia §Zuckerkandl§
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.3.5.0.2.8	Linea generationis cellularum parasympathicarum	Parasympathetic cell lineage
E4.0.3.5.1.3.7	Ganglion parasympathicum	Parasympathetic ganglion
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E4.0.4.0.0.0.1	**Textus connectivi atque sustinentes**	**Connective and supporting tissues**
E4.0.4.1.0.0.1	**TEXTUS ADIPOSUS**	**ADIPOSE TISSUE**
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E4.0.4.1.0.0.7	Cellula adipocytoprogenetrix[108]	Fat cell progenitor
E4.0.4.1.0.0.8	Praeadipocytus	Pre-adipocyte
E4.0.4.1.0.0.9	Praeadipocytus celeriter replicans	Fast replicating pre-adipocyte
E4.0.4.1.0.0.10	Praeadipocytus cunctanter replicans	Slowly replicating pre-adipocyte
E4.0.4.1.0.0.11	Adipocytus fuscus	Brown adipose cell
E4.0.4.1.0.0.12	Lobulus adiposus vascularis	Perivascular adipose lobule
E4.0.4.1.0.0.13	Textus adiposus fuscus	Brown adipose tissue
E4.0.4.1.0.0.14	Adipocytus albus	White adipose cell
E4.0.4.1.0.0.15	Textus adiposus albus	White adipose tissue
E4.0.4.2.0.0.1	**CHONDROHISTOGENESIS**	**CHONDROHISTOGENESIS**
E4.0.4.2.0.0.2	Chondroblastus	Chondroblast
E4.0.4.2.0.0.3	Chondrocytus	Chondrocyte
E4.0.4.3.0.0.1	**CHONDROIDOGENESIS**	**CHONDROIDOGENESIS**
E4.0.4.3.0.0.2	Chondroidocytus	Chondroidocyte
E4.0.4.3.0.0.3	Textus chondroideus {vide Terminologia Histologica}	Chondroid tissue {see Terminologia Histologica}
E4.0.4.4.0.0.1	**OSTEOGENESIS**	**OSTEOGENESIS; OSTEOGENY**
E4.0.4.4.0.0.2	Mesenchyma blastemale	Blastemal mesenchyme
E3.0.0.6.1.0.71	Motus condensationis; Motus densationis[68]	Condensation movement; Densation movement
E4.0.4.4.0.0.3	Cellula osteoprogenetrix	Osteoprogenitor cell
E4.0.4.4.0.0.4	Osteoblastus	Osteoblast
E4.0.4.4.0.0.5	Stratum praeosseum; Osteoideum	Osteoid; Preosseous matrix
E4.0.4.4.0.0.6	Centrum ossificationis	Ossification centre▲

[106] E4.0.3.3.3.1.6 *Via migrationis ventrolateralis* Ventrolateral migration from the *spinal neural crest* passes between the dermatomyotome and the sclerotome.

[107] E4.0.3.5.1.3.1 *Via migrationis ventromedialis* Ventromedial migration from the *spinal neural crest* passes between the sclerotome and the neural tube.

[108] E4.0.4.1.0.0.7 *Cellula adipocytoprogenetrix* *Adipose tissue* not only develops from mesenchyme from various sources but also from *fat cell progenitors* derived from granulocyte macrophage colony-forming units (GM-CFU).

E4.0.4.4.0.0.7	Ossificatio	Ossification
E4.0.4.4.0.0.8	Linea calcificationis	Calcification front
E4.0.4.4.0.0.9	Crystallum hydroxyapatiti	Hydroxyapatite crystal
E4.0.4.4.0.0.10	Trabecula ossea	Bone trabecula
E4.0.4.4.0.0.11	Osteonum	Osteon
E4.0.4.4.0.0.12	Cellula osteoclastoprogenetrix[109]	Osteoclast progenitor cell
E4.0.4.4.0.0.13	Osteoclastus[110]	Osteoclast
E4.0.4.4.0.0.14	Lacuna erosionis	Osteoclastic crypt; Erosion lacuna
E4.0.4.4.0.0.15	Linea erosionis; Linea resorptionis	Erosion front
E4.0.4.4.0.0.16	Os membranaceum	Membranous bone
E4.0.4.4.0.0.17	Os endochondrale	Endochondral bone
E4.0.4.4.0.0.18	Cellula vestiens ossis progenetrix	Bone-lining cell progenitor
E4.0.4.4.1.0.1	**Ossificatio membranacea; Ossificatio desmalis**	**Membranous ossification; Intramembranous ossification**
E4.0.4.4.0.0.2	Mesenchyma blastemale	Blastemal mesenchyme
E4.0.4.3.0.0.3	Textus chondroideus	Chondroid tissue
E4.0.4.4.0.0.6	Centrum ossificationis	Ossification centre▲
E3.0.0.6.1.0.73	Motus detractionis[69]	Detractional movement
E3.0.0.6.1.0.74	Motus detondens	Shearing movement
E4.0.4.4.1.0.2	Stratum osteoblasticum	Osteoblastic layer
E4.0.4.4.0.0.4	Osteoblastus	Osteoblast
E4.0.4.4.0.0.13	Osteoclastus[110]	Osteoclast
E4.0.4.4.0.0.10	Trabecula ossea	Bone trabecula
E4.0.4.4.1.0.3	Osteocytus	Osteocyte
E4.0.4.4.2.0.1	**Ossificatio chondralis**	**Chondral ossification; Cartilaginous ossification**
E4.0.4.4.2.0.2	Commutationes intracartilagineae	Changes in cartilage
E4.0.4.4.2.0.3	Irruptio a vasis	Vascularization
E4.0.4.4.2.0.4	Canalis cartilagineus[111]	Cartilage canals
E4.0.4.4.2.0.5	Hypertrophia chondrocytorum	Hypertrophy of chondrocytes
E4.0.4.4.2.0.6	Vacuolatio	Vacuolation
E4.0.4.4.2.0.7	Accumulatio glycogeni	Accumulation of glycogen
E4.0.4.4.2.0.8	Formatio septorum matricalium	Formation of matrix septa
E4.0.4.4.2.0.9	Degeneratio chondrocytorum	Degeneration of chondrocytes
E4.0.4.4.2.0.10	Formatio lacunarum in cartilagine	Formation of cartilage lacunae
E4.0.4.4.2.0.11	Calcificatio parietum lacunarum	Calcification of lacunar walls
E4.0.4.4.3.0.1	**Ossificatio perichondralis diaphysialis**[112]	**Perichondral ossification in diaphysis**
E4.0.4.4.3.0.2	Perichondrium diaphysiale	Diaphysial perichondrium
E4.0.4.4.1.0.1	Ossificatio membranacea; Ossificatio desmalis	Membranous ossification; Intramembranous ossification
E4.0.4.4.3.0.3	Os perichondrale	Perichondral bone
E4.0.4.4.3.0.4	Periosteum	Periosteum
E4.0.4.4.3.0.5	Stratum osteogenicum	Osteogenic layer
E4.0.4.4.0.0.4	Osteoblastus	Osteoblast
E4.0.4.4.0.0.13	Osteoclastus[110]	Osteoclast
E4.0.4.4.0.0.10	Trabecula ossea	Bone trabecula
E4.0.4.4.3.0.6	Anulus perichondralis[113]	Perichondral collar

[109] E4.0.4.4.0.0.12 *Cellula osteoclastoprogenetrix* The *osteoclast progenitor cell* is a multipotent mononuclear stem cell, which is derived from bone marrow and gives rise to monocytes in peripheral blood and to the various types of tissue macrophages (Bar-Shavit Z. The osteoclast: a multinucleated, hematopoietic-origin, bone-resorbing osteoimmune cell. J Cell Biochem 2007; 102:1130–1139 & erratum J Cell Biochem (2008) 104: 1946-1947).

[110] E4.0.4.4.0.0.13 *Osteoclastus* *Osteoclasts* form by the fusion of *osteoclast progenitor cells* (Bar-Shavit Z. The osteoclast: a multinucleated, hematopoietic-origin, bone-resorbing osteoimmune cell. J Cell Biochem 2007; 102:1130–1139).

[111] E4.0.4.4.2.0.4 *Canalis cartilagineus* *Cartilage canals* first appear in the early fetus and by 28 weeks all the larger masses of cartilage are permeated by them. They contain blood vessels surrounded by loose cellular tissue and provide the osteoblastic tissue for ossification when this later occurs (Haines RW. Cartilage canals. J Anat 1933:68:45-64).

[112] E4.0.4.4.3.0.1 *Ossificatio perichondralis diaphysialis* Adjectives derived from nouns such as *diaphysis, epiphysis* and *hypophysis* are, in a strict grammatical sense, probably best constructed using the suffix *–alis* giving *diaphysalis, epiphysalis, hypophysalis* and *symphysalis.* However, for reasons of terminological precedence and consistency, the spellings of *diaphysialis, epiphysialis, hypophysialis* and *symphysialis* have been here retained.

E4.0.4.4.3.0.7	Anulus osseus diaphysialis[112]	Diaphysial bone collar
E4.0.4.4.3.0.4	Periosteum	Periosteum
E4.0.4.4.3.0.8	Gemma osteogenica	Osteogenic bud
E4.0.4.4.3.0.9	Gemma capillaris	Capillary sprout
E4.0.4.4.0.0.13	Osteoclastus[110]	Osteoclast
E4.0.4.4.3.0.10	Chondroclastus	Chondroclast
E4.0.4.4.0.0.3	Cellula osteoprogenetrix	Osteoprogenitor cell
E4.0.4.4.3.0.11	Erosio osteoclastica anuli ossei diaphysialis[112]	Osteoclastic erosion of diaphysial bone collar
E4.0.4.4.3.0.12	Canalis erosionis	Erosion canal
E4.0.4.4.4.0.1	**Ossificatio endochondralis diaphysialis**[112]	**Endochondral ossification in diaphysis**
E4.0.4.4.4.0.2	Extensio gemmae osteogenicae per canalem erosionis in primordium cartilagineum	Spread of osteogenic bud through erosion canal into cartilage model
E4.0.4.4.4.0.3	Centrum primarium ossificationis; Centrum diaphysiale ossificationis	Primary ossification centre; Diaphysial ossification centre▲
E4.0.4.4.4.0.4	Nucleus osteogenicus primarius	Primary osteogenic nucleus
E4.0.4.4.4.0.5	Cavitas medullaris primaria	Primary medullary cavity
E4.0.4.4.5.0.1	**Ossificatio endochondralis epiphysialis**[112]	**Endochondral ossification in epiphysis**
E4.0.4.4.5.0.2	Cartilago epiphysialis[112]	Epiphysial cartilage
E4.0.4.4.5.0.3	Zona quiescens	Resting zone; Quiescent zone
E4.0.4.4.5.0.4	Zona proliferationis	Proliferation zone
E4.0.4.4.5.0.5	Columella chondrocytorum	Chondrocyte column
E4.0.4.4.5.0.6	Zona hypertrophica	Hypertrophic zone
E4.0.4.4.5.0.7	Chondrocytus hypertrophicus	Hypertrophic chondrocyte
E4.0.4.4.5.0.8	Zona calcificationis	Calcification zone
E4.0.4.4.5.0.9	Cartilago calcificata	Calcified cartilage
E4.0.4.4.5.0.10	Lacuna cartilaginis	Cartilaginous lacuna
E4.0.4.4.5.0.11	Paries transversus lacunae	Transverse wall of lacuna
E4.0.4.4.5.0.12	Paries longitudinalis lacunae	Longitudinal wall of lacuna
E4.0.4.4.5.0.13	Zona erosionis	Erosion zone
E4.0.4.4.0.0.14	Lacuna erosionis	Osteoclastic crypt; Erosion lacuna
E4.0.4.4.3.0.10	Chondroclastus	Chondroclast
E4.0.4.4.5.0.14	Zona ossificationis	Ossification zone
E4.0.4.4.0.0.17	Os endochondrale	Endochondral bone
E4.0.4.4.5.0.15	Trabecula ossea primaria	Primary bone trabecula
E4.0.4.4.5.0.16	Trabecula ossea secundaria	Secondary bone trabecula
E4.0.4.4.5.0.17	Centrum secundarium ossificationis; Centrum epiphysiale ossificationis	Secondary ossification centre; Epiphysial ossification centre▲
E4.0.4.4.5.0.18	Nucleus osteogenicus secundarius	Secondary osteogenic nucleus
E4.0.4.4.5.0.7	Chondrocytus hypertrophicus	Hypertrophic chondrocyte
E4.0.4.4.5.0.9	Cartilago calcificata	Calcified cartilage
E4.0.4.4.5.0.19	Textus osseus reticulofibrosus	Woven bone
E4.0.4.4.6.0.1	**Lamina epiphysialis**[112]	**Epiphysial plate; Growth plate**
E4.0.4.4.5.0.19	**Textus osseus reticulofibrosus**	**Woven bone**
E4.0.4.4.7.0.1	Trabecula	Trabecula
E4.0.4.4.7.0.2	Os compactum non maturum	Immature compact bone
E4.0.4.4.7.0.3	Spatium vasculare	Vascular space
E4.0.4.4.8.0.1	**Os lamellare**	**Lamellar bone**
E4.0.4.4.8.0.2	Lamella ossea	Osseous lamella
E4.0.4.4.0.0.5	Stratum praeosseum; Osteoideum	Osteoid; Preosseous matrix
E4.0.4.4.8.0.3	Lamella circumtendens	Circumferential lamella
E4.0.4.4.8.0.4	Lamella concentrica	Concentric lamella

[113] E4.0.4.4.3.0.6 *Anulus perichondralis* This term describes the site of periosteal activity around the cartilaginous bud of a bone, and later the periosteal activity around the diaphysial cartilage.

E4.0.4.4.8.0.5	Osteonum primarium[114]	Primary osteon
E4.0.4.4.8.0.6	Osteonum secundarium[114]	Secondary osteon
E4.0.4.4.8.0.7	Cavitas medullaris ossis	Medullary cavity of bone
E4.0.4.4.9.0.1	**Myohistogenesis**	**Myohistogenesis**
E4.0.0.1.3.0.1	Cellulae progenetrices	Progenitor cells
E4.0.4.4.9.0.2	Cellula myocytoprogenetrix	Myocytoprogenitor cell
E4.0.4.4.9.0.3	Cellula cardiomyocytoprogenetrix	Cardiac myocytoprogenitor cell
E4.0.4.4.9.0.4	Promyoblastus	Promyoblast
E4.0.4.4.9.0.5	Myoblastus	Myoblast
E4.0.4.4.9.0.6	Status mononuclearis	Mononuclear state
E4.0.4.4.9.0.7	Myocytus levis; Myocytus non striatus	Smooth muscle cell
E4.0.4.4.9.0.8	Cardiomyocytus; Myocytus cardiacus	Cardiac muscle cell
E4.0.4.4.9.0.9	Status multinuclearis	Multinuclear state
E4.0.4.4.9.0.10	Myotubus	Myotube
E4.0.4.4.9.0.11	Myofibra	Myofibre▲
E4.0.4.4.9.0.12	Myofibra striata non cardiaca	Non-cardiac striated muscle fibre▲
E4.0.4.4.10.0.1	**Tendinogenesis**	**Tendinogenesis**
E4.0.4.4.10.0.2	Cellula tendinocytoprogenetrix	Tendinocyte progenitor cell
E4.0.4.4.10.0.3	Tendinoblastus	Tendinoblast
E4.0.4.4.10.0.4	Tendinocytus	Tendon cell; Tendinocyte; Tenocyte
	Organogenesis	**Organogeny**
E5.0.0.0.0.0.1	**Ossa; Systema skeletale**	**Bones; Skeletal system**
E5.0.1.0.0.0.1	**Skeletogenesis generalis**	**General skeletogenesis**
E5.0.1.1.0.0.1	**CHORDAGENESIS**	**NOTOCHORD FORMATION**
E5.0.1.1.0.0.2	Nodus primitivus; Nodus gastrulationis[377]	Primitive node; Gastrulation node §Hensen§
E5.0.1.1.0.0.3	Fovea primitiva; Fovea notochordalis[384]	Primitive pit; Notochordal pit
E5.0.1.1.0.0.4	Processus notochordalis; Processus axialis; Chordomesoderma	Notochordal process; Axial process; Chordamesoderm
E5.0.1.1.0.0.5	Canalis notochordalis	Notochordal canal
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E5.0.1.1.0.0.7	Lamina notochordalis	Notochordal plate
E3.0.0.6.1.0.96	Plicatio	Folding
E5.0.1.1.0.0.8	Notochorda; Notochorda propria; Chorda dorsalis	Notochord; Notochord proper
E5.0.1.1.0.0.9	Extensio notochordae e mesenchymate axiali denso	Extension of notochord out of axial dense mesenchyme
E5.0.1.1.0.0.10	Lamina basalis notochordalis; Vagina acellularis notochordalis[116]	Notochordal basal lamina; Acellular notochordal sheath
E5.0.1.1.0.0.11	Vagina notochordalis; Vagina cellularis notochordalis	Notochordal sheath; Perichordal sheath; Cellular notochordal sheath
E5.0.1.2.0.0.1	**CHONDROGENESIS** {vide Histogenesis generalis supra}	**CHONDROGENESIS** { see General histogenesis above}

[114] E4.0.4.4.8.0.5/ E4.0.4.4.8.0.6 *Osteonum primarium/Osteonum secundarium* *Primary osteons* are directly deposited by the periosteum and not in a preceding resorption cavity. As a result, unlike secondary osteons, primary osteons are not limited by resorption or reversal lines. *Secondary osteons* are deposited in a resorption cavity and are limited by resorption or reversal lines.

[115] E5.0.1.1.0.0.6 *Canalis neurentericus* The neurenteric canal is not a constant feature of all described human embryos at any one Stage and some believe that it still needs to be demonstrated in well preserved specimens (Viebahn C. personal communication). Nevertheless, it has been described in some embryos of Stages 8, 9 10. It is also said that the site of its closure can be detected, by differences in the thickness of the epithelium roofing the hind gut, in embryos with more than 5 somite pairs in Stage 10 (Müller F, O'Rahilly R. The first appearance of the neural tube and optic primordium in the human embryo at stage 10. Anat Embryol 1985;172:157-169) and in Stage 11 (Müller F, O'Rahilly R. The development of the human brain and the closure of the rostral neuropore at stage 11. Anat Embryol 1986;175:205-222).

[116] E5.0.1.1.0.0.10 *Lamina basalis notochordalis; Vagina acellularis notochordalis* The extracellular *notochordal basal lamina* is rich in glycosaminoglycans and is to be distinguished from the cellular notochordal sheath (Gotz W, Osmers R, Herken R. Localization of extracellular matrix components in the embryonic human notochord and axial mesenchyme. J Anat 1995;186:111-121). An expansion of the notochord between the centra of adjacent vertebrae blends with perinotochordal tissue to form the nucleus pulposus.

E4.0.4.3.0.0.1	**CHONDROIDOGENESIS** {vide Histogenesis generalis supra}	**CHONDROIDOGENESIS** { see General histogenesis above}
E5.0.1.3.0.0.1	**PRIMORDIA OSSIUM**	**MODELS OF BONES**
E5.0.1.3.0.0.2	Primordium mesenchymale	Mesenchyme model
E5.0.1.3.0.0.3	Primordium chondroideum	Chondroid model
E5.0.1.3.0.0.4	Primordium cartilagineum	Cartilage model
E5.0.1.3.0.0.5	Primordium osseum	Bone model
E5.0.1.3.0.0.6	Refectio ossis	Bone remodelling
E4.0.4.4.0.0.1	**OSTEOGENESIS** {vide Histogenesis generalis supra}	**OSTEOGENESIS; OSTEOGENY** {see General histogenesis above}
E4.0.4.4.1.0.1	**Ossificatio membranacea; Ossificatio desmalis** {vide Histogenesis generalis supra}	**Membranous ossification; Intramembranous ossification** {see General histogenesis above}
E4.0.4.4.2.0.1	**Ossificatio chondralis** {vide Histogenesis generalis supra}	**Chondral ossification; Cartilaginous ossification** {see General histogenesis above}
E4.0.4.4.5.0.19	**Textus osseus reticulofibrosus** {vide Histogenesis generalis supra}	**Woven bone** {see General histogenesis above}
E4.0.4.4.8.0.1	**Os lamellare** {vide Histogenesis generalis supra}	**Lamellar bone** {see General histogenesis above}
E5.0.2.0.0.0.1	**Skeleton axiale**	**Axial skeleton**
E5.0.2.1.0.0.1	**CRANIUM**	**CRANIUM**
E4.0.3.3.2.0.3	Mesenchyma capitis	Head mesenchyme
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E5.0.2.1.0.0.4	Lamina praechordalis	Prechordal plate
E5.0.2.1.0.0.5	Somiti occipitales [1 ad 4]	Occipital somites [1-4]
E5.0.2.1.1.0.1	**Neurocranium**	**Neurocranium; Brain box**
E5.0.2.1.1.0.2	Calvaria [117]	Calvaria
E5.0.2.1.1.0.3	Fonticuli cranii	Fontanelles; Fonticuli
E5.0.2.1.1.0.4	Basis cranii	Cranial base; Basicranium
E5.0.2.1.1.0.5	Meninx primordialis	Primordial meninx
E5.0.2.1.1.0.6	Ectomeninx	Ectomeninx
E5.0.2.1.1.0.7	Endomeninx	Endomeninx
E5.0.2.1.1.0.8	Meninges	Meninges
E5.0.2.1.2.0.1	**Viscerocranium; Splanchnocranium**	**Viscerocranium; Splanchnocranium**
E4.0.3.3.3.1.3	Cartilago arcus pharyngei primi [1]	First pharyngeal arch cartilage [1] §Meckel§
E5.0.2.1.2.0.2	Mandibula	Mandible
E4.0.3.3.3.2.3	Cartilago arcus pharyngei secundi [2]	Second pharyngeal arch cartilage [2] §Reichert§
E5.0.2.1.2.0.3	Cartilagines arcuum pharyngeorum sequentium [3, 4 & 6][118]	Succeeding pharyngeal arch cartilages [3, 4 & 6]
E5.0.2.1.3.0.1	**Desmocranium**	**Membranous cranium**
E4.0.4.4.1.0.1	Ossificatio membranacea; Ossificatio desmalis	Membranous ossification; Intramembranous ossification
E5.0.2.1.3.1.1	**Neurocranium membranaceum**	**Membranous neurocranium**

[117] E5.0.2.1.1.0.2 *Calvaria* The *calvaria*, which consists of the parietal bones and the squamous parts of the frontal, temporal and occipital bones, is formed as lamellar bone and replaces chondroid tissue, which persists only in the sutural areas.

[118] E5.0.2.1.2.0.3 *Cartilagines arcuum pharyngeorum sequentium* Only the first four pharyngeal arches, grooves and pouches are distinct structures. As the cartilages of the larynx develop caudal to the fourth arch, their precise origin is unknown. While the arch cartilage derivatives of the head are universally regarded as components of the viscerocranium, the arch cartilage derivatives of the neck may be regarded as postcranial axial skeleton.

E4.0.3.3.1.0.3	Os frontale	Frontal bone
E5.0.2.1.3.1.2	Os parietale	Parietal bone
E4.0.3.3.1.0.4	Pars squamosa ossis temporalis	Squamous part of temporal bone
E5.0.2.1.3.1.3	Squama occipitalis	Squamous part of occipital bone
E4.0.3.3.1.0.5	**Viscerocranium membranaceum**	**Membranous viscerocranium**
E5.0.2.1.3.2.1	Vomer	Vomer
E5.0.2.1.3.2.2	Os lacrimale	Lacrimal bone
E5.0.2.1.3.2.3	Os nasale	Nasal bone
E5.0.2.1.3.2.4	Os palatinum	Palatine bone
E5.0.2.1.3.2.5	Ala major ossis sphenoidalis	Greater wing of sphenoid
E5.0.2.1.3.2.6	Processus pterygoideus ossis sphenoidalis	Pterygoid process of sphenoid
E5.0.2.1.3.2.7	Os zygomaticum	Zygomatic bone
E5.0.2.1.3.2.8	Maxilla	Maxilla
E5.0.2.1.2.0.2	Mandibula	Mandible
E5.0.2.1.4.0.1	**Chondrocranium**	**Chondrocranium**
E5.0.2.1.4.1.1	**Chondrocranium initiale [St.17]**	**Early chondrocranium [St.17]**
E5.0.2.1.4.1.2	Cartilago praechordalis; Cartilago trabecularis	Prechordal cartilage; Trabecular cartilage
E5.0.2.1.4.1.3	Cartilago hypophysialis[112]; Cartilago polaris	Hypophysial cartilage; Polar cartilage
E5.0.2.1.4.1.4	Capsula otica	Otic capsule
E4.0.3.3.3.1.3	Cartilago arcus pharyngei primi [1]	First pharyngeal arch cartilage [1] §Meckel§
E4.0.3.3.3.2.3	Cartilago arcus pharyngei secundi [2]	Second pharyngeal arch cartilage [2] §Reichert§
E5.0.2.1.2.0.3	Cartilagines arcuum pharyngeorum sequentium [3, 4 & 6][118]	Succeeding pharyngeal arch cartilages [3, 4 & 6]
E5.0.2.1.4.1.5	Cartilago parachordalis	Parachordal cartilage
E5.0.2.1.4.1.6	Sclerotomi occipitales	Occipital sclerotomes
E5.0.2.1.4.2.1	**Chondrocranium serum [St.20+]**	**Later chondrocranium [St.20+]**
E5.0.2.1.4.2.2	Capsula septumque nasi	Nasal capsule and septum
E5.0.2.1.4.1.2	Cartilago praechordalis; Cartilago trabecularis	Prechordal cartilage; Trabecular cartilage
E5.0.2.1.4.2.3	Cartilago orbitosphenoidalis	Orbitosphenoidal cartilage
E5.0.2.1.4.2.4	Cartilago alisphenoidalis	Alisphenoidal cartilage
E5.0.2.1.4.2.5	Cartilago corporis sphenoidalis	Sphenoidal body cartilage
E5.0.2.1.4.1.4	Capsula otica	Otic capsule
E5.0.2.1.4.2.6	Cartilago mallei	Cartilage of malleus
E5.0.2.1.4.2.7	Cartilago incudis	Cartilage of incus
E5.0.2.1.4.2.8	Cartilago stapedis	Cartilage of stapes
E5.0.2.1.4.2.9	Cartilago mandibularis {vide etiam infra}	Mandibular cartilage {see also below} §Meckel§
E5.0.2.1.4.2.10	Cartilago ossis hyoidei	Cartilage of hyoid bone
E4.0.3.5.0.2.3	Cartilagines laryngeae	Laryngeal cartilages
E5.0.2.1.4.2.11	Cartilago occipitalis	Occipital cartilage
E5.0.2.1.4.2.12	Pars basioccipitalis cartilaginis occipitalis	Basi-occipital part of occipital cartilage
E5.0.2.1.4.2.13	Pars exoccipitalis cartilaginis occipitalis	Ex-occipital part of occipital cartilage
E5.0.2.1.4.2.14	Pars supraoccipitalis cartilaginis occipitalis	Supra-occipital part of occipital cartilage
E5.0.2.1.4.3.1	**Ossificatio endochondralis cranii**	**Endochondral ossification of cranium**
E5.0.2.1.4.3.2	Concha nasalis inferior	Inferior nasal concha
E5.0.2.1.4.3.3	Os ethmoidale	Ethmoid
E5.0.2.1.4.3.4	Corpus ossis sphenoidalis	Body of sphenoid
E5.0.2.1.4.3.5	Ala minor ossis sphenoidalis	Lesser wing of sphenoid
E5.0.2.1.4.3.6	Hamulus pterygoideus ossis sphenoidalis	Pterygoid hamulus of sphenoid
E5.0.2.1.4.3.7	Pars petrosa ossis temporalis	Petrous part of temporal bone
E5.0.2.1.4.3.8	Pars basilaris ossis occipitalis	Basilar part of occipital bone
E5.0.2.1.4.3.9	Pars lateralis ossis occipitalis	Lateral part of occipital bone
E5.0.2.1.2.0.2	**Mandibula**	**Mandible**
E5.0.2.1.5.0.1	Arcus pharyngeus primus [1]	First pharyngeal arch [1]
E5.0.2.1.5.0.2	Mesenchyma pharyngomericum[119]	Pharyngiomeric mesenchyme

[119] E5.0.2.1.5.0.2 *Mesenchyma pharyngomericum* *Pharyngiomeric mesenchyme* is thought to be derived from paraxial mesoderm, supplemented by ectomesenchyme (neural crest) and possibly also from epipharyngeal placodes.

E4.0.3.3.3.1.3	Cartilago arcus pharyngei primi [partim]	First pharyngeal arch cartilage [part] §Meckel§
E5.0.2.1.5.1.1	**Area symphysialis**[112]	**Symphysial area**
E5.0.2.1.5.0.2	Mesenchyma pharyngomericum [partim][119]	Pharyngiomeric mesenchyme [part]
E4.0.3.3.3.1.3	Cartilago arcus pharyngei primi [partim]	First pharyngeal arch cartilage [part] §Meckel§
E5.0.2.1.5.1.2	Chondriola symphysialis[112]	Symphysial chondriole § Islet of Meckel§
E5.0.2.1.5.1.3	Cartilago secundaria	Secondary cartilage
E5.0.2.1.5.1.4	Ossiculum mentale	Mental ossicle
E4.0.4.4.5.0.19	Textus osseus reticulofibrosus	Woven bone
E4.0.4.3.0.0.3	Textus chondroideus	Chondroid tissue
E5.0.2.1.5.2.1	**Corpus mandibulae**	**Body of mandible**
E5.0.2.1.5.2.2	Pars nonalveolaris	Nonalveolar part
E4.0.4.4.5.0.19	Textus osseus reticulofibrosus	Woven bone
E5.0.2.1.5.2.3	Columna cartilaginea	Cartilaginous column
E4.0.4.4.8.0.1	Os lamellare	Lamellar bone
E4.0.4.4.8.0.5	Osteonum primarium[114]	Primary osteon
E4.0.4.4.8.0.6	Osteonum secundarium[114]	Secondary osteon
E5.0.2.1.5.2.4	Pars alveolaris	Alveolar part
E4.0.4.4.5.0.19	Textus osseus reticulofibrosus	Woven bone
E4.0.4.3.0.0.3	Textus chondroideus	Chondroid tissue
E5.0.2.1.5.3.1	**Ramus mandibulae**	**Ramus of mandible**
E5.0.2.1.5.3.2	Processus coronoideus	Coronoid process
E5.0.2.1.5.1.3	Cartilago secundaria	Secondary cartilage
E4.0.4.4.5.0.19	Textus osseus reticulofibrosus	Woven bone
E5.0.2.1.5.3.3	Cartilago condylaris	Condylar cartilage
E5.0.2.1.5.1.3	Cartilago secundaria	Secondary cartilage
E5.0.2.1.5.3.4	Columna osteocartilaginea	Osteocartilaginous column
E5.0.2.2.0.0.1	**SKELETON AXIALE POST CRANIALE**	**POSTCRANIAL AXIAL SKELETON**
E5.0.1.1.0.0.8	**Notochorda; Notochorda propria; Chorda dorsalis**	**Notochord; Notochord proper**
E5.0.2.2.1.0.1	Epiblastus[357]	Epiblast; Primary ectoderm
E5.0.1.1.0.0.2	Nodus primitivus; Nodus gastrulationis[377]	Primitive node; Gastrulation node §Hensen§
E5.0.1.1.0.0.4	Processus notochordalis; Processus axialis; Chordomesoderma	Notochordal process; Axial process; Chordamesoderm
E5.0.1.1.0.0.5	Canalis notochordalis	Notochordal canal
E5.0.1.1.0.0.7	Lamina notochordalis	Notochordal plate
E5.0.1.1.0.0.8	Notochorda; Notochorda propria; Chorda dorsalis	Notochord; Notochord proper
E5.0.1.1.0.0.10	Lamina basalis notochordalis; Vagina acellularis notochordalis[116]	Notochordal basal lamina; Acellular notochordal sheath
E5.0.2.2.1.0.2	Nucleus pulposus disci intervertebralis	Nucleus pulposus of intervertebral disc
E5.0.2.2.2.0.1	**Sclerotomus**	**Sclerotome**
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E3.0.0.6.1.0.110	Transformatio mesenchymoepithelialis[77]	Mesenchymo-epithelial transformation
E3.0.0.6.1.0.104	Segmentatio; Metamerismus	Segmentation; Metamerism
E3.0.0.6.1.0.101	Resegmentatio	Resegmentation
E5.0.2.2.2.0.2	Somitomera[385]	Somitomeres
E5.0.2.2.2.0.3	Somitus	Somite
E5.0.2.2.2.0.4	Somitocoeloma	Somitocoele▲
E5.0.2.2.2.0.5	Cellulae somitocoelomae	Somitocoele cells▲
E5.0.2.2.2.0.6	Juncturae columnae vertebralis, disci intervertebrales et pars proximalis costae [partim]	Vertebral joints, intervertebral discs and proximal ribs [in part]; Arthrotome
E3.0.0.6.1.0.109	Transformatio epitheliomesenchymalis[76]	Epitheliomesenchymal transformation
E5.0.2.2.2.0.1	Sclerotomus	Sclerotome
E5.0.2.2.2.0.7	Pars centralis sclerotomi	Central sclerotome
E5.0.2.2.2.0.8	Pediculus arcus vertebrae et pars proximalis costae [partim]	Pedicle of vertebral arch and proximal rib [in part]; Syndetome
E5.0.2.2.2.0.9	Pars ventralis sclerotomi	Ventral sclerotome
E5.0.2.2.2.0.10	Corpus vertebrae et discus intervertebralis	Vertebral body and intervertebral disc

E5.0.2.2.2.0.11	Pars dorsalis sclerotomi	Dorsal sclerotome
E5.0.2.2.2.0.12	Lamina arcus vertebrae et processus spinosus	Lamina and spinous process
E5.0.2.2.2.0.13	Pars lateralis sclerotomi	Lateral sclerotome
E5.0.2.2.2.0.14	Endotheliocyti, pars distalis costae et tendines	Endothelial cells, distal rib and tendons
E5.0.2.2.2.0.15	Pars medialis sclerotomi	Medial sclerotome
E5.0.2.2.2.0.16	Meninges spinalis, vasa sanguinea	Spinal meninges and blood vessels; Meningotome
E5.0.2.2.2.0.17	Pars rostralis sclerotomi; Pars laxa sclerotomi	Rostral part of sclerotome; Loose part of sclerotome
E5.0.2.2.2.0.18	Corpus vertebrae, pars minor arcus vertebrae, perineurium, endoneurium et pars minor distalis costae	Vertebral body, small part of vertebral arch, perineurium, endoneurium and small part of distal rib
E5.0.2.2.2.0.19	Angulus rostrolateralis partis rostralis sclerotomi	Rostrolateral corner of rostral part of sclerotome
E5.0.2.2.2.0.20	Tendines musculorum dorsi propriorum	Tendons of muscles of back proper; Syndetome
E5.0.2.2.2.0.21	Fissura intervertebralis	Intervertebral fissure §von Ebner§
E5.0.2.2.2.0.22	Pars caudalis sclerotomi; Pars densa sclerotomi	Caudal part of sclerotome; Dense part of sclerotome
E5.0.2.2.2.0.18	Corpus vertebrae, pars minora arcus vertebrae, perineurium, endoneurium et pars majora, distalis costae	Vertebral body, small part of vertebral arch, perineurium, endoneurium and major part of distal rib
E5.0.2.2.2.0.23	Angulus caudolateralis partis caudalis sclerotomi	Caudolateral corner of caudal part of sclerotome
E5.0.2.2.2.0.20	Tendines musculorum dorsi propriorum	Tendons of muscles of back proper; Syndetome
E5.0.1.1.0.0.11	Vagina notochordalis; Vagina cellularis notochordalis	Notochordal sheath; Perichordal sheath; Cellular notochordal sheath
E5.0.2.2.2.0.24	Pars rostralis vaginae notochordalis; Pars laxa vaginae notochordalis	Rostral part of notochordal sheath; Loose part of notochordal sheath
E5.0.2.2.2.0.25	Blastema centri vertebrae	Blastema of centrum of vertebra
E5.0.2.2.2.0.26	Pars caudalis vaginae notochordalis; Pars densa vaginae notochordalis	Caudal part of notochordal sheath; Dense part of notochordal sheath
E5.0.2.2.2.0.27	Discus intervertebralis[120]	Intervertebral disc
E5.0.2.2.2.0.28	Anulus fibrosus disci intervertebralis	Anulus fibrosus of intervertebral disc
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E3.0.0.6.1.0.110	Transformatio mesenchymoepithelialis[77]	Mesenchymo-epithelial transformation
E3.0.0.6.1.0.104	Segmentatio; Metamerismus	Segmentation; Metamerism
E3.0.0.6.1.0.101	Resegmentatio	Resegmentation
E5.0.2.2.2.0.2	Somitomera[385]	Somitomeres
E5.0.2.2.2.0.3	Somitus	Somite
E5.0.2.2.2.0.4	Somitocoeloma	Somitocoele▲
E5.0.1.1.0.0.11	Vagina notochordalis; Vagina cellularis notochordalis	Notochordal sheath; Perichordal sheath; Cellular notochordal sheath
E5.0.2.2.2.0.24	Pars rostralis vaginae notochordalis; Pars laxa vaginae notochordalis	Rostral part of notochordal sheath; Loose part of notochordal sheath
E5.0.2.2.2.0.25	Blastema centri vertebrae	Blastema of centrum of vertebra
E5.0.2.2.2.0.26	Pars caudalis vaginae notochordalis; Pars densa vaginae notochordalis	Caudal part of notochordal sheath; Dense part of notochordal sheath
E5.0.2.2.2.0.27	Discus intervertebralis[120]	Intervertebral disc
E5.0.2.2.2.0.28	Anulus fibrosus disci intervertebralis	Anulus fibrosus of intervertebral disc
E5.0.2.2.3.0.1	**Vertebra**	**Vertebra**
E5.0.2.2.3.0.2	Blastema vertebrae	Blastema of vertebra
E5.0.2.2.3.0.3	Blastema arcus neuralis	Blastema of neural arch
E5.0.2.2.2.0.25	Blastema centri vertebrae	Blastema of centrum of vertebra
E5.0.2.2.3.0.4	Vertebra cartilaginea	Cartilaginous vertebra
E5.0.2.2.3.0.5	Arcus neuralis cartilagineus	Cartilaginous neural arch
E5.0.2.2.3.0.6	Centrum cartilagineum	Cartilaginous centrum

[120] E5.0.2.2.2.0.27 *Discus intervertebralis* The whole of an anulus fibrosus, at least, is derived from a caudal dense part of the notochordal sheath.

E5.0.2.2.3.0.7	Vertebra ossea	Bony vertebra
E5.0.2.2.3.0.8	Arcus neuralis osseus	Bony neural arch
E5.0.2.2.3.0.9	Processus spinosus vertebrae	Spinous process of vertebra
E5.0.2.2.3.0.10	Arcus vertebrae	Vertebral arch
E5.0.2.2.3.0.11	Processus transversus vertebrae	Transverse process of vertebra
E5.0.2.2.3.0.12	Processus articularis superior vertebrae; Zygapophysis superior	Superior articular process of vertebra
E5.0.2.2.3.0.13	Processus articularis inferior vertebrae; Zygapophysis inferior	Inferior articular process of vertebra
E5.0.2.2.3.0.14	Pars corporis vertebrae ex arcu derivata; Pars minor corporis vertebrae	Arch-derived part of vertebral body; Lesser part of vertebral body
E5.0.2.2.3.0.15	Synchondrosis neurocentralis	Neurocentral synchondrosis
E5.0.2.2.3.0.16	Centrum osseum	Bony centrum
E5.0.2.2.3.0.17	Pars corporis vertebrae ex centro derivata; Pars major corporis vertebrae	Centrum-derived part of vertebral body; Greater part of vertebral body
E5.0.2.2.3.0.18	Epiphysis anularis vertebrae	Anular epiphysis of vertebra
E5.0.2.2.4.0.1	**Costa**	**Rib**
E5.0.2.2.4.0.2	Blastema partis distalis costae	Blastema of distal part of rib
E5.0.2.2.4.0.3	Blastema partis proximalis costae	Blastema of proximal part of rib
E5.0.2.2.4.0.4	Costa cartilaginea	Cartilaginous rib
E5.0.2.2.4.0.5	Costa ossea	Bony rib
E5.0.2.2.5.0.1	**Sternum**	**Sternum**
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E5.0.2.2.5.0.2	Blastemata bilateralia sterni	Bilateral blastemata of sternum; Sternal bands
E5.0.2.2.5.0.3	Blastema interclaviculare	Interclavicular blastema
E5.0.2.2.5.0.4	Cartilago sternalis bilateralis	Bilateral sternal cartilage
E5.0.2.2.5.0.5	Conjunctio cartilaginum sternalium bilateralium	Fusion of bilateral sternal cartilages
E5.0.2.2.5.0.6	Centra ossificationis mediana	Median ossification centres▲
E5.0.2.2.5.0.7	Sternebra	Sternebra
E5.0.2.2.5.0.8	Processus xiphoideus	Xiphoid process; Xiphisternum
E5.0.3.0.0.0.1	**Membra et skeleton appendiculare**	**Limbs and appendicular skeleton**
E5.0.3.0.0.0.2	Mesoderma laminae lateralis	Lateral plate mesoderm
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.0.3.0.0.0.4	Anulus ectodermalis primordialis	Primordial ectodermal ring
E5.0.3.0.0.0.5	Gemmae membrorum	Limb buds
E5.0.3.0.0.0.6	Gemma membri superioris	Upper limb bud; Rostral limb bud
E5.0.3.0.0.0.7	Gemma membri inferioris	Lower limb bud; Caudal limb bud
E5.0.3.0.0.1.1	**Axis craniocaudalis**	**Craniocaudal axis**
E5.0.3.0.0.1.2	Margo praeaxialis	Pre-axial border
E5.0.3.0.0.1.3	Zona apoptotica anterior[122]	Anterior apoptotic zone
E5.0.3.0.0.1.4	Margo postaxialis	Postaxial border
E5.0.3.0.0.1.5	Zona activitatis polarisantis	Zone of polarizing activity [ZPA]
E5.0.3.0.0.1.6	Zona apoptotica posterior[122]	Posterior apoptotic zone
E5.0.3.0.0.2.1	**Axis dorsoventralis**	**Dorsoventral axis**
E5.0.3.0.0.3.1	**Axis proximodistalis**	**Proximodistal axis**
E5.0.3.0.0.3.2	A. axialis	Axial artery
E5.0.3.0.0.3.3	Plexus capillaris terminalis	Terminal capillary plexus
E5.0.3.0.0.3.4	Crista ectodermalis apicalis	Apical ectodermal ridge [AER]

[121] E5.0.3.0.0.0.3 *Ectoderma embryonicum* The term describes the dorsal germ layer of the somite embryo, which will form the epithelium of the skin and nervous system and their derivatives. Experimental studies suggest that, after obvious primitive streak activity ceases, epiblastic cells continue to ingress through the most caudal part of the primitive streak until the early somite stage: they form axial dense mesenchyme and thence become the endoderm and mesoderm of more caudal parts in secondary body development [see footnote[59]]. The cells remaining on the dorsal surface of the embryo thereafter constitute the embryonic ectoderm. The qualifying adjective embryonic is necessary as long as terms such as primary ectoderm (see footnote[357]) remain in use.

[122] E5.0.3.0.0.1.3/ E5.0.3.0.0.1.6/ E5.0.3.0.0.3.13 *Zona apoptotica anterior/Zona apoptica posterior/Zona apoptotica interdigitalis* Programmed cell death in the development of the limb bud is regulated by local growth factors. After apoptotic cell death, macrophages clear and remove cell remnants without inducing any inflammatory reaction. With the recognition that programmed cell death in the embryo is not by necrosis, a pathological process evoking inflammation, the terms *anterior, posterior and interdigital necrotic zones* are not recommended

E5.0.3.0.0.3.5	Mesenchyma apicale	Apical mesenchyme
E5.0.3.0.0.3.6	Zona progressus[123]	Progress zone
E5.0.3.0.0.3.7	V. marginalis	Marginal vein
E5.0.3.0.0.3.8	V. praeaxialis; Rete venosum praeaxiale	Pre-axial vein; Pre-axial venous plexus
E5.0.3.0.0.3.9	V. postaxialis; Rete venosum postaxiale	Postaxial vein; Postaxial venous plexus
E5.0.3.0.0.3.10	Lamina manus/pedis	Hand/Foot plate
E5.0.3.0.0.3.11	Radii manus/pedis	Hand/Foot rays
E5.0.3.0.0.3.12	Crenatio interdigitalis	Interdigital crenation
E5.0.3.0.0.3.13	Zona apoptotica interdigitalis[122]	Interdigital apoptotic zone
E3.0.0.6.1.0.64	Apoptosis	Apoptosis
E5.0.3.0.0.3.14	Separatio digitorum	Separation of digits
E5.0.3.0.0.4.1	**Axis radialis**	**Radial axis**
E5.0.3.0.0.4.2	Zona centralis; Zona chondrogenica	Central zone; Chondrogenic zone
E5.0.3.0.0.4.3	Zona peripherica; Zona antichondrogenica	Peripheral zone; Antichondrogenic zone
E5.0.3.0.0.4.4	Skeleton blastemale	Blastemal skeleton
E5.0.3.0.0.4.5	Centrum chondrificationis	Chondrification centre▲
E5.0.3.0.0.4.6	Skeleton cartilagineum	Cartilaginous skeleton
E4.0.4.4.0.0.6	Centrum ossificationis	Ossification centre▲
E5.0.3.0.0.4.7	Epiphysis	Epiphysis
E4.0.4.4.5.0.2	Cartilago epiphysialis[112] {vide Terminologia Histologica}	Epiphysial cartilage {see Terminologia Histologica}
E5.0.3.0.0.4.8	Metaphysis	Metaphysis
E5.0.3.0.0.4.9	Diaphysis	Diaphysis
	{vide etiam Musculi paginam **XX**}	{see also under Muscles page **XX** **E5.2.0.0.0.0.1**}
E5.1.0.0.0.0.1	**Juncturae; Systema articulare**	**Joints; Articular system**
E4.0.4.4.0.0.2	Mesenchyma blastemale	Blastemal mesenchyme
E5.1.0.0.1.0.1	**Sutura**	**Suture**
E5.1.0.0.1.0.2	Stratum fibrosum suturae	Sutural fibrous layer
E5.1.0.0.1.0.3	Stratum osteogenicum suturae	Sutural osteogenic layer
E5.1.0.0.1.0.4	Zona intermedia suturae	Sutural interzone
E5.1.0.0.1.0.5	Praecartilago	Precartilage
E5.1.0.0.1.0.6	Cartilago	Cartilage
E5.1.0.0.2.0.1	**Junctura ossea; Synostosis**	**Bony union**
E5.1.0.0.3.0.1	**Synchondrosis**	**Primary cartilaginous joint**
E5.1.0.0.3.0.2	Centrum secundarium ossificationis; Centrum epiphysiale	Secondary ossification centre; Epiphysial centre▲
E4.0.4.4.5.0.2	Cartilago epiphysialis[112] {vide Terminologia Histologica}	Epiphysial cartilage
E5.1.0.0.3.0.3	Centrum primarium ossificationis; Centrum diaphysiale	Primary ossification centre; Diaphysial centre▲
E5.1.0.0.4.0.1	**Symphysis**	**Secondary cartilaginous joint**
E5.1.0.0.4.0.2	Stratum fibrosum symphysis	Symphysial fibrous layer
E5.1.0.0.4.0.3	Stratum chondrogenicum symphysis	Symphysial chondrogenic layer
E5.1.0.0.4.0.4	Zona intermedia symphysis	Symphysial interzone
E5.1.0.0.5.0.1	**Junctura synovialis; Articulatio; Diarthrosis**	**Synovial joint**
E5.1.0.0.5.0.2	Amentum articulationis[124]	Articulation loop
E5.1.0.0.5.0.3	Zona defluens[125]	Gliding zone

[123] E5.0.3.0.0.3.6 *Zona progressus* The *progress zone* model for proximodistal patterning postulates that cells acquire positional information according to the length of time they spend in the subectodermal *apical mesenchyme;* the alternative early specification model postulates that segmental progenitors are already localized along the proximodistal axis; however, neither model fits the large amount of molecular expression data generated in the last decade (Tabin C, Wolpert L. Rethinking the proximodistal axis of the vertebrate limb in the molecular era. Genes Dev 2007;21:1433-42).

[124] E5.1.0.0.5.0.2 *Amentum articulationis* An *articulation loop* is a tissue connection between the anlagen of antagonistic muscles. Joint clefts form in a gliding zone (see next footnote) in the connection.

[125] E5.1.0.0.5.0.3 *Zona defluens* A *gliding zone* where adjacent tissue layers undergo relative movement along their substrata thereby giving origin to tissue discontinuities such as joint cavities and synovial bursae and sheaths.

E5.0.3.0.0.4.4	Skeleton blastemale	Blastemal skeleton
E5.0.3.0.0.4.5	Centrum chondrificationis	Chondrification centre▲
E5.0.3.0.0.4.6	Skeleton cartilagineum	Cartilaginous skeleton
E5.1.0.0.5.0.4	Zona intermedia mesenchymalis non differentiata inter elementa cartilaginis	Undifferentiated mesenchymal zone between elements of cartilage
E5.1.0.0.5.0.5	Stratum zonae densum proximale	Proximal dense layer of zone
E5.1.0.0.5.0.6	Cartilago faciei articularis proximalis	Cartilage of proximal articular surface
E5.1.0.0.5.0.7	Stratum zonae tenue intermedium	Intermediate loose layer of zone
E3.0.0.6.1.0.6	Cavitatio	Cavitation
E5.1.0.0.5.0.8	Cavitas articularis	Articular cavity
E5.1.0.0.5.0.9	Stratum zonae densum distale	Distal dense layer of zona
E5.1.0.0.5.0.10	Cartilago faciei articularis distalis	Cartilage of distal articular surface
E5.1.0.0.5.0.11	Lig. intracapsularium	Intracapsular ligament
E5.1.0.0.5.0.12	Discus articularis	Articular disc
E5.1.0.0.5.0.13	Meniscus articularis	Meniscus
E5.1.0.0.5.0.14	Mesenchyma circum zonam intermediam	Mesenchyme surrounding interzone
E5.1.0.0.5.0.15	Capsula articularis	Joint capsule; Articular capsule
E5.1.0.0.5.0.16	Membrana synovialis	Synovial membrane
E5.1.0.0.5.0.17	Lig. capsulare	Capsular ligament
E5.1.0.0.5.0.18	Lig. extracapsulare	Extracapsular ligament
E5.1.1.0.0.0.1	**Anomaliae skeletales**	**Skeletal anomalies**
E5.1.1.0.1.0.1	**Anomaliae generales ossis**	**General disorders of bone**
E5.1.1.0.1.0.2	Dysostoses	Dysostoses
E5.1.1.0.1.0.3	Achondrogenesis	Achondrogenesis
E5.1.1.0.1.0.4	Achondroplasia; Chondrodysplasia	Achondroplasia; Chondrodysplasia
E5.1.1.0.1.0.5	Deviatio radialis manus	Radial deviation of hand §Madelung§
E5.1.1.0.1.0.6	Dyschondroosteosis	Dyschondro-osteosis
E5.1.1.0.1.0.7	Dysostosis epiphysialis[112]	Dysostosis epiphysaria §Ribbing-Müller- Fairbank§
E5.1.1.0.1.0.8	Dysostosis epiphysialis hemimelica[112]	Dysostosis epiphysaria hemimelica
E5.1.1.0.1.0.9	Dysostosis spondyloeepiphysialis congenita[112]	Dysostosis spondylo-epiphysaria congenita
E5.1.1.0.1.0.10	Dysostosis spondyloepiphysialis tarda[112]	Dysostosis spondylo-epiphysaria tarda
E5.1.1.0.1.0.11	Dysostosis metaphysialis[112]	Dysostosis metaphysaria §Schmid/Murk Jansen§
E5.1.1.0.1.0.12	Dysostosis spondylometaphysialis[112]	Dysostosis spondylometaphysaria §Kozlowski/Schmidt§
E5.1.1.0.1.0.13	Dysplasia chondroectodermalis	Chondroectodermal dysplasia §Ellis-Van Crefeld§
E5.1.1.0.1.0.14	Dysplasia craniometaphysialis[112]	Dysplasia craniometaphysaria §Pyle§
E5.1.1.0.1.0.15	Dystrophia suffocans thoracis	Suffocating thorax dystrophia
E5.1.1.0.1.0.16	Hypophosphatasia	Hypophosphatasia
E5.1.1.0.1.0.17	Chondrodysplasia metaphysialis recessiva[112]	Cartilage-hair hypoplasia §McKusick§
E5.1.1.0.1.0.18	Dysplasiae fibrosae	Fibrous dysplasias
E5.1.1.0.1.0.19	Dysplasia fibrosa monostotica	Monostotic fibrous dysplasia
E5.1.1.0.1.0.20	Dysplasia fibrosa polyostotica	Polyostotic fibrous dysplasia
E5.1.1.0.1.0.21	Dysplasia fibrosa diffusa	Generalized fibrous dysplasia
E5.1.1.0.1.0.22	Leontiasis ossea	Leontiasis ossea
E5.1.1.0.1.0.23	Osteochondrodysplasia	Osteochondrodysplasia
E5.1.1.0.1.0.24	Osteochondrodystrophia	Osteochondrodystrophy
E5.1.1.0.1.0.25	Osteitis deformans	Osteitis deformans §Paget§
E5.1.1.0.1.0.26	Cystis ossea solitaria	Solitary bone cyst
E5.1.1.0.1.0.27	Exostoses	Exostoses
E5.1.1.0.1.0.28	Exostoses cartilagineae multiplices	Multiple cartilaginous exostoses
E5.1.1.0.1.0.29	Enchondromatosis diffusa	Generalized enchondromatosis
E5.1.1.0.1.0.30	Enchondromatosis unilateralis; Dyschondroplasia	Unilateral enchondromatosis; Dyschondroplasia §Ollier§
E5.1.1.0.1.0.31	Chondrodystrophia calcificans	Chondrodystrophia calcificans §Conradi-Hünermann§
E5.1.1.0.1.0.32	Nanismus diastrophicus	Diastrophic dwarfism
E5.1.1.0.1.0.33	Nanismus letalis	Lethal dwarfism
E5.1.1.0.1.0.34	Nanismus metatropicus	Metatropic dwarfism
E5.1.1.0.1.0.35	Pseudoachondroplasia	Pseudo-achondroplasia

E5.1.1.0.1.0.36	Hyperostosis	Hyperostosis
E5.1.1.0.1.0.37	Hyperplasiae	Hyperplasias
E5.1.1.0.1.0.38	Dysplasia diaphysalia progressiva[112]	Progressive diaphysial dysplasia §Camurati-Engelmann§
E5.1.1.0.1.0.39	Dystrophia periostea hyperplastica familiaris	Dystrophia periostealis hyperplastica familiaris §Dzierzynsky§
E5.1.1.0.1.0.40	Hyperostosis congenita diffusa	Congenital generalized hyperostosis §Koszewski§
E5.1.1.0.1.0.41	Hyperostosis corticalis diffusa	Generalized cortical hyperostosis §Van Buchem§
E5.1.1.0.1.0.42	Hyperostosis corticalis infantilis	Infantile generalized cortical hyperostosis §Caffey-Silverman§
E5.1.1.0.1.0.43	Hyperostosis diffusa cum pachydermia	Generalized hyperostosis with pachydermia §Uehlinger§
E5.1.1.0.1.0.44	Melorheostosis	Melorheostosis
E5.1.1.0.1.0.45	Osteopetrosis	Marble bone disease §Albers-Schönberg§
E5.1.1.0.1.0.46	Osteopoikilosis	Osteopoikilosis
E5.1.1.0.1.0.47	Pyknodysostosis	Pyknodysostosis
E5.1.1.0.1.0.48	Sclerosis diaphysialis hereditaria multiplex	Multiple hereditary diaphysial sclerosis §Ribbing§
E5.1.1.0.1.0.49	Sclerosteosis	Sclerosteosis
E5.1.1.0.1.0.50	Toxopachyostosis	Toxopachyostosis §Weismann-Netter§
E5.1.1.0.1.0.51	Hypoplasiae	Hypoplasias
E5.1.1.0.1.0.52	Acroosteolysis	Acro-osteolysis
E5.1.1.0.1.0.53	Dysostosis cleidocranialis	Cleidocranial dysostosis
E5.1.1.0.1.0.54	Dystrophia dermochondrocornealis	Dermochondrocorneal dystrophy §François§
E5.1.1.0.1.0.55	Osteofibrosis monoosteotica	Osteofibrosis mono-osteoticus §Allbright-McCune§
E5.1.1.0.1.0.56	Osteofibrosis polyosteotica	Osteofibrosis polyosteoticus §Jaffé-Lichenstein§
E5.1.1.0.1.0.57	Osteogenesis imperfecta	Osteogenesis imperfecta §Vrolik/Lobstein§
E5.1.1.0.1.0.58	Osteoporosis idiopathica	Idiopathic osteoporosis
E5.1.1.0.1.0.59	Macroplasia	Macroplasia
E5.1.1.0.1.0.60	Microplasia	Microplasia
E5.1.1.0.1.0.61	Mucopolysaccharidoses	Mucopolysaccharidoses
E5.1.1.0.1.0.62	Dysostosis multiplex typi I	Type I; Dysostosis multiplex §von Pfaundler-Hurler§
E5.1.1.0.1.0.63	Dysostosis multiplex typi II	Type II; Dysostosis multiplex §Hunter§
E5.1.1.0.1.0.64	Typus III; Oligophrenia polydystrophica	Type III Polydystrophic oligophrenia §Sanfilippo§
E5.1.1.0.1.0.65	Typus IV; Dysplasia spondyloepiphysialis intermedia	Type IV; Intermediate spondyloepiphysial dysplasia §Morquio-Brailsford§
E5.1.1.0.1.0.66	Typus V	Type V §Ulrich-Scheie§
E5.1.1.0.1.0.67	Typus VI; Nanismus polydystrophicus	Type VI; Polydystrophic dwarfism §Maroteaux§
E5.1.1.0.1.0.68	Typus VII; Nanismus pseudopolydystrophicus	Type VII; Pseudopolydystrophic dwarfism §Maroteaux-Lamy§
E5.1.1.0.1.0.69	Synostosis	Synostosis
E5.1.1.0.2.0.1	**Anomaliae cranii[126]**	**Cranial anomalies**
E5.1.1.0.2.1.1	**Dysinductio encephalica**	**Encephalic dysinduction**
E5.1.1.0.2.1.2	Acephalia	Acephaly
E5.1.1.0.2.1.3	Acrania	Acrania
E5.1.1.0.2.1.4	Dicephalia	Dicephaly
E5.1.1.0.2.1.5	Dyscephalia	Dyscephaly
E5.1.1.0.2.1.6	Macrocephalia	Macrocephaly
E5.1.1.0.2.1.7	Microcephalia	Microcephaly

[126] E5.1.1.0.2.0.1 *Anomaliae cranii* Only *cranial defects* without underlying neural tube defects are listed here. Dysraphias are dealt with substantively under Nervous System page XX E5.13.0.0.0.0.1. As elsewhere, convention has the suffixes –ia in Latin and –y in English indicating the condition; the suffix –us, in either language refers to an individual with that condition.

E5.1.1.0.2.2.1	**Dysinductio olfactoria**	**Olfactory dysinduction**
E5.1.1.0.2.2.2	Ethmocephalia	Ethmocephaly
E5.1.1.0.2.2.3	Cebocephalia	Cebocephaly
E5.1.1.0.2.3.1	**Dysinductio optica**	**Optic dysinduction**
E5.1.1.0.2.3.2	Anorbitismus	Anorbitism; Absence of orbit
E5.1.1.0.2.3.3	Hypoorbitismus	Hypo-orbitism; Hypoplasia of orbit; Micro-orbitism
E5.1.1.0.2.4.1	**Dysinductio optoolfactoria**	**Opto-olfactory dysinduction**
E5.1.1.0.2.4.2	Cyclopia	Cyclopia
E5.1.1.0.2.5.1	**Dysinductio otica**	**Otic dysinduction**
E5.1.1.0.2.5.2	Anotia	Anotia
E5.1.1.0.2.5.3	Microtia	Microtia
E5.1.1.0.2.6.1	**Anomaliae crescentiae**	**Growth anomalies**
E5.1.1.0.2.6.2	Canalis craniopharyngeus persistens	Persistent craniopharyngeal canal
E5.1.1.0.2.6.3	Dysplasiae	Dysplasias
E5.1.1.0.2.6.4	Craniosynostosis	Craniosynostosis
E5.1.1.0.2.6.5	Bathrocephalia	Bathrocephalia; Step head
E5.1.1.0.2.6.6	Brachycephalia	Brachycephaly
E5.1.1.0.2.6.7	Dolichocephalia	Dolichocephaly
E5.1.1.0.2.6.8	Scaphocephalia	Scaphocephaly; Boat-shaped head
E5.1.1.0.2.6.9	Pachycephalia	Pachycephaly
E5.1.1.0.2.6.10	Plagiocephalia	Plagiocephaly
E5.1.1.0.2.6.11	Plagiocephalia anterior	Anterior plagiocephaly
E5.1.1.0.2.6.12	Plagiocephalia posterior	Posterior plagiocephaly
E5.1.1.0.2.6.13	Trifoliocephalia	Clover-leaf cranium; Kleeblattschädel
E5.1.1.0.2.6.14	Trigonocephalia	Trigonocephaly
E5.1.1.0.2.6.15	Turricephalia	Turricephaly; Steeple head
E5.1.1.0.2.6.16	Oxycephalia; Acrocephalia	Oxycephaly; Acrocephaly
E5.1.1.0.2.6.17	Fissurae	Clefts
E5.1.1.0.2.6.18	Schistocephalia; Cephaloschisis	Schistocephaly; Cephaloschisis
E5.1.1.0.2.6.19	Cranium bifidum occultum	Simple sagittal cranial defect
E5.1.1.0.2.6.20	Os bifidum occultum frontale; Sutura metopica falsa	Simple frontal sagittal defect; False metopic suture
E5.1.1.0.2.6.21	Os occipitale bifidum occultum	Simple occipital sagittal defect
E5.1.1.0.2.6.22	Sutura frontalis persistens; Sutura metopica	Frontal suture; Metopic suture
E5.1.1.0.2.6.23	Sutura metopica singularis	Single metopic suture
E5.1.1.0.2.6.24	Sutura metopica duplex	Double metopic suture with sutural bone
E5.1.1.0.2.6.25	Foramen parietale persistens; Foramen parietale permagnum	Persistent parietal foramen; Large parietal foramen
E5.1.1.0.2.6.26	Hydrocephalia	Hydrocephaly; Hydrocephalus; Hydrencephaly; Hydrencephalus
E5.1.1.0.2.6.8	Scaphocephalia	Scaphocephaly; Boat-shaped head
E5.1.1.0.2.6.27	Tricephalia	Tricephaly
E5.1.1.0.2.6.28	Vertebralisatio partis ossis occipitalis	Vertebralisation of part of occipital bone
E5.1.1.0.2.7.1	**Syndromata pertinentia ad capitem** {vide etiam Syndromata pertinentia ad faciem}	**Syndromes involving head** {see also Syndromes involving face}
E5.1.1.0.2.7.2	Acrocephalosyndactylia	Acrocephalosyndactyly §Apert§
E5.1.1.0.1.0.53	Dysostosis cleidocranialis	Cleidocranial dysostosis
E5.1.1.0.2.7.3	Dysostosis craniofacialis	Craniofacial dysostosis §Crouzon§
E5.1.1.0.2.7.4	Dysostosis mandibulofacialis	Mandibulofacial dysostosis §Treacher-Collins§
E5.1.1.0.2.7.5	Dyscephalia mandibulooculofacialis	Mandibulo-oculofacial dyscephaly §Hallermann-Streiff-François§
E5.1.1.0.3.0.1	**Anomaliae maxillae et mandibulae {vide etiam Syndromata pertinentia ad faciem}**	**Maxillary and mandibular anomalies {see also Syndromes involving face}**
E5.1.1.0.3.0.2	Agnathia	Agnathia
E5.1.1.0.3.0.3	Dignathia	Dignathia
E5.1.1.0.3.0.4	Gnathoschisis; Schistognathia	Gnathoschisis; Cleft jaw
E5.1.1.0.3.0.5	Hypognathia	Hypognathia
E5.1.1.0.3.0.6	Macrognathia	Macrognathia
E5.1.1.0.3.0.7	Micrognathia	Micrognathia
E5.1.1.0.3.0.8	Prognathia	Prognathia
E5.1.1.0.3.0.9	Retrognathia	Retrognathia

E5.1.1.0.4.0.1	**Anomaliae columnae vertebralis**[127]	**Vertebral anomalies**
E5.1.1.0.4.0.2	Kyphosis insolita	Abnormal kyphosis
E5.1.1.0.4.0.3	Lordosis insolita	Abnormal lordosis
E5.1.1.0.4.0.4	Scoliosis	Scoliosis
E5.1.1.0.4.0.5	Kyphoscoliosis	Kyphoscoliosis
E5.1.1.0.4.0.6	Fissurae vertebrae	Cleft vertebrae
E5.1.1.0.4.0.7	Fissura coronalis vertebrae	Coronal cleft vertebra
E5.1.1.0.4.0.8	Fissura sagittalis vertebrae	Sagittal cleft vertebra
E5.1.1.0.4.0.9	Hemivertebra	Hemivertebra
E5.1.1.0.4.0.10	Baculum vertebrae	Vertebral bar
E5.1.1.0.4.0.11	Massa vertebrae	Block vertebra
E5.1.1.0.4.0.12	Vestigium notochordae	Vestige of notochord
E5.1.1.0.4.1.1	**Spina bifida**	**Spina bifida**
E5.1.1.0.4.1.2	Spina bifida aperta	Spina bifida aperta
E5.1.1.0.4.1.3	Spina bifida cystica	Spina bifida cystica
E5.1.1.0.4.1.4	Meningocoelia	Meningocoele▲
E5.1.1.0.4.1.5	Meningomyelocoele; Myelomeningocoele	Meningomyelocoele; Myelomeningocoele▲
E5.1.1.0.4.1.6	Myelocoelia	Myelocoele▲
E5.1.1.0.4.1.7	Spina bifida occulta	Spina bifida occulta
E5.1.1.0.4.1.8	Anomaliae nervosae in spina bifida	Nerve anomalies in spina bifida
E5.1.1.0.4.1.9	Hypoplasia nervi spinalis	Spinal nerve hypoplasia
E5.1.1.0.4.1.10	Malformatio nervi spinalis	Spinal nerve malformation
E5.1.1.0.4.2.1	**Syndromata pertinentia ad columnam vertebralem**	**Syndromes involving vertebral column**
E5.1.1.0.4.2.2	Conjunctio anomaliarum vertebrarum renium aut membrorum radialium cum atresia anale fistula tracheooesophagea atque atresia oesophagea	VATER association; **V**ertebral anomalies, **a**nal atresia, **t**racheo-esophageal fistula, **e**sophageal atresia and **r**enal or **r**adial limb anomalies▲
E5.1.1.0.4.2.3	Conjunctio anomaliarum cordis vertebrarum renium membrorumque cum atresia anale fistula tracheooesophagea atque atresia oesophagea	VACTERL association; **V**ertebral anomalies, **a**nal atresia, **c**ardiac anomalies, **t**racheo-esophageal fistula, **e**sophageal atresia, **r**enal and **l**imb anomalies▲
E5.1.1.0.4.3.1	**Anomaliae vertebrarum cervicalium**	**Anomalies of cervical vertebrae**
E5.1.1.0.4.3.2	Occipitalisatio atlantis	Occipitalisation of atlas
E5.1.1.0.4.3.3	Costa cervicalis	Cervical rib
E5.1.1.0.4.3.4	Brevicollum congenitum	Congenital brevicollis §Klippel-Feil sequence§
E5.1.1.0.4.3.5	Scapula alta congenita	Congenital high scapula §Spraengel deformity§
E5.1.1.0.4.4.1	**Anomaliae vertebrarum thoracicarum**	**Anomalies of thoracic vertebrae**
E5.1.1.0.4.4.2	Vertebra thoracica addita	Supernumerary thoracic vertebra
E5.1.1.0.4.5.1	**Anomaliae vertebrarum lumbalium**	**Anomalies of lumbar vertebrae**
E5.1.1.0.4.5.2	Costa lumbalis	Lumbar rib
E5.1.1.0.4.5.3	Vertebra lumbalis supernumeraria	Supernumerary lumbar vertebra
E5.1.1.0.4.5.4	Sacralisatio vertebrae lumbalis quintae	Sacralisation of fifth lumbar vertebra
E5.1.1.0.4.6.1	**Anomaliae vertebarum sacrococcygealium**	**Anomalies of sacrococcygeal vertebrae**
E5.1.1.0.4.6.2	Vertebra sacralis supernumeraria	Supernumerary sacral vertebra
E5.1.1.0.4.6.3	Vertebra sacralis absens	Absent sacral vertebra
E5.1.1.0.4.6.4	Lumbalisatio vertebrae sacralis primae	Lumbarization of first sacral vertebra
E5.1.1.0.4.6.5	Vertebra coccygealis supernumeraria	Supernumerary coccygeal vertebra
E5.1.1.0.4.6.6	Vertebra coccygealis absens	Absent coccygeal vertebra
E5.1.1.0.4.6.7	Teratoma sacrococcygeale	Sacrococcygeal teratoma
E5.1.1.0.5.0.1	**Anomaliae caveae thoracicae**	**Thoracic cage anomalies**
E5.1.1.0.5.0.2	Schistosternia	Cleft sternum

[127] E5.1.1.0.4.0.1 *Anomaliae columnae vertebralis* Only *vertebral anomalies* thought to be congenital and without underlying neural tube defects are listed here: thus, e.g. Spondylolisthesis and Os odontoideum, no longer considered congenital, are not listed; Dysraphias are dealt with substantively under Nervous System page XX E5.13.0.0.0.0.1.

E5.1.1.0.5.0.3	Foramen sternale	Sternal foramen
E5.1.1.0.5.0.4	Costa bifurcata	Bifid rib
E5.1.1.0.5.0.5	Costa supernumeraria	Supernumerary rib
E5.1.1.0.5.0.6	Pectus excavatum	Funnel chest
E5.1.1.0.5.0.7	Pectus carinatum	Pigeon chest; Keel chest
E5.1.1.0.6.0.1	**Anomaliae membrorum et aliarum partium skeleti appendicularis**	**Limb and other appendicular skeletal anomalies**
E5.1.1.0.6.1.1	**Absentiae**	**Absences**
E5.1.1.0.6.1.2	Absentiae longitudinales	Longitudinal absences
E5.1.1.0.6.1.3	Absentiae centrales	Central absences
E5.1.1.0.6.1.4	Absentiae transversae	Transverse absences
E5.1.1.0.6.1.5	Absentiae terminales	Terminal absences
E5.1.1.0.6.2.1	**Conjunctiones**	**Fusions**
E5.1.1.0.6.2.2	Conjunctio articulationis glenohumeralis	Fused glenohumeral joint
E5.1.1.0.6.2.3	Conjunctio articulationis cubiti	Fused elbow joint
E5.1.1.0.6.2.4	Conjunctio articulationis radioulnaris distalis	Fused distal radio-ulnar joint
E5.1.1.0.6.2.5	Conjunctio articulationis carpi	Fused carpal joint
E5.1.1.0.6.2.6	Conjunctio articulationis intermetacarpalis	Fused intermetacarpal joint
E5.1.1.0.6.2.7	Conjunctio articulationis metacarpophalangealis	Fused metacarpophalangeal joint
E5.1.1.0.6.2.8	Conjunctio articulationis interphalangeae	Fused interphalangeal joint
E5.1.1.0.6.2.9	Conjunctio digitorum	Fused digits
E5.1.1.0.6.2.10	Conjunctio pollicis	Fused thumb
E5.1.1.0.6.2.11	Conjunctio articulationis coxae	Fused hip joint
E5.1.1.0.6.2.12	Conjunctio articulationis genus	Fused knee joint
E5.1.1.0.6.2.13	Conjunctio articulationis tibiofibularis	Fused tibiofibular joint
E5.1.1.0.6.2.14	Conjunctio articulationis talocruralis	Fused ankle joint
E5.1.1.0.6.2.15	Conjunctio articulationis tarsi	Fused tarsal joint
E5.1.1.0.6.2.16	Conjunctio articulationis intermetatarsalis	Fused intermetatarsal joint
E5.1.1.0.6.2.8	Conjunctio articulationis interphalangeae	Fused interphalangeal joint
E5.1.1.0.6.2.9	Conjunctio digitorum	Fused digits
E5.1.1.0.6.2.17	Conjunctio hallucis	Fused great toe
E5.1.1.0.6.3.1	**Dysmeliae**	**Limb anomalies**
E5.1.1.0.6.3.2	Amelia	Amelia; Absence of limb
E5.1.1.0.6.3.3	Brachymelia	Brachymelia
E5.1.1.0.6.3.4	Dimelia	Dimelia
E5.1.1.0.6.3.5	Dolichostenomelia	Dolichostenomelia
E5.1.1.0.6.3.6	Ectromelia	Ectromelia
E5.1.1.0.6.3.7	Hemimeliae	Hemimeliae
E5.1.1.0.6.3.8	Hemimelia partialis longitudinalis	Partial longitudinal hemimelia
E5.1.1.0.6.3.9	Hemimelia partialis transversalis	Partial transverse hemimelia
E5.1.1.0.6.3.10	Macromelia	Macromelia
E5.1.1.0.6.3.11	Meromelia	Meromelia
E5.1.1.0.6.3.12	Micromelia	Micromelia
E5.1.1.0.6.3.13	Notomelia	Notomelia
E5.1.1.0.6.3.14	Peromelia	Peromelia
E5.1.1.0.6.3.15	Phocomelia	Phocomelia
E5.1.1.0.6.3.16	Phocomelia praeaxialis	Pre-axial phocomelia
E5.1.1.0.6.3.17	Phocomelia postaxialis	Postaxial phocomelia
E5.1.1.0.6.3.18	Polymelia	Polymelia
E5.1.1.0.6.3.19	Rhizomelia	Rhizomelia
E5.1.1.0.6.3.20	Schistomelia	Schistomelia
E5.1.1.0.6.3.21	Sirenomelia	Sirenomelia
E5.1.1.0.6.3.22	Symmelia	Symmelia
E5.1.1.0.6.4.1	**Dysbrachiae**	**Arm anomalies**
E5.1.1.0.6.4.2	Abrachia	Abrachia; Absence of arm
E5.1.1.0.6.4.3	Hemihypertrophia brachii	Brachial hemihypertrophy
E5.1.1.0.6.4.4	Macrobrachia	Macrobrachia
E5.1.1.0.6.4.5	Microbrachia	Microbrachia
E5.1.1.0.6.4.6	Tribrachia	Tribrachia
E5.1.1.0.6.5.1	**Dyscheiriae**	**Hand anomalies**

E5.1.1.0.6.5.2	Acheiria	Acheiria; Absence of hand
E5.1.1.0.6.5.3	Dicheiria	Dicheiria
E5.1.1.0.6.5.4	Machrocheiria	Macrocheiria
E5.1.1.0.6.5.5	Manus bifurcata	Bifurcate hand; Lobster claw deformity
E5.1.1.0.6.5.6	Microcheiria	Microcheiria
E5.1.1.0.6.5.7	Schistocheiria; Cheiroschisis	Schistocheiria
E5.1.1.0.6.6.1	**Dyspodiae**	**Foot anomalies**
E5.1.1.0.6.6.2	Apodia	Apodia; Absence of foot
E5.1.1.0.6.6.3	Dipodia	Dipodia
E5.1.1.0.6.6.4	Macropodia	Macropodia
E5.1.1.0.6.6.5	Micropodia	Micropodia
E5.1.1.0.6.6.6	Monopodia	Monopodia
E5.1.1.0.6.6.7	Schistopodia; Podoschisis	Schistopodia
E5.1.1.0.6.6.8	Sympodia	Sympodia
E5.1.1.0.6.6.9	Tripodia	Tripodia
E5.1.1.0.6.7.1	**Talipes**[128]	**Talipes**
E5.1.1.0.6.7.2	Talipes calcaneovalgus	Talipes calcaneovalgus
E5.1.1.0.6.7.3	Talipes calcaneovarus	Talipes calcaneovarus
E5.1.1.0.6.7.4	Talipes calcaneus	Talipes calcaneus
E5.1.1.0.6.7.5	Talipes cavus; Talipes plantaris	Talipes cavus; Talipes plantaris
E5.1.1.0.6.7.6	Talipes cavovalgus	Talipes cavovalgus
E5.1.1.0.6.7.7	Talipes cavovarus	Talipes cavovarus
E5.1.1.0.6.7.8	Talipes equinovalgus	Talipes equinovalgus
E5.1.1.0.6.7.9	Talipes equinovarus	Talipes equinovarus
E5.1.1.0.6.7.10	Talipes equinus	Talipes equinus
E5.1.1.0.6.7.11	Talipes planus; Pes planus	Talipes planus; Pes planus; Flat foot
E5.1.1.0.6.7.12	Talipes planovalgus	Talipes planovalgus
E5.1.1.0.6.7.13	Talipes transversoplanus	Talipes transversoplanus
E5.1.1.0.6.7.14	Talipes valgus	Talipes valgus
E5.1.1.0.6.7.15	Talipes varus	Talipes varus
E5.1.1.0.6.7.16	Metatarsus adductocavus	Metatarsus adductocavus
E5.1.1.0.6.7.17	Metatarsus adductovarus	Metatarsus adductovarus
E5.1.1.0.6.7.18	Metatarsus adductus	Metatarsus adductus
E5.1.1.0.6.7.19	Metatarsus atavicus; Metatarsus brevis	Short first metatarsal
E5.1.1.0.6.7.20	Metatarsus latus	Broad foot; Spread foot
E5.1.1.0.6.7.21	Metatarsus varus	Metatarsal varus
E5.1.1.0.6.8.1	**Talipomanus**	**Club hand**
E5.1.1.0.6.8.2	Talipomanus radialis	Radial talipomanus; Manus valgus
E5.1.1.0.6.8.3	Talipomanus ulnaris	Ulnar talipomanus; Manus varus
E5.1.1.0.6.9.1	**Dysdactyliae**	**Defect of digits**
E5.1.1.0.6.9.2	Adactylia	Adactyly; Absence of digits
E5.1.1.0.6.9.3	Ankylodactylia	Ankylodactyly
E5.1.1.0.6.9.4	Arachnodactylia	Arachnodactyly
E5.1.1.0.6.9.5	Brachydactylia	Brachydactyly
E5.1.1.0.6.9.6	Camptodactylia	Camptodactyly
E5.1.1.0.6.9.7	Clinodactylia	Clinodactyly
E5.1.1.0.6.9.8	Constricio anularis	Anular constriction
E5.1.1.0.6.9.9	Contractura	Contracture
E5.1.1.0.6.9.10	Ectrodactylia	Ectrodactyly
E5.1.1.0.6.9.11	Hyperphalangia; Polyphalangia	Hyperphalangism
E5.1.1.0.6.9.12	Hypophalangia	Hypophalangism
E5.1.1.0.6.9.13	Macrodactylia	Macrodactyly
E5.1.1.0.6.9.14	Microdactylia	Microdactyly
E5.1.1.0.6.9.15	Phalanx deltoidea	Deltoid phalanx
E5.1.1.0.6.9.16	Polydactylia	Polydactyly

[128] E5.1.1.0.6.7.1 *Talipes* The term *Club foot* has not been listed because of its inconsistent use in describing the results of more than one of these anatomical deformities.

E5.1.1.0.6.9.17	Polysyndactylia	Polysyndactyly
E5.1.1.0.6.9.18	Symphalangia	Symphalangism
E5.1.1.0.6.9.19	Syndactylia	Syndactyly
E5.1.1.0.6.9.20	Triphalangia	Triphalangy
E5.1.1.0.6.9.21	Triphalangia pollicis	Triphalangy of thumb
E5.1.1.0.6.9.22	Triphalangia hallucis	Triphalangy of big toe
E5.2.0.0.0.0.1	**Musculi; Systema musculare**[129]	**Muscles; Muscular system**
	Nomina generalia	*General terms*
E5.2.0.0.0.0.2	Mesenchyma praechordale	Prechordal mesenchyme
E5.0.2.1.0.0.4	Lamina praechordalis	Prechordal plate
E5.2.0.0.0.0.3	Mesenchyma pharyngomericum[119]	Pharyngomeric mesenchyme
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E5.2.0.0.0.0.4	Placoda epipharyngea	Epipharyngeal placode
E5.2.0.0.0.0.5	Dermatomyotomus; Dermomyotomus	Dermatomyotome; Dermomyotome
E5.2.0.0.0.0.6	Myotomus	Myotome
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E5.2.0.0.0.0.7	Mesenchyma gemmarum membrorum	Mesenchyme of limb buds
E5.2.0.0.0.0.8	Striomyohistogenesis non cardiaca {vide Myohistogenesis in Histogenesis generalis supra}	Noncardiac striomyohistogenesis {see Myohistogenesis in General histogenesis above}
E4.0.4.4.10.0.1	Tendinogenesis {vide Histogenesis generalis supra}	Tendinogenesis {see General histogenesis above}
E5.2.0.0.0.0.9	Tendo	Tendon
E5.2.0.0.0.0.10	Aponeurosis	Aponeurosis
E5.2.0.0.0.0.11	Fascia	Fascia
E5.2.0.0.0.0.12	Epimysium	Epimysium
E5.2.0.0.0.0.13	Perimysium	Perimysium
E5.2.0.0.0.0.14	Endomysium	Endomysium
E3.0.0.6.1.0.75	Motus dilatationis[70]	Dilation movement
E5.2.0.0.0.0.15	M. unisegmentalis	Unisegmental muscle
E5.2.0.0.0.0.16	M. multisegmentalis	Multisegmental muscle
E5.2.0.0.0.0.2	**MESENCHYMA PRAECHORDALE**	**PRECHORDAL MESENCHYME**
E5.2.0.1.0.0.1	**Primordium musculorum externorum bulbi oculi**[130]	**Extra-ocular muscle primordium**
E5.2.0.1.0.0.2	Blastema musculorum externorum bulbi oculi	Blastema of extra-ocular muscles
E5.2.0.0.0.0.3	**MESENCHYMA PHARYNGOMERICUM**[119]	**PHARYNGOMERIC MESENCHYME**
E5.2.0.2.0.0.1	**Primordium musculare arcus pharyngei primi** [1]	**First pharyngeal arch muscle primordium** [1]
E5.2.0.2.0.0.2	Blastemata musculorum masticatoriorum[131]	Blastemata of muscles of mastication
E5.2.0.2.0.0.3	Blastema musculi tensoris veli palatini	Blastema of tensor veli palatini
E5.2.0.2.0.0.4	Blastema musculi tensoris tympani	Blastema of tensor tympani §Eustachius§
E5.2.0.2.0.1.1	**Primordium musculare arcus pharyngei secundi** [2]	**Second pharyngeal arch muscle primordium** [2]
E5.2.0.2.0.1.2	Blastemata musculorum faciei[132]	Blastemata of facial muscles
E5.2.0.2.0.1.3	Blastema musculi stapedii	Blastema of stapedius
E5.2.0.2.0.1.4	Blastemata musculorum levatorium veli palatini et uvulae atque palatoglossi et palatopharyngei	Blastemata of levator veli palatini, uvulae, palatoglossus and palatopharyngeus

[129] E5.2.0.0.0.0.1 *Musculi; Systema musculare* This section refers only to noncardiac striated muscle. Other muscle is presented under the corresponding structures (e.g. alimentary system, cardiovascular system).

[130] E5.2.0.1.0.0.1 *Primordium musculi externi bulbi oculi* The *extra-ocular muscles* were thought to be derived from "preotic somites" but these are now thought not to occur in the human. The extrinsic eye muscles develop from a premandibular condensation of mesenchyme derived from the prechordal plate.

[131] E5.2.0.2.0.0.2 *Blastemata musculorum masticatoriorum* The primordia of the principal muscles of mastication (masseter, temporalis and pterygoids) as well as of mylohoid and the anterior belly of the digastric.

[132] E5.2.0.2.0.1.2 *Blastemata musculorum faciei* The primordia of the muscles of facial expression as well as of stylohyoid and the posterior belly of the digastric.

E5.2.0.2.0.2.1	**Primordium musculare arcus pharyngei tertii** [3]	**Third pharyngeal arch muscle primordium** [3]
E5.2.0.2.0.2.2	Blastema musculi stylopharyngei	Blastema of stylopharyngeus
E5.2.0.2.0.3.1	**Primordium musculare arcus pharyngei quarti** [4]	**Fourth pharyngeal arch muscle primordium** [4]
E5.2.0.2.0.3.2	Blastemata musculorum constrictorium superioris, medii et inferioris pharyngis atque salpingopharyngei	Blastemata of superior, middle and inferior pharyngeal constrictors and of salpingopharyngeus
E5.2.0.2.0.3.3	Blastemata musculorum laryngeorum	Blastemata of laryngeal muscles
E5.2.0.0.0.0.6	**MYOTOMI**	**MYOTOMES**
E5.2.0.3.0.0.1	**Myotomi occipitales**	**Occipital myotomes**
E5.2.0.3.0.1.1	**Primordium musculorum linguae**	**Tongue muscle primordium**
E5.2.0.3.0.1.2	Blastemata musculorum linguae	Blastemata of muscles of tongue
E5.2.0.3.1.0.1	**Myotomi postoccipitales**	**Postoccipital myotomes**
E5.2.0.3.1.1.1	**Pars epaxialis myotomi postoccipitalis**	**Epaxial part of postoccipital myotome**
E5.2.0.3.1.1.2	Blastemata musculorum suboccipitalium	Blastemata of suboccipital muscles
E5.2.0.3.1.1.3	Blastemata musculorum dorsi	Blastemata of muscles of back proper
E5.2.0.3.1.2.1	**Pars hypaxialis myotomi postoccipitalis**	**Hypaxial part of postoccipital myotome**
E5.2.0.3.1.2.2	Blastema musculi sternocleidomastoidei[133]	Blastema of sternocleidomastoid
E5.2.0.3.1.2.3	Blastema musculi trapezii[133]	Blastema of trapezius
E5.2.0.3.1.2.4	Blastemata musculorum suprahyoideorum	Blastemata of suprahyoid muscles
E5.2.0.3.1.2.5	Blastemata musculorum infrahyoideorum	Blastemata of infrahyoid muscles
E5.2.0.3.1.2.6	Blastemata musculorum praevertebralium	Blastemata of prevertebral muscles
E5.2.0.3.1.2.7	Blastemata musculorum scalenorum	Blastemata of scalene muscles
E5.2.0.3.1.2.8	Blastemata muscularia diaphragmatis	Muscular blastemata of diaphragm
E5.2.0.3.1.2.9	Blastemata musculorum parietis thoracici	Blastemata of muscles of thoracic wall
E5.2.0.3.1.2.10	Blastemata musculorum parietis abdominalis anterioris	Blastemata of muscles of anterior abdominal wall
E5.2.0.3.1.2.11	Blastemata diaphragmatis pelvis	Blastemata of pelvic diaphragm
E5.2.0.3.1.2.12	Blastema musculi sphincteris ani externi	Blastema of external anal sphincter
E5.2.0.3.1.2.13	Blastemata musculorum regionis urogenitalis	Blastemata of muscles of urogenital triangle
E5.2.0.3.2.0.1	**Myotomi abdominales**	**Abdominal myotomes**
E5.2.0.3.2.0.2	Ectoderma embryonicum anuli umbilicalis[134]	Embryonic ectoderm of umbilical ring
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale[135]	Mesenchyme from caudal eminence
E5.2.0.3.1.2.10	Blastemata musculorum parietis abdominalis anterioris	Blastemata of muscles of anterior abdominal wall
E5.2.0.3.2.0.3	Blastema musculi recti abdominis[136]	Blastema of rectus abdominis
E5.2.0.3.2.0.4	Blastema musculi obliqui externi abdominis	Blastema of external oblique
E5.2.0.3.2.0.5	Blastema musculi obliqui interni abdominis	Blastema of internal oblique
E5.2.0.3.2.0.6	Blastema musculi transversi abdominis	Blastema of tranversus abdominis
E5.2.0.3.2.0.7	Blastema musculi quadrati lumborum	Blastema of quadratus lumborum
E5.2.0.3.2.0.8	Occlusio parietis abdominalis anterioris	Closure of anterior abdominal wall
E5.2.0.3.2.0.9	Anulus umbilicalis[213]	Umbilical ring
E5.2.0.3.3.0.1	**Anomaliae parietis abdominalis anterioris**	**Anomalies of anterior abdominal wall**
E5.2.0.3.3.0.2	Occlusio non completa	Incomplete closure; Defective formation
E5.2.0.3.3.0.3	Eventratio	Eventration
E5.2.0.3.3.0.4	Gastroschisis	Gastroschisis

[133] E5.2.0.3.1.2.2/ E5.2.0.3.1.2.3 *Blastema musculi sternocleidomastoidei / Blastema musculi trapezii* The single primordium for these two muscles is located in the epicardial ridge, caudal to the fourth pharyngeal arch and the cervical sinus. As the neck elongates the primordium divides so that the two muscles come to bound the posterior triangle.

[134] E5.2.0.3.2.0.2 *Ectoderma embryonicum anuli umbilicalis* Embryonic ectoderm, apart from providing surface epithelium and undergoing epitheliomesenchymal transformation and ingression of embryonic ectoderm of the umbilical ring, may contribute mesenchyme to the underlying tissues. See also footnote on embryonic ectoderm[121].

[135] E4.0.4.1.0.0.6 *Mesenchyma eminentiae caudale* *Mesenchyme from the caudal eminence* passes ventrally around the cloacal membrane to contribute to the musculature and connective tissue of the infra-umbilical abdominal wall and the underlying bladder wall.

[136] E5.2.0.3.2.0.3 *Blastema musculi recti abdominis* Only material from the mid-thoracic segments has reached its destination by the end of the embryonic period so that only the cranial parts of the *blastemata of rectus abdominis* have come together by that time; at that time, more caudally, they are still divaricated and a triangular transparent area between them includes the umbilical ring. By the end of the first trimester, the recti have come together throughout, except at the umbilical ring.

E5.2.0.3.3.0.5	Schistocoelia; Coeloschisis	Schistocoele; Coeloschisis▲
E5.2.0.3.3.0.6	Exomphalos	Exomphalos
E5.2.0.3.3.0.7	Omphalocoelia	Omphalocoele; Umbilical eventration▲
E5.2.0.3.4.0.1	**Dermatomyotomus membri superioris**	**Upper limb dermatomyotome**
E5.2.0.3.4.1.1	**Primordium musculare dorsale**	**Dorsal muscle mass; Dorsal muscle primordium**
E5.2.0.3.4.1.2	Blastemata in compartimentis posterioribus brachii et antebrachii	Blastemata in posterior compartments of arm and forearm
E5.2.0.3.4.1.3	Blastemata musculorum deltoidei et teretis minoris	Blastemata of deltoid and teres minor
E5.2.0.3.4.1.4	Blastema musculi latissimi dorsi	Blastema of latissimus dorsi
E5.2.0.3.4.1.5	Blastemata musculorum rhomboideorum	Blastemata of rhomboid muscles
E5.2.0.3.4.1.6	Blastema musculi levatoris scapulae	Blastema of levator scapulae
E5.2.0.3.4.1.7	Blastema musculi serrati anterioris	Blastema of serratus anterior
E5.2.0.3.4.1.8	Blastema musculi teretis majoris	Blastema of teres major
E5.2.0.3.4.1.9	Blastema musculi subscapularis	Blastema of subscapularis
E5.2.0.3.4.1.10	Blastemata musculorum supraspinati et infraspinati	Blastemata of supraspinatus and infraspinatus
E5.2.0.3.4.2.1	**Primordium musculare ventrale**	**Ventral muscle mass; Ventral muscle primordium**
E5.2.0.3.4.2.2	Blastemata in compartimentis anterioribus brachii et antebrachii	Blastemata in anterior compartments of arm and forearm
E5.2.0.3.4.2.3	Blastemata musculorum manus	Blastemata of muscles of hand
E5.2.0.3.5.0.1	**Dermatomyotomi membri inferioris; Dermomyotomi membri inferioris**	**Lower limb dermatomyotomes; Lower limb dermomyotomes**
E5.2.0.3.4.1.1	**Primordium musculare dorsale**	**Dorsal muscle mass; Dorsal muscle primordium**
E5.2.0.3.5.1.1	Blastemata in compartimentis anterioribus femoris et cruris	Blastemata in anterior compartments of thigh and leg
E5.2.0.3.5.1.2	Blastema musculi tensoris fasciae latae	Blastema of tensor fasciae latae; Blastema of tensor of fascia lata
E5.2.0.3.5.1.3	Blastema capitis brevis musculi bicipitis femoris	Blastema of short head of biceps femoris
E5.2.0.3.5.1.4	Blastemata in compartimento laterali cruris	Blastemata in lateral compartment of leg
E5.2.0.3.5.1.5	Blastema musculorum dorsalium pedis	Blastema of dorsal muscles of foot
E5.2.0.3.5.1.6	Blastemata musculorum gluteorum maximi, medii et minimi	Blastemata of gluteus maximus, medius and minimus
E5.2.0.3.5.1.7	Blastema musculi piriformis	Blastema of piriformis
E5.2.0.3.5.1.8	Blastemata musculi iliopsoatis	Blastemata of iliopsoas
E5.2.0.3.4.2.1	**Primordium musculare ventrale**	**Ventral muscle mass; Ventral muscle primordium**
E5.2.0.3.5.2.1	Blastemata in compartimentis mediale et posteriore femoris [137]	Blastemata in medial and posterior compartments of thigh
E5.2.0.3.5.2.2	Blastemata in compartimento posteriore cruris	Blastemata in posterior compartment of leg
E5.2.0.3.5.2.3	Blastemata musculorum plantarium pedis	Blastemata of plantar muscles of foot
E5.2.0.3.5.2.4	Blastema musculorum obturatorii interni et gemellorum [138]	Blastema of obturator internus and gemelli
E5.2.0.3.5.2.5	Blastema musculi quadrati femoris	Blastema of quadratus femoris
E5.2.0.4.0.0.1	**DIAPHRAGMA**	**DIAPHRAGM**
E5.2.0.4.0.0.2	Septum transversum	Septum transversum
E5.2.0.4.0.0.3	Pars diaphragmatica septi transversi	Diaphragmatic part of septum transversum
E5.2.0.4.0.0.4	Pars pleuroperitonealis diaphragmatis	Pleuroperitoneal part of diaphragm
E5.2.0.4.0.0.5	Pars parietalis diaphragmatis	Body wall part of diaphragm

[137] E5.2.0.3.5.2.1 *Blastemata in compartimentis medialis et posterioris femoris* These blastemata give rise to the muscles of the posterior and medial compartments of the thigh apart from the short head of biceps femoris (E5.2.0.3.5.1.3): these are abductors magnus, longus and brevis, gracilis, obturator externus, semitendinosus, semimembranosus, and the long head of biceps femoris.

[138] E5.2.0.3.5.2.4 *Blastema musculorum obturatorii interni et gemellorum* In the 14mm embryo no distinction can be made between the obturator internus and the two gemelli (Bardeen CR. Development and variation of the nerves and musculature of the inferior extremity and of the neighbouring regions of the trunk in man. Am J Anat 1907;6:259-390)

E5.2.0.4.1.0.1	**Anomaliae diaphragmae**	**Anomalies of diaphragm**
E5.2.0.4.1.0.2	Trigonum vertebrocostale	Vertebrocostal trigone
E5.2.0.4.1.0.3	Herniae diaphragmaticae congenitae	Congenital diaphragmatic hernias
E5.2.0.4.1.0.4	Hernia posterolateralis	Posterolateral hernia §Foramen of Bochdalek hernia§
E5.2.0.4.1.0.5	Hernia sternocostalis	Sternocostal hernia; Parasternal hernia §Foramen of Morgagni hernia§
E5.2.0.4.1.0.6	Hernia hiatalis	Hiatus hernia
E5.2.0.4.1.0.7	Hernia fluitans hiatus; Hernia fluitans oesophagi	Sliding hiatus hernia; Sliding hernia of oesophagus▲
E5.2.0.4.1.0.8	Hernia hiatalis paraoesophagea	Para-oesophageal hiatal hernia▲
E5.2.0.4.1.0.9	Oesophagus brevis congenitus	Congenital short oesophagus▲
E5.3.0.0.0.0.1	**Facies**	**Face**
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.3.0.0.0.0.2	Epidermis	Epidermis
E5.3.0.0.0.0.3	Periderma	Periderm
E5.2.0.0.0.0.3	Mesenchyma pharyngomericum[119]	Pharyngomeric mesenchyme
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E5.2.0.0.0.0.4	Placoda epipharyngea	Epipharyngeal placode
E5.3.0.0.0.0.4	Stomodeum; Stomatodeum	Stomodeum
E5.3.0.0.0.0.5	Membrana oropharyngea	Oropharyngeal membrane
E5.3.0.0.0.0.6	Prominentia frontonasalis	Frontonasal prominence
E5.3.0.0.0.0.7	Prominentia frontalis	Frontal prominence
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E5.3.0.0.0.0.9	Fovea nasalis	Nasal pit
E5.3.0.0.0.0.10	Pinna nasalis	Nasal fin
E5.3.0.0.0.0.11	Prominentia nasalis medialis[139]	Medial nasal prominence
E5.3.0.0.0.0.12	Prominentia nasalis lateralis	Lateral nasal prominence
E5.3.0.0.0.0.13	Prominentia maxillaris	Maxillary prominence
E5.3.0.0.0.0.14	Prominentia mandibularis	Mandibular prominence
E5.3.0.0.0.0.15	Crescentia rostralis faciei	Rostral growth of face
E5.3.0.0.0.0.16	Crescentia transversa faciei	Transverse growth of face
E5.3.0.0.0.0.17	Crescentia longitudinalis faciei	Longitudinal growth of face
E5.3.0.0.0.0.18	Primordia labiorum, buccae et gingivae	Primordia of lips, cheek and gingiva
E5.3.0.0.0.0.19	Sulcus nasomaxillaris	Nasomaxillary groove
E5.3.0.0.0.0.20	Sulcus nasolacrimalis; Sulcus lacrimalis[307]	Nasolacrimal groove; Lacrimal groove
E5.3.0.0.0.0.21	Sulcus interorbitalis	Interorbital groove
E5.3.0.0.0.0.22	Lig. interorbitale	Interorbital ligament
	{Facies vide etiam Auris externa paginam **XX**}	{Face see also External ear page **XX** **E5.16.4.0.1.0.1**}
E5.3.0.0.1.0.1	**Formatio labii oris**	**Lip development**
E5.3.0.0.1.0.2	Lamina labiogingivalis	Vestibular lamina; Labiogingival lamina
E5.3.0.0.1.0.3	Primordium labii	Primordium of lip
E5.3.0.0.1.0.4	Labium fetale et neonatale[140]	Fetal and neonatal lip
E5.3.0.0.1.0.5	Pars labialis musculi orbicularis oris	Labial part of orbicularis oris
E5.3.0.0.1.0.6	Pars cutanea labii	Cutaneous part of lip
E5.3.0.0.1.0.7	Pars glabra labii	Glabrous part of lip
E5.3.0.0.1.0.8	Pars intermedia labii	Transition part of lip; Vermilion part of lip
E5.3.0.0.1.0.9	Pars villosa labii	Villous part of lip
E5.3.0.0.1.0.10	Villus labialis transiens	Transient labial villus
E5.3.0.0.1.0.11	Torus labialis	Double lip
E5.3.0.0.1.0.12	Pars mucosa labii	Mucosal part of lip

[139] E5.3.0.0.0.0.11 *Prominentia nasalis medialis* The term *prominence* is recommended for this and similar facial features because they are not processes or projections but swellings caused by growth centres; they do not fuse as processes do but merge as mesenchyme fills the depressions and raises the epithelium between them.

[140] E5.3.0.0.1.0.4 *Labium fetale et neonatale* The parts are as given by Miethke R-R. Zur Anatomie der Ober- und Unterlippe zwischen dem 4. intrauterinen Monat und der Geburt. Gegenbaurs morph Jahrbuch 1977;123:424-452.

E5.3.0.0.2.0.1	**Anomaliae faciei**	**Facial anomalies**
E5.3.0.0.2.0.2	Aprosopia	Aprosopy
E5.3.0.0.2.0.3	Diprosopia	Diprosopy
E5.3.0.0.2.0.4	Ablepharia	Ablepharia
E5.3.0.0.2.0.5	Agenesis palpebrae	Agenesis of eyelid
E5.3.0.0.2.0.6	Coloboma palpebrae	Palpebral coloboma
E5.3.0.0.2.0.7	Agenesis ciliorum palpebrae	Agenesis of eyelashes
E5.3.0.0.2.0.8	Ectopia ciliorum palpebrae	Ectopic eyelashes
E5.3.0.0.2.0.9	Ordo supernumerarius ciliorum palpebrae	Supernumerary row of eyelashes
E5.3.0.0.2.0.10	Absentia glandularum tarsalium	Absent tarsal glands
E5.3.0.0.2.0.11	Ankyloblepharia	Ankyloblepharia
E5.3.0.0.2.0.12	Blepharochalasis	Blepharochalasis
E5.3.0.0.2.0.13	Blepharophimosis	Blepharophimosis; Blepharostenosis
E5.3.0.0.2.0.14	Blepharosynechia	Blepharosynechia
E5.3.0.0.2.0.15	Ectropion palpebrae	Palpebral ectropion
E5.3.0.0.2.0.16	Euryblepharon	Euryblepharon
E5.3.0.0.2.0.17	Ectopia auris	Ectopic ear
E5.1.1.0.2.5.2	Anotia	Anotia
E5.3.0.0.2.0.18	Synotia	Synotia
E5.3.0.0.2.0.19	Macrotia	Macrotia
E5.1.1.0.2.5.3	Microtia	Microtia
E5.3.0.0.2.0.20	Polyotia	Polyotia
E5.3.0.0.2.0.21	Otocephalia	Otocephaly
E5.3.0.0.2.0.22	Atresia meatus acustici externi	External acoustic meatus atresia
E5.3.0.0.2.0.23	Hypoplasia meatus acustici externi	External acoustic meatus hypoplasia
E5.3.0.0.2.0.24	Stenosis meatus acustici externi	External acoustic meatus stenosis
E5.3.0.0.2.0.25	Meatus acusticus externus subdivisus	Subdivided external acoustic meatus
E5.3.0.0.2.0.26	Appendix auricularis	Auricular appendage
E5.3.0.0.2.0.27	Appendix praeauricularis	Pre-auricular appendage
E5.3.0.0.2.0.28	Fistula auricularis	Auricular fistula
E5.3.0.0.2.0.29	Fossula auricularis	Auricular dimples
E5.3.0.0.2.0.30	Sinus praeauricularis	Pre-auricular sinus; Pre-auricular pit
E5.3.0.0.2.0.31	Fistula praeauricularis	Pre-auricular fistula
E5.3.0.0.2.0.32	Cystis praeauricularis	Pre-auricular cyst
E5.3.0.0.2.0.33	Lobulus auricularis bifidus; Coloboma lobuli	Bifid lobule; Cleft lobule
E5.3.0.0.2.0.34	Fissura facialis obliqua; Prosoposchisis	Oblique facial cleft
E5.3.0.0.2.0.35	Fissura mediana faciei	Median facial cleft
E5.3.0.0.2.0.36	Fissura transversa faciei	Transverse facial cleft; Lateral facial cleft
E5.3.0.0.2.0.37	Fissura mandibulae	Cleft mandible; Gnathoschisis
E5.3.0.0.2.1.1	**Syndromata pertinentia ad faciem**	**Syndromes involving face**
E5.1.1.0.2.7.3	Dysostosis craniofacialis	Craniofacial dysostosis §Crouzon§
E5.1.1.0.2.7.4	Dysostosis mandibulofacialis	Mandibulofacial dysostosis §Treacher-Collins§
E5.3.0.0.2.1.2	Dysplasia faciodigitogenitalis	Faciodigitogenital dysplasia §Aaskog-Scott§
E5.3.0.0.2.1.3	Dysplasia familiaris fibrosa mandibularis; Cherubismus	Familial fibrous dysplasia of jaw; Cherubism
E5.3.0.0.2.1.4	Dysplasia frontonasalis	Frontonasal dysplasia
E5.3.0.0.2.1.5	Hypertelorismus ocularis	Ocular hypertelorism §Greig/Opitz§
E5.3.0.0.2.1.6	Paralysis congenita abducentofacialis	Congenital abducens-facial paralysis §Möbius§
E5.3.0.0.2.1.7	Sequentia mandibulolinguopalatina	Mandibulolinguopalatal sequence §Robin§
E5.3.0.0.2.1.8	Spectrum facioauriculovertebrale	Facio-auriculovertebral spectrum § Goldenhar§
E5.3.0.0.2.1.9	Syndroma blepharocheilodonticum	Blepharocheilodontic syndrome [BCD]
E5.3.0.0.2.1.10	Syndromata arcus pharyngei primi	First pharyngeal arch syndromes
E5.4.0.0.0.0.1	**Systema digestorium**	**Alimentary system**
	Nomina generalia	*General terms*
E5.4.0.0.0.0.2	Primordia systematis digestorii	Primordia of alimentary system

E5.4.0.0.0.0.3	Endoderma vesiculae umbilicalis secundariae; Endoderma sacci vitellini secundarii	Secondary umbilical vesicle endoderm; SecondaryYolk sac endoderm
E5.4.0.0.0.0.4	Pars proximalis vesiculae umbilicalis secundariae; Pars proximalis sacci vitellini	Proximal part of secondary umbilical vesicle; Proximal part of secondary yolk sac
E5.4.0.0.0.0.5	Mesenchyma partis proximalis vesiculae umbilicalis secundariae; Mesenchyma partis proximalis sacci vitellini	Mesenchyme of proximal part of secondary umbilical vesicle; Mesenchyme of proximal part of secondary yolk sac
E5.4.0.0.0.0.6	Pars distalis vesiculae umbilicalis secundariae; Pars distalis sacci vitellini[141]	Distal part of secondary umbilical vesicle; Distal part of secondary yolk sac
E5.0.2.1.0.0.4	Lamina praechordalis	Prechordal plate
E5.3.0.0.0.0.5	Membrana oropharyngea	Oropharyngeal membrane
E5.4.0.0.0.0.7	Stomatodeum primordiale	Primordial stomodeum
E5.4.0.0.0.0.8	Primordium praeenteri; Primordium proenteri	Primordium of foregut
E5.4.0.0.0.0.9	Ostium rostrale enteri	Rostral intestinal portal; Anterior intestinal portal
E5.4.0.0.0.0.10	Primordium intestini medii	Primordium of midgut
E5.4.0.0.0.0.11	Ostium caudale enteri	Caudal intestinal portal; Posterior intestinal portal
E5.4.0.0.0.0.12	Primordium metenteri	Primordium of hindgut
E5.4.0.0.0.0.13	Fovea analis[142]	Anal pit
E5.4.0.0.0.0.14	Cloaca	Cloaca
E5.4.0.0.0.0.15	Membrana cloacalis	Cloacal membrane
E5.4.0.0.0.0.16	Primordium urenteri; Primordium intestini postremi; Primordium intestini caudalis	Primordium of postcloacal gut; Primordium of tailgut; Primordium of endgut
E5.4.1.0.0.0.1	**Cavitas oris**	**Oral cavity**
E5.4.1.1.0.0.1	**PARS VESTITA INITIALITER AB ECTODERMA SOLUM**	**PART INITIALLY COVERED BY ECTODERM ONLY**
E5.3.0.0.0.0.4	Stomodeum; Stomatodeum	Stomodeum
E5.4.1.1.1.0.1	**Vestibulum oris**	**Oral vestibule**
E5.4.1.1.1.0.2	Taenia epithelialis primaria	Primary epithelial band
E5.4.1.1.1.0.3	Lamina dentalis	Dental lamina
E5.3.0.0.1.0.2	Lamina labiogingivalis	Vestibular lamina; Labiogingival lamina
E5.4.1.1.1.0.4	Sulcus labiogingivalis	Vestibular sulcus; Labiogingival sulcus
E5.4.1.1.1.0.5	Vestibulum	Vestibule
E5.4.1.1.1.1.1	**Glandula parotidea**	**Parotid gland**
E5.4.1.1.1.1.2	Ectoderma maxillomandibularis	Maxillomandibular ectoderm
E5.4.1.1.1.1.3	Lamina basalis subectodermalis	Subectodermal basal lamina
E5.4.1.1.1.1.4	Mesenchyma glandulae parotideae praesumptivae	Presumptive parotid mesenchyme
E5.4.1.1.1.1.5	Sulcus parotideus	Parotid groove
E5.4.1.1.1.1.6	Gemma glandulae parotideae[143]	Parotid gland bud
E5.4.1.1.1.1.7	Gemma elongata glandulae parotideae	Elongated parotid gland bud
E3.0.0.6.1.0.60	Morphogenesis gemmans[65]	Budding morphogenesis
E5.4.1.1.1.1.8	Acinus mucosus transiens	Transient mucous acinus
E5.4.1.1.1.1.9	Acinus serosus	Serous acinus
E5.4.1.1.1.1.10	R. primarius pediculi glandulae parotideae	Primary branch of parotid gland bud
E5.4.1.1.1.1.11	Ductus parotideus	Parotid duct
E5.4.1.1.1.1.12	Condensatio mesenchymalis glandulae parotideae	Condensation of parotid mesenchyme
E5.4.1.1.1.1.13	Fascia parotidea	Parotid fascia; Parotid sheath
E5.3.0.0.0.0.18	Primordia labiorum, buccae et gingivae	Primordia of lips, cheek and gingiva
E5.3.0.0.0.0.13	Prominentia maxillaris	Maxillary prominence
E5.3.0.0.0.0.14	Prominentia mandibularis	Mandibular prominence
E5.4.1.1.1.2.1	**Organum juxtaorale**[144]	**Juxta-oral organ**

[141] E5.4.0.0.0.0.6 *Pars distalis vesiculae umbilicalis secundariae; Pars distalis sacci vitellini* There are no known derivatives of the endodermal lining of this embryonic structure.

[142] E5.4.0.0.0.0.13 *Fovea analis* Although there is no proctodeal depression comparable to the stomodeum, there is a slight *anal pit* over the terminal hindgut

[143] E5.4.1.1.1.1.6 *Gemma glandulae parotideae* See Gasser RF. The early development of the parotid gland around the facial nerve and its branches in man. Anat Rec 1970:167;63-78.

E5.4.1.1.1.1.2	Ectoderma maxillomandibularis	Maxillomandibular ectoderm
E5.4.1.1.1.1.3	Lamina basalis subectodermalis	Subectodermal basal lamina
E5.4.1.1.1.2.2	Primordium organi juxtaoralis	Primordium of juxta-oral organ
E5.4.1.1.1.2.3	Primordium organi juxtaoralis invaginatum	Invaginated primordium of juxta-oral organ
E5.4.1.1.1.2.4	Primordium organi juxtaoralis disiunctum	Detached primordium of juxta-oral organ
E5.4.1.1.1.2.5	Chorda juxtaoralis cum lumine	Juxta-oral cord with lumen
E5.4.1.1.1.2.6	Organum juxtaorale innervatum a nervo buccale	Juxta-oral organ innervated by buccal nerve
E5.4.1.1.1.2.7	Mesenchyma maxillomandibulare	Maxillomandibular mesenchyme
E5.4.1.1.1.2.8	Organum juxtaorale encapsulatum	Encapsulated juxta-oral organ
E5.4.1.1.1.2.9	Parenchyma axiale	Axial parenchyme
E5.4.1.1.1.2.10	Cellulae externae planae	External flat cells
E5.4.1.1.1.2.11	Cellulae internae lucidae	Internal clear cells
E5.4.1.1.2.2.1	**Cavitas oris propria**	**Oral cavity proper**
E5.4.1.1.2.2.2	Primordium adenohypophysis	Adenohypophysial primordium
E5.4.1.1.2.3.1	**Dens**	**Tooth**
E5.4.1.1.2.3.2	Odontogenesis	Tooth formation
E5.4.1.1.1.0.2	Taenia epithelialis primaria	Primary epithelial band
E5.4.1.1.1.0.3	Lamina dentalis	Dental lamina
E5.4.1.1.2.3.3	Status gemmalis odontogenesis	Bud stage of odontogenesis
E5.4.1.1.2.3.4	Status galearis odontogenesis	Cap stage of odontogenesis
E5.4.1.1.2.3.5	Organum enameleum	Enamel organ
E5.4.1.1.2.3.6	Lamina basalis enameli	Enamel basal lamina
E5.4.1.1.2.3.7	Nodus enameleus primarius	Primary enamel knot
E5.4.1.1.2.3.8	Dens unicuspidus	Unicuspid tooth
E5.4.1.1.2.3.9	Dens multicuspidus	Multicuspid tooth
E5.4.1.1.2.3.10	Nodus enameleus secundarius	Secondary enamel knot
E5.4.1.1.2.3.11	Status campanalis odontogenesis	Early bell stage of odontogenesis
E5.4.1.1.2.3.12	Epithelium enameleum externum	Outer enamel epithelium
E5.4.1.1.2.3.13	Pulpa enamelea; Reticulum stellatum	Enamel reticulum; Stellate reticulum
E5.4.1.1.2.3.14	Stratum intermedium	Stratum intermedium
E5.4.1.1.2.3.15	Epithelium enameleum internum	Inner enamel epithelium
E5.4.1.1.2.3.16	Gemma dentis subientis	Successional tooth bud
E5.4.1.1.2.3.17	Vestigium laminae dentalis	Dental laminal remnant
E5.4.1.1.2.3.18	Status serus campanalis odontogenesis	Late bell stage of odontogenesis
E5.4.1.1.2.3.19	Praeameloblastus	Pre-ameloblast
E5.4.1.1.2.3.20	Ameloblastus	Ameloblast
E5.4.1.1.2.3.21	Amelogenesis	Amelogenesis
E5.4.1.1.2.3.22	Tempus secretionis	Secretory phase
E5.4.1.1.2.3.23	Prisma enameli	Enamel prism
E5.4.1.1.2.3.24	Tempus maturationis	Maturation phase
E5.4.1.1.2.3.25	Tempus protectionis	Protective phase
E5.4.1.1.2.3.26	Vagina epithelialis radicis	Epithelial root sheath
E5.4.1.1.2.3.27	Diaphragma vaginae radicis	Root sheath diaphragm
E5.4.1.1.2.3.28	Porus vaginae radicis	Root sheath opening
E5.4.1.1.2.3.29	Fragmentum epitheliale	Epithelial debris
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E4.0.3.3.1.0.12	Papilla dentis	Dental papilla
E5.4.1.1.2.3.30	Pulpa dentis	Dental pulp
E4.0.3.3.1.0.13	Odontoblastus	Odontoblast
E5.4.1.1.2.3.31	Dentinogenesis	Dentinogenesis
E5.4.1.1.2.3.32	Praedentinum	Predentine▲
E5.4.1.1.2.3.33	Dentinum	Dentine▲
E5.4.1.1.2.3.34	Saccus dentis	Dental sac; Dental follicle
E5.4.1.1.2.3.35	Cellula periodontalis	Periodontal cell
E5.4.1.1.2.3.36	Cementoblastus	Cementoblast
E5.4.1.1.2.3.37	Cementogenesis	Cementogenesis

[144] E5.4.1.1.1.2.1 *Organum juxtaorale* The development, possible function and clinical importance of the juxta-oral organ have been described (Mérida-Velasco JR, Rodrígez-Vásquez JF, Cuadra-Blanco C, Salmerón JI, Sánchez-Montesinos I, Mérida-Velasco JA. Morphogenesis of the juxtaoral organ in humans. J Anat 2005:206;155-163).

E5.4.1.1.2.3.38	Cementum	Cement
E5.4.1.1.2.3.39	Fibroblastus periodontalis	Periodontal fibroblast
E5.4.1.1.2.3.40	Lig. periodontale	Periodontal ligament
E4.0.4.4.0.0.4	Osteoblastus	Osteoblast
E5.4.1.1.2.3.41	Alvelolus dentalis	Dental alveolus; Tooth socket
E5.4.1.1.2.3.42	Status collapsus odontogenesis	Collapsed stage of odontogenesis
E5.4.1.1.2.3.43	Epithelium enameleum reductum	Reduced enamel epithelium
E5.4.1.1.2.3.44	Cuticula enamelea primaria	Primary enamel cuticle
E5.4.1.1.2.3.45	Vestigia epithelii enamalei	Rests of enamel epithelium
E5.4.1.1.2.3.46	Eruptio dentis	Tooth eruption
E5.4.1.1.2.3.47	Canalis eruptionis	Eruption canal; Gubernacular canal
E5.4.1.1.2.3.48	Gubernaculum	Gubernaculum
E5.4.1.1.2.3.49	Dens deciduus	Deciduous tooth
E5.4.1.1.2.3.50	Dens permanens	Permanent tooth
E5.4.1.1.3.0.1	**Anomaliae dentium**	**Anomalies of teeth**
E5.4.1.1.3.0.2	Anodontia	Anodontia
E5.4.1.1.3.0.3	Hypoodontia	Hypodontia
E5.4.1.1.3.0.4	Oligodontia	Oligodontia
E5.4.1.1.3.0.5	Polyodontia; Hyperodontia	Polyodontia; Hyperdontia
E5.4.1.1.3.0.6	Mesiodens	Mesiodens
E5.4.1.1.3.0.7	Polyphyodontia	Polyphyodontia
E5.4.1.1.3.0.8	Enameloma	Enameloma
E5.4.1.1.3.0.9	Macrodontia	Macrodontia
E5.4.1.1.3.0.10	Microdontia	Microdontia
E5.4.1.1.3.0.11	Rhizomegalia	Rhizomegaly
E5.4.1.1.3.0.12	Rhizomicria	Rhizomicry
E5.4.1.1.3.0.13	Opacitas enameli	Enamel opacity
E5.4.1.1.3.0.14	Extensio cervicalis enameli	Cervical enamel extension
E5.4.1.1.3.0.15	Concrescentia radicum	Concrescence of roots
E5.4.1.1.3.0.16	Conjunctio dentium	Fusion of teeth
E5.4.1.1.3.0.17	Germinatio radicum; Schisodontia	Schizodontia; Germinated tooth
E5.4.1.1.3.0.18	Dens conicalis	Conical tooth
E5.4.1.1.3.0.19	Dens evaginatus	Dens evaginatus
E5.4.1.1.3.0.20	Cuspis aquilina	Talon cusp
E5.4.1.1.3.0.21	Dens in dente	Dens in dente; Dens invaginatus
E5.4.1.1.3.0.22	Ectopia dentis	Ectopic tooth
E5.4.1.1.3.0.23	Transpositio dentium	Transposition of teeth
E5.4.1.1.3.0.24	Rotatio dentis	Rotation of tooth
E5.4.1.1.3.0.25	Hypoplasia enameli	Enamel hypoplasia
E5.4.1.1.3.0.26	Hypoplasia cementi	Cement hypoplasia
E5.4.1.1.3.0.27	Aplasia cementi	Cement aplasia
E5.4.1.1.3.0.28	Odontodysplasia regionalis	Regional odontodysplasia
E5.4.1.1.3.0.29	Dentinodysplasia	Dentine dysplasia▲
E5.4.1.1.3.0.30	Amelogenesis imperfecta	Amelogenesis imperfecta
E5.4.1.1.3.0.31	Dentinogenesis imperfecta	Dentinogenesis imperfecta
E5.4.1.1.3.0.32	Odontogenesis imperfecta	Odontogenesis imperfecta
E5.4.1.1.3.1.1	**Anomaliae eruptionis dentalis**	**Anomalies of eruption**
E5.4.1.1.3.1.2	Eruptio praecox	Premature eruption
E5.4.1.1.3.1.3	Dens connatalis	Natal tooth
E5.4.1.1.3.1.4	Dens neonatalis	Neonatal tooth
E5.4.1.1.3.1.5	Impactio dentis	Impacted tooth
E5.4.1.1.3.1.6	Reimpactio dentis	Re-impacted tooth
E5.4.1.1.3.1.7	Eruptio ectopica	Ectopic eruption
E5.4.1.1.4.0.1	**Cavitas oronasalis**	**Oronasal cavity**
E5.4.1.1.4.0.2	Primordia palati	Primordia of palate
E5.4.1.1.4.0.3	Palatum primarium; Processus palatinus medianus[145]	Primary palate; Median palatal process

[145] E5.4.1.1.4.0.3 *Processus palatinus medianus* The *median palatal process* is located in and adjacent to the midline and is the conjoined, lower (caudal) part of the medial nasal prominences. It is sometimes referred to as the intermaxillary segment because of its location between the maxillary prominences and rostral to the presumptive incisive canal. The incisive tooth buds form in the region. Historically, the region has been called the premaxilla but this usage is not recommended because of possible confusion with the premaxilla of the maxillary bone.

E5.3.0.0.0.0.13	Prominentia maxillaris[139]	Maxillary prominence
E5.3.0.0.0.0.11	Prominentia nasalis medialis	Medial nasal prominence
E5.4.1.1.4.0.4	Foramen incisivum	Incisive foramen
E5.4.1.1.4.0.5	Palatum secundarium; Palatum definitivum	Secondary palate; Definitive palate
E5.4.1.1.4.0.6	Processus palatinus secundarius; Processus palatinus lateralis	Lateral palatine process; Palatal shelf
E5.4.1.1.4.0.7	Lamina epithelialis mediana	Midline epithelial seam
E5.4.1.1.5.0.1	**Fissurae labiorum et palati; Cheilopalatoschises**[146]	**Clefts of lips and palate**
E5.4.1.1.5.0.2	Cheiloschisis; Schistocheilia; Fissura labialis	Cleft lip
E5.4.1.1.5.0.3	Fissura unilateralis labii superioris	Unilateral cleft of upper lip
E5.4.1.1.5.0.4	Fissura bilateralis labii superioris	Bilateral cleft of upper lip
E5.4.1.1.5.0.5	Fissura mediana labii superioris	Median cleft of upper lip
E5.4.1.1.5.0.6	Dysostosis orodigitofacialis	Orodigitofacial dysostosis
E5.4.1.1.5.0.7	Fissura mediana labii inferioris	Median cleft of lower lip
E5.4.1.1.5.0.8	Palatum fissum; Fissura palatina	Cleft palate
E5.4.1.1.5.0.9	Fissura anterior obliqua palati	Anterior oblique cleft of palate
E5.4.1.1.5.0.10	Fissura unilateralis anterior obliqua palati	Unilateral anterior oblique cleft of palate
E5.4.1.1.5.0.11	Fissura bilateralis anterior obliqua palati	Bilateral anterior oblique cleft of palate
E5.4.1.1.5.0.12	Fissura posterior mediana palati	Posterior median cleft of palate
E5.4.1.1.5.0.13	Uvula bifida	Bifid uvula
E5.4.1.1.5.0.14	Fissura submucosa palati	Submucosal cleft of palate
E5.4.1.2.0.0.1	**PARS INITIALITER VESTITA AB ECTODERMA ET ENDODERMA**	**PART INITIALLY COVERED BY ECTODERM AND ENDODERM**
E5.4.1.2.0.0.2	**Lingua**	**Tongue**
E5.4.1.2.0.0.3	Primordia linguae	Tongue primordia
E5.4.1.2.0.0.4	Pars distalis linguae	Distal part of tongue
E5.4.1.2.0.0.5	Tuberculum linguale laterale	Lateral lingual swelling
E5.4.1.2.0.0.6	Tuberculum impar; Gemma lingualis mediana	Median lingual swelling
E5.4.1.2.0.0.7	Sulcus terminalis	Terminal sulcus
E5.4.1.2.0.0.8	Foramen caecum linguae	Foramen caecum▲ of tongue
E5.4.1.2.0.0.9	Diverticulum thyroideum	Thyroid diverticulum
E5.4.1.2.0.0.10	Pars proximalis linguae	Proximal part of tongue
E5.4.1.2.0.0.11	Copula	Copula
E5.4.1.2.0.0.12	Eminentia hypopharyngea	Hypopharyngeal eminence
E5.4.1.2.0.0.13	Papilla filiformis	Filiform papilla
E5.4.1.2.0.0.14	Papilla foliata	Foliate papilla
E5.4.1.2.0.0.15	Papilla fungiformis	Fungiform papilla
E5.4.1.2.0.0.16	Papilla vallata	Vallate papilla
E5.4.1.2.0.0.17	Gemma gustatoria primordialis	Primordial taste bud
E5.4.1.2.0.0.18	Gemma gustatoria; Caliculus gustatorius	Taste bud
E5.4.1.2.1.0.1	**Anomaliae linguae**	**Anomalies of tongue**
E5.4.1.2.1.0.2	Aglossia	Aglossia
E5.4.1.2.1.0.3	Ankyloglossia	Ankyloglossia; Tongue-tie
E5.4.1.2.1.0.4	Diglossia	Bifid tongue
E5.4.1.2.1.0.5	Glossoschisis; Schistoglossia	Glossoschisis; Cleft tongue
E5.4.1.2.1.0.6	Macroglossia	Macroglossia
E5.4.1.2.1.0.7	Microglossia	Microglossia
E5.4.1.2.1.0.8	Naevus spongiosus albus mucosae lingualis	White spongy naevus▲
E5.4.1.2.1.0.9	Pachyglossia	Pachyglossia
E5.4.1.2.1.0.10	Lingua accessoria	Accessory tongue
E5.4.1.2.1.0.11	Lingua longa	Long tongue
E5.3.0.0.2.1.7	Sequentia mandibulolinguopalatina	Mandibulolinguopalatal sequence
E5.4.1.2.1.0.12	Tonsillae linguae heterotopicae	Heterotopic lingual tonsil
E5.4.1.2.1.0.13	Glossitis mediana rhomboidea	Median rhomboid glossitis

[146] E5.4.1.1.5.0.1 *Fissurae labiorum et palati; Cheilopalatoschises* Clefts of the gums and alveolar arches are associated with these anomalies.

E5.4.1.3.0.0.1	PARS INITIALITER VESTITA AB ENDODERMA SOLUM	PART INITIALLY COVERED WITH ENDODERM ONLY
E5.4.1.3.0.0.2	**Glandula submandibularis**	**Submandibular gland**
E5.4.1.3.0.0.3	Epithelium linguogingivale[147]	Linguogingival epithelium
E5.4.1.3.0.0.4	Lamina basalis linguogingivalis	Linguogingival basal lamina
E5.4.1.3.0.0.5	Mesenchyma glandulae submandibularis praesumptivae	Presumptive submandibular mesenchyme
E5.4.1.3.0.0.6	Sulcus submandibularis	Submandibular groove
E5.4.1.3.0.0.7	Gemma glandulae submandibularis	Submandibular gland bud
E5.4.1.3.0.0.8	Gemma elongata glandulae submandibularis	Elongated submandibular gland bud
E3.0.0.6.1.0.60	Morphogenesis gemmans[65]	Budding morphogenesis
E3.0.0.6.1.0.61	Morphogenesis ramificans[66]	Branching morphogenesis
E3.0.0.6.1.0.62	Morphogenesis findens[67]	Clefting morphogenesis
E5.4.1.3.0.0.9	R. primarius pediculi	Primary branch of bud
E5.4.1.3.0.0.10	R. secundarius pediculi	Secondary branch of bud
E5.4.1.3.0.0.11	Ductus intralobularis	Intralobular duct
E5.4.1.3.0.0.12	Canalisatio	Canalization
E5.4.1.3.0.0.13	Tubulus	Tubule
E5.4.1.3.0.0.14	Portio terminalis	Endpiece; Terminal portion
E5.4.1.3.0.0.15	Alveolus	Alveolus
E5.4.1.1.1.9	Acinus serosus	Serous acinus
E5.4.1.3.0.0.16	Acinus mucosus	Mucous acinus
E5.4.1.3.0.0.17	Acinus mixtus	Mixed acinus
E5.4.1.3.0.0.9	R. primarius pediculi	Primary branch of bud
E5.4.1.3.0.0.18	Ductus glandulae submandibularis	Submandibular duct
E5.4.1.3.0.0.19	Condensatio mesenchymalis glandulae submandibularis	Condensation of submandibular mesenchyme
E5.4.1.3.0.0.20	Capsula glandulae submandibularis	Submandibular capsule
E5.4.1.3.0.1.1	**Glandulae sublinguales**[148]	**Sublingual glands**
E5.4.1.3.0.1.2	Glandula sublingualis major	Major sublingual gland
E5.4.1.3.0.1.3	Glandula sublingualis minor	Minor sublingual gland
E5.4.1.3.0.1.4	Epithelium sublinguale[147]	Sublingual epithelium
E5.4.1.3.0.1.5	Lamina basalis sublingualis	Sublingual basal lamina
E5.4.1.3.0.1.6	Mesenchyma praesumptiva glandulae sublingualis	Presumptive mesenchyme of sublingual gland
E5.4.1.3.0.1.7	Sulcus sublingualis	Sublingual groove
E5.4.1.3.0.1.8	Gemma glandulae sublingualis	Sublingual gland bud
E5.4.1.3.0.1.9	Gemma elongata glandularum sublingualium	Elongated bud of sublingual gland
E5.4.1.3.0.0.16	Acinus mucosus	Mucous acinus
E5.4.1.3.0.1.10	Acinus seromucosus	Seromucous acinus
E5.4.1.1.1.9	Acinus serosus	Serous acinus
E5.4.1.3.0.0.17	Acinus mixtus	Mixed acinus
E5.4.1.3.0.1.11	Rr. primarii gemmae pediculorum	Primary branches of bud
E5.4.1.3.0.1.12	Ductus sublingualis major	Major sublingual duct
E5.4.1.3.0.1.13	Ductus sublinguales minores	Minor sublingual ducts
E5.4.1.3.0.1.14	Condensatio mesenchymatis glandulae sublingualis	Condensation of sublingual gland mesenchyme
E5.4.1.3.0.1.15	Capsula glandulae sublingualis majoris	Capsule of major sublingual gland
E5.4.1.3.0.1.16	Capsula incompleta glandulae sublingualis minoris	Less well-defined capsule of minor sublingual gland
E5.4.1.3.1.0.1	**Anomaliae glandularum salivarium**	**Anomalies of salivary glands**
E5.4.1.3.1.0.2	Aplasia glandulae parotideae	Aplasia of parotid gland
E5.4.1.3.1.0.3	Cystis congenita glandulae parotideae	Congenital cyst of parotid gland
E5.4.1.3.1.0.4	Fistula sialocutanea glandulae parotideae	Sialocutaneous fistula of parotid gland
E5.4.1.3.1.0.5	Ductus parotideus imperforatus	Imperforate parotid duct
E5.4.1.3.1.0.6	Glandula parotidea accessoria	Accessory parotid gland

[147] E5.4.1.3.0.0.3/ E5.4.1.3.0.1.4 *Epithelium linguogingivale / Epithelium sublinguale* Whether the epithelia of the submandibular and sublingual glands are of ectodermal or endodermal origin is uncertain because they arise in the linguogingival sulcus, between the ectodermal epithelium of the gingiva and the endodermal epithelium of the tongue.

[148] E5.4.1.3.0.0.18 *Glandulae sublinguales* This collective term includes, on each side, both a single well-encapsulated major sublingual gland and the 8-30 less well-encapsulated minor sublingual glands, each with its own duct (Schulte H. The development of the salivary glands in man. In: Huntingdon GS, Schulte H. editors. Studies in cancer and allied subjects. Vol 4. New York: Columbia Univ Press; 1913:25-72).

E5.4.1.3.1.0.7	Aplasia glandulae sublingualis majoris	Aplasia of major sublingual gland
E5.4.1.3.1.0.8	Aplasia glandularum sublingualium	Aplasia of sublingual glands
E5.4.1.3.1.0.9	Cystis congenita glandulae sublingualis	Congenital cyst of sublingual gland
E5.4.1.3.1.0.10	Ductus sublingualis major imperforatus	Imperforate major sublingual duct
E5.4.1.3.1.0.11	Glandula sublingualis major accessoria	Accessory major sublingual gland
E5.4.1.3.1.0.12	Aplasia glandulae submandibularis	Aplasia of submandibular gland
E5.4.1.3.1.0.13	Cystis congenita glandulae submandibularis	Congenital cyst of submandibular gland
E5.4.1.3.1.0.14	Ductus submandibularis imperforatus	Imperforate submandibular duct
E5.4.1.3.1.0.15	Ectopia glandulae submandibularis	Ectopic submandibular gland
E5.4.1.3.1.0.16	Glandula submandibularis accessoria	Accessory submandibular gland
E5.4.2.0.0.0.1	**Pharynx**	**Pharynx**
E5.4.2.0.0.0.2	Arcus pharyngei	Pharyngeal arch
E5.4.2.0.0.0.3	Sulcus pharyngei	Pharyngeal groove
E5.4.2.0.0.0.4	Membrana pharyngea	Pharyngeal membrane
E5.4.2.0.0.1.1	**Sacci pharyngei**	**Pharyngeal pouches**
E5.4.2.0.0.1.2	Saccus pharyngeus primus [1]	First pharyngeal pouch [1]
E5.4.2.0.0.1.3	Recessus tubotympanicus[149]	Tubotympanic recess
E5.4.2.0.0.1.4	Tuba auditiva; Tuba auditoria	Pharyngotympanic tube; Auditory tube
E5.4.2.0.0.1.5	Cavitas tympani	Tympanic cavity
E5.4.2.0.0.1.6	Antrum mastoideum	Mastoid antrum
E5.4.2.0.0.1.7	Saccus pharyngeus secundus [2]	Second pharyngeal pouch [2]
E5.4.2.0.0.1.8	Fissura tonsillaris; Fissura intratonsillaris	Tonsillar cleft; Intratonsillar cleft
E5.4.2.0.0.1.9	Cryptae tonsillae	Tonsillar crypts
E5.4.2.0.0.1.10	Saccus pharyngeus tertius [3]	Third pharyngeal pouch [3]
E5.4.2.0.0.1.11	Pars dorsalis sacci pharyngei tertii	Dorsal part of third pharyngeal pouch
E5.4.2.0.0.1.12	Gemma parathyroidea inferior; Gemma parathyroidea sacci tertii	Inferior parathyroid bud; Parathyroid bud from pouch 3
E5.4.2.0.0.1.13	Pars ventralis sacci pharyngei tertii	Ventral part of third pharyngeal pouch
E5.4.2.0.0.1.14	Gemma thymica[150]	Thymic bud
E5.4.2.0.0.1.15	Epithelium reticulare thymi	Reticular epithelium of thymus
E5.4.2.0.0.1.16	Epithelium ductus medullaris thymi	Medullary duct epithelium of thymus
E5.4.2.0.0.1.17	Saccus pharyngeus quartus [4]	Fourth pharyngeal pouch [4]
E5.4.2.0.0.1.18	Pars dorsalis sacci pharyngei quarti	Dorsal part of fourth pharyngeal pouch
E5.4.2.0.0.1.19	Gemma parathyroidea superior; Gemma parathyroidea a quarto sacco	Superior parathyroid bud; Parathyroid bud from pouch 4
E5.4.2.0.0.1.20	Pars ventralis sacci pharyngei quarti	Ventral part of fourth pharyngeal pouch
E5.4.2.0.0.1.21	Corpus ultimopharyngeum	Ultimopharyngeal body
E5.4.1.2.0.0.9	Diverticulum thyroideum	Thyroid diverticulum
E5.4.1.2.0.0.8	Foramen caecum linguae	Foramen caecum▲ of tongue
E5.4.2.0.0.1.22	Ductus thyroglossus	Thyroglossal duct
E4.0.3.5.0.3.21	Glandula thyroidea	Thyroid gland
E5.4.2.0.1.0.1	**Anomaliae pharyngis**	**Anomalies of pharynx**
E5.4.2.0.1.0.2	Membrana oropharyngea persistens	Persistent oropharyngeal membrane
E5.4.2.0.1.0.3	Atresia oropharyngea	Oropharyngeal atresia
E5.4.2.0.1.0.4	Atresia nasopharyngea	Nasopharyngeal atresia
E5.4.2.0.1.0.5	Residua saccorum et sulcorum pharyngeorum	Remnants of pharyngeal pouches and grooves
E5.4.2.0.1.0.6	Cystis cervicalis[151]	Cervical cyst
E5.4.2.0.1.0.7	Fistula cervicalis[151]	Cervical fistula
E5.4.2.0.1.0.8	Sinus pharyngeus internus	Internal pharyngeal sinus
E5.4.2.0.1.0.9	Sinus pharyngeus externus	External pharyngeal sinus
E5.4.2.0.1.0.10	Diverticulum pharyngeum	Pharyngeal diverticulum

[149] E5.4.2.0.0.1.3 *Recessus tubotympanicus* As the first pharyngeal pouch is probably no longer distinguishable when the *tubotympanic recess* grows out from the oropharynx, there is uncertainty about the pouch of origin of the recess.

[150] E5.4.2.0.0.1.14 *Gemma thymica* Most of the thymic epithelium, including its medullary cytoreticulum (epithelio-reticular cells types IV to VI), is derived from the endoderm of the ventral part of the third pharyngeal pouch but its cortical cytoreticulum (epithelio-reticular cells types I to III) is derived from the ectoderm of the third pharyngeal groove.

[151] E5.4.2.0.1.0.6/ E5.4.2.0.1.0.7 *Cystis cervicalis; Fistula cervicalis* The term *cervical* is preferred to pharyngeal for these defects since it refers to their definitive location rather than to their supposed origin. Many cervical lesions are acquired rather than congenital and originate in the lympho-epithelial system rather than the pharyngeal arch system.

E5.4.2.0.1.0.11	Aplasia thymoparathyroidea	Thymoparathyroid aplasia
E5.4.3.0.0.0.1	**Canalis digestorius; Canalis oesophagogastrointestinalis**[152]	**Alimentary canal**
E5.4.3.0.0.1.1	**Pars interna endodermalis {**vide infra}	**Endodermal lining {**see below}
E5.4.3.0.0.2.1	**Pars externa mesenchyma pericanale**	**Surrounding mesenchyme**
E5.4.3.0.0.2.2	Irruptio a cellulis cristae neuralis	Invasion by neural crest cells
E5.4.3.0.0.2.3	Cellula interstitialis stimulans	Interstitial cell; Pacemaker cell
E4.0.3.5.0.2.12	Plexus nervosus myentericus	Myenteric plexus
E4.0.3.5.0.2.13	Plexus nervosus submucosus externus	Outer submucous plexus
E4.0.3.5.0.2.14	Plexus nervosus submucosus internus	Inner submucous plexus
E5.4.3.0.0.2.4	Papillae mesenchymales	Mesenchymal papillae
E5.4.3.0.0.2.5	Textus muscularis levis	Smooth muscle tissue
E5.4.3.0.0.2.6	Stratum circulare tunicae muscularis	Circular muscle layer
E5.4.3.0.0.2.7	Stratum longitudinale tunicae muscularis	Longitudinal muscle layer
E5.4.3.0.0.2.8	Lamina muscularis mucosae	Muscularis mucosae
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.3.0.0.2.10	Tela submucosa	Submucous coat
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.4.4.0.0.0.1	**Oesophagus**	**Oesophagus**▲
E5.4.4.0.0.0.2	Praeenteron; Proenteron	Foregut
E5.4.4.0.0.0.3	Primordium oesophagei	Primordium of oesophagus▲
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.4.0.0.0.6	Cellula non ciliata	Nonciliated cell
E5.4.4.0.0.0.7	Epithelium stratificatum columnare	Stratified columnar epithelium
E5.4.4.0.0.0.6	Cellula non ciliata	Nonciliated cell
E5.4.4.0.0.0.8	Cellula ciliata	Ciliated cell
E5.4.4.0.0.0.9	Cellula clara cum glycogeno	Clear glycogen-containing cell
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.4.4.0.0.0.6	Cellula non ciliata	Nonciliated cell
E5.4.4.0.0.0.8	Cellula ciliata	Ciliated cell
E5.4.4.0.0.0.9	Cellula clara cum glycogeno	Clear glycogen-containing cell
E5.4.4.0.0.0.11	Vacuola epithelialis	Epithelial vacuole
E5.4.4.0.0.0.12	(Lumen occlusum)	(Occluded lumen)
E4.0.4.1.0.0.4	**Mesenchyma splanchnopleurale**[207]	**Splanchnopleuric mesenchyme**
E5.4.4.0.0.1.1	Mesooesophagus dorsalis fugax	Transient dorsal meso-oesophagus▲
E5.4.4.0.0.1.2	Mesooesophagus ventralis fugax	Transient ventral meso-oesophagus▲
E5.4.4.0.0.2.1	**Tertiarium superius oesophagi**	**Cranial third of oesophagus**▲
E5.4.4.0.0.2.2	Irruptio a myoblastis somiticis	Invasion by somitic myoblasts
E5.4.4.0.0.2.3	Textus muscularis striatus visceralis non cardiacus	Noncardiac visceral striated muscle tissue
E5.4.3.0.0.2.6	Stratum circulare tunicae muscularis	Circular muscle layer
E5.4.3.0.0.2.7	Stratum longitudinale tunicae muscularis	Longitudinal muscle layer
E5.4.4.0.0.3.1	**Tertiarium medium oesophagi**[153]	**Middle third of oesophagus**▲
E5.4.4.0.0.4.1	**Tertiarium inferius oesophagi**	**Caudal third of oesophagus**▲
E5.4.3.0.0.2.5	Textus muscularis levis	Smooth muscle tissue
E5.4.3.0.0.2.6	Stratum circulare tunicae muscularis	Circular muscle layer
E5.4.3.0.0.2.7	Stratum longitudinale tunicae muscularis	Longitudinal muscle layer
E5.4.4.0.0.5.1	**Oesophagus definitivus**	**Definitive oesophagus**▲
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium
E5.4.4.0.0.5.3	Glandula cardialis oesophagi	Oesophageal cardial gland
E5.4.4.0.0.5.4	Glandula oesophagea propria	Oesophageal gland proper▲
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat

[152] E5.4.3.0.0.0.1 *Canalis digestorius; Canalis oesophagogastrointesinalis* Listed here are features common to the development of the entire alimentary canal, in the order in which they appear: they are not repeated subsequently for individual organs or parts.

[153] E5.4.4.0.0.3.1 *Tertiarium medium oesophagi* Whereas the muscular layer of the oesophagus contains visceral striated muscle in about its upper two-thirds and its lower third contains only smooth muscle, smooth muscle is found in the circular layer of the lower part of the upper third and progressively replaces striated muscle in both the circular and then the longitudinal layer as the middle third is descended.

E5.4.4.0.1.0.1	**Anomaliae oesophagi**	**Anomalies of oesophagus** ▲
E5.4.4.0.1.0.2	Brachyoesophagus	Short oesophagus▲
E5.4.4.0.1.0.3	Fistula tracheooesophagea	Tracheo-oesophageal fistula▲
E5.4.4.0.1.0.4	Stenosis oesophagi	Oesophageal stenosis▲
E5.4.4.0.1.0.5	Atresia oesophagi	Oesophageal atresia▲
E5.4.4.0.1.0.6	Duplicatio oesophagi	Oesophageal duplication▲
E5.4.4.0.1.0.7	Diverticulum oesophagi	Oesophageal diverticulum▲
E5.4.4.0.1.0.8	Cystis enterica dorsalis mediastinalis	Mediastinal dorsal enteric cyst
E5.4.5.0.0.0.1	**Gaster**	**Stomach**
E5.4.4.0.0.0.2	Praeenteron; Proenteron	Foregut
E5.4.5.0.0.0.2	Primordium gastris	Primordium of stomach
E5.4.5.0.0.0.3	Gaster fusiformis	Fusiform stomach
E5.4.5.0.0.0.4	Mesogastrium dorsale primordiale	Primordial dorsal mesogastrium
E5.4.5.0.0.0.5	Curvatura major praesumptiva	Presumptive greater curvature
E5.4.5.0.0.0.6	Mesogastrium ventrale primordiale	Primordial ventral mesogastrium
E5.4.5.0.0.0.7	Curvatura minor praesumptiva	Presumptive lesser curvature
E5.4.5.0.0.0.8	Pars pylorica gastris	Pyloric part of stomach
E5.4.5.0.0.0.9	Cardia; Pars cardialis gastris	Cardial part of stomach
E5.4.5.0.0.0.10	Fundus et corpus gastricus	Fundus and body of stomach
E3.0.0.6.1.0.45	**Histogenesis**	**Histogenesis; Histogeny**
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.4.5.0.1.0.1	Foveola endoepithelialis gastrica	Endo-epithelial gastric pit
E5.4.5.0.1.0.2	Mucocytus superficialis	Superficial mucous cell
E5.4.5.0.1.0.3	Foveola exoepithelialis gastrica primordialis	Exo-epithelial primordial gastric pit
E5.4.5.0.1.0.4	Divisio foveolae gastricae primordialis	Division of primordial gastric pit
E5.4.5.0.1.0.5	Papilla mesenchymalis	Mesenchymal papilla
E5.4.3.0.0.2.6	Stratum circulare tunicae muscularis	Circular muscle layer
E5.4.5.0.1.0.6	Fibrae obliquae tunicae muscularis	Oblique muscle fibres
E5.4.5.0.1.1.1	**Glandula gastrica propria**	**Gastric gland proper**
E5.4.5.0.1.0.3	Foveola exoepithelialis gastrica primordialis	Exo-epithelial primordial gastric pit
E5.4.5.0.1.1.2	Cellula non differentiata	Undifferentiated cell
E5.4.5.0.1.1.3	Exocrinocytus parietalis primordialis	Primordial parietal cell
E5.4.5.0.1.1.4	Elongatio glandulae	Elongation of gland
E5.4.5.0.1.1.5	Differentiatio cellularum glandulae gastricae	Gastric gland cell differentiation
E5.4.5.0.1.1.6	Exocrinocytus cervicalis	Neck cell of gastric gland; Mucous neck cell
E5.4.5.0.1.1.7	Exocrinocytus principalis	Principal cell of gastric gland; Zymogenic cell
E5.4.5.0.1.1.8	Exocrinocytus parietalis	Parietal cell of gastric gland; Oxyntic cell
E5.4.5.0.1.1.9	Canaliculus intracellularis	Intracellular canaliculus
E5.4.5.0.1.1.10	Endocrinocytus gastrointestinalis	Entero-endocrine cell; Gastro-enteropancreatic cell; GEP endocrine cell
E5.4.5.0.1.2.1	**Glandula pylorica**	**Pyloric gland**
E5.4.5.0.1.0.3	Foveola exoepithelialis gastrica primordialis	Exo-epithelial primordial gastric pit
E5.4.5.0.1.2.2	Mucocytus glandulae pyloricae	Pyloric mucous cell
E5.4.5.0.1.3.1	**Glandula cardialis**	**Cardial gland**
E5.4.5.0.1.0.3	Foveola exoepithelialis gastrica primordialis	Exo-epithelial primordial gastric pit
E5.4.5.0.1.3.2	Exocrinocytus glandulae cardialis	Cardial mucous cell
E5.4.5.0.1.4.1	**Sphincter pylori**	**Pyloric sphincter**
E5.4.5.0.2.0.1	**Anomaliae gastris**	**Stomach anomalies**
E5.4.5.0.2.0.2	Atresia gastris	Gastric atresia
E5.4.5.0.2.0.3	Atresia pylori	Pyloric atresia
E5.4.5.0.2.0.4	Cystis gastricus	Gastric cyst
E5.4.5.0.2.0.5	Ectopia mucosae gastricae; Heterotopia mucosae gastricae	Ectopic gastric mucosa; Heterotopic gastric mucosa
E5.4.5.0.2.0.6	Gaster duplicatus	Duplication of stomach
E5.4.5.0.2.0.7	Cystis duplicationis	Duplication cyst
E5.4.5.0.2.0.8	Gaster thoracicus	Thoracic stomach
E5.4.5.0.2.0.9	Lumen obliteratum	Obliterated lumen
E5.4.5.0.2.0.10	Microgastria	Microgastria
E5.4.5.0.2.0.11	Stenosis pylori	Pyloric stenosis

E5.4.6.0.0.0.1	Duodenum	Duodenum
E5.4.6.0.0.0.2	Pars praeenteralis duodeni	Foregut part of duodenum
E5.4.6.0.0.0.3	Pars mesenteralis duodeni[154]	Midgut part of duodenum
E5.4.6.0.0.0.4	Duodenum primordiale	Primordial duodenum
E5.4.6.0.0.0.5	Positio intraperitonealis[155]	Intraperitoneal position
E5.4.6.0.0.0.6	Mesoduodenum dorsale	Dorsal mesoduodenum
E5.4.6.0.0.0.7	Mesoduodenum ventrale	Ventral mesoduodenum
E5.4.6.0.0.0.8	Dextrorotatio duodeni	Dextrorotation of duodenum
E5.4.6.0.0.0.9	Mesoduodenum cum peritoneo parietale dorsale fusum	Mesoduodenum fused with dorsal parietal peritoneum
E5.4.6.0.0.0.10	Positio intraperitonealis duodeni proximalis	Intraperitoneal position of proximal duodenum
E5.4.6.0.0.0.11	Positio retroperitonealis partis intermediae duodeni	Retroperitoneal position of intermediate duodenum
E5.4.6.0.0.0.12	Positio intraperitonealis duodeni distalis	Intraperitoneal position of distal duodenum
E5.4.6.0.0.0.13	Ansa duodenalis	Duodenal loop
E5.4.6.0.0.0.14	Diverticulum hepaticum	Hepatic diverticulum
E5.4.6.0.0.0.15	Gemma pancreatica dorsalis	Dorsal pancreatic bud
E3.0.0.6.1.0.45	**Histogenesis**	**Histogenesis; Histogeny**
E5.4.4.0.0.0.4	**Epithelium endodermale**	**Endodermal epithelium**
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.4.0.0.0.7	Epithelium stratificatum columnare	Stratified columnar epithelium
E5.4.6.0.1.1.1	Acervatio cellularum epithelialium	Accumulated epithelial cells
E5.4.6.0.1.1.2	(Lumen duodeni obturatum)[156]	(Obliterated duodenal lumen)
E5.4.6.0.1.1.3	(Vacuolae intraepitheliales)	(Intra-epithelial vacuoles)
E5.4.6.0.1.1.4	(Recanalisatio luminis duodeni)	(Recanalization of duodenal lumen)
E5.4.6.0.1.2.1	**Villus intestinalis**	**Intestinal villus**
E5.4.6.0.1.2.2	Villus primordialis	Primordial villus
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.4.6.0.1.2.3	Villus definitivus	Definitive villus
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.6.0.1.2.4	Enterocytus	Enterocyte
E5.4.6.0.1.2.5	Exocrinocytus caliciformis	Goblet cell
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.6.0.1.2.6	Villus elongatus	Elongated villus
E5.4.6.0.1.3.1	**Crypta intestinalis; Glandula intestinalis**	**Intestinal crypt; Intestinal gland**
E5.4.6.0.1.3.2	Gemma cryptae	Crypt bud
E5.4.6.0.1.3.3	Lumen cryptae	Lumen of crypt
E4.0.0.1.2.0.9	Cellula gastrointestinalis praecursoria	Gastro-intestinal stem cell
E5.4.6.0.1.2.5	Exocrinocytus caliciformis	Goblet cell
E5.4.6.0.1.3.4	Cellula panethensis; Exocrinocytus cum granulis acidophilis	Paneth cell
E5.4.5.0.1.1.10	Endocrinocytus gastrointestinalis	Entero-endocrine cell; Gastro-enteropancreatic cell; GEP endocrine cell
	Insignia alia	*Other features*
E5.4.3.0.0.2.7	Stratum longitudinale tunicae muscularis	Longitudinal muscle layer
E5.4.6.0.1.3.5	Plica circularis	Circular fold
E5.4.6.0.1.3.6	Glandula submucosa duodenalis	Duodenal submucosal gland §Brunner§
E5.4.6.0.1.3.7	Epitheliocytus penicillatus	Brush cell; Tuft cell
E5.4.6.0.1.3.8	Epitheliocytus microplicatus	Microfold cell; M cell; Dome epithelial cell
E5.4.3.0.0.2.8	Lamina muscularis mucosae	Muscularis mucosae
E5.4.6.0.1.3.9	Nodulus lymphoideus solitarius	Solitary lymphoid nodule
E5.4.6.0.1.3.10	Noduli lymphoidei aggregati[157]	Aggregated lymphoid nodules

[154] E5.4.6.0.0.0.3/ E5.4.9.0.1.0.1/ E5.4.9.0.1.0.12/ E5.4.9.0.1.0.13 *Pars mesenteralis duodeni/ Pars mesenteralis coli primordialis/Pars mesenteralis coli transversi primordialis/Pars mesenteralis coli transversi.* The neologism *mesenteralis* has been coined to refer to the mesenteron or midgut in order to avoid confusion with *mesentericus,* which refers to the mesenterium or mesentery.

[155] E5.4.6.0.0.0.5 *Positio intraperitonealis* Although not strictly so, an organ is said to be *intraperitoneal* when it is almost completely surrounded by peritoneum.

[156] E5.4.6.0.1.1.2 *Lumen duodeni obturatum* The *duodenal lumen* is obliterated in places due to epithelial proliferation: recanalization starts with the formation and expansion of intra-epithelial vacuoles (Patzelt V. Der Darm. In von Möllendorf W. ed. Handbuch der mikroskopischen Anatomie des Menschen. Vol 5/3. Berlin: Springer Verlag; 1932:1-448).

E5.4.6.0.2.0.1	**Anomaliae duodeni**	**Duodenal anomalies**
E5.4.6.0.2.0.2	Atresia duodeni	Duodenal atresia
E5.4.6.0.2.0.3	Diverticulum duodeni	Duodenal diverticulum
E5.4.6.0.2.0.4	Stenosis duodeni	Duodenal stenosis
E5.4.7.0.0.0.1	**Ansa umbilicalis intestini**	**Midgut loop; Umbilical intestinal loop**
E5.4.7.0.0.0.2	Mesenteron	Midgut
E5.4.7.0.0.0.3	Crus proximale ansae umbilicalis intestini	Proximal limb of midgut loop
E5.4.7.0.0.0.4	Apex ansae umbilicalis intestini	Apex of midgut loop
E5.4.7.0.0.0.5	Ductus omphaloentericus; Ductus vitellointestinalis	Omphalo-enteric duct; Vitello-intestinal duct; Yolk stalk
E5.4.7.0.0.0.6	A. mesenterica superior	Superior mesenteric artery
E5.4.7.0.0.0.7	Crus distale ansae umbilicalis intestini	Distal limb of midgut loop
E5.4.7.0.0.0.8	Elongatio ansae umbilicalis intestini	Elongation of midgut loop
E5.4.7.0.0.0.9	Rotatio ansae umbilicalis intestini [158]	Rotation of midgut loop
E5.4.7.0.0.0.10	Elongatio mesenteri	Elongation of mesentery
E5.4.7.0.0.0.11	Hernia umbilicalis physiologica	Physiological umbilical hernia
E5.4.7.0.0.0.12	Pars intestinalis tenuis ansae	Small intestinal part of loop
E5.4.7.0.0.0.13	Pars intestinalis crassa ansae	Large intestinal part of loop
E5.4.7.0.0.0.14	Internalisatio ansae umbilicalis	Return of midgut loop
E5.2.0.3.2.0.8	Occlusio parietis abdominalis anterioris	Closure of anterior abdominal wall
E5.4.8.0.0.0.1	**Jejunum et Ileum**	**Jejunum and Ileum**
E5.4.7.0.0.0.2	Mesenteron	Midgut
E5.4.8.0.0.0.2	Jejunum primordiale	Primordial jejunum
E5.4.8.0.0.0.3	Ileum primordiale	Primordial ileum
E5.4.8.0.0.0.4	Diverticulum ilei	Ileal diverticulum
E5.4.7.0.0.0.8	Elongatio ansae umbilicalis intestini	Elongation of midgut loop
E5.4.8.0.0.0.5	Jejunum definitivum	Definitive jejunum
E5.4.8.0.0.0.6	Ileum definitivum	Definitive ileum
E5.4.6.0.0.0.5	Positio intraperitonealis	Intraperitoneal position
E5.4.8.0.0.0.7	Mesenterium dorsale commune	Common dorsal mesentery
E5.4.8.0.0.0.8	Mesojejunum	Mesojejunum
E5.4.8.0.0.0.9	Mesoileum	Meso-ileum
E3.0.0.6.1.0.45	**Histogenesis** {ut Duodenum supra}	**Histogenesis; Histogeny** {as in Duodenum above}
E5.4.8.0.1.0.1	**Anomaliae jejuni et ilei**	**Anomalies of jejunum and ileum**
E5.4.8.0.1.0.2	Duplicatio intestini	Intestinal duplication
E5.4.8.0.1.0.3	Stenosis intestini	Intestinal stenosis
E5.4.8.0.1.0.4	Atresia intestini	Intestinal atresia
E5.4.8.0.1.0.5	Malrotatio intestini	Intestinal malrotation
E5.4.8.0.1.0.6	Rotatio non completa intestini	Incomplete intestinal rotation
E5.4.8.0.1.0.7	Caecum subhepaticum	Subhepatic caecum▲
E5.4.8.0.1.0.8	Hyperrotatio intestini	Intestinal hyperrotation
E5.4.8.0.1.0.9	Nonrotatio intestini	Intestinal nonrotation
E5.4.8.0.1.0.10	Inversio rotationis intestini	Reverse intestinal rotation
E5.4.8.0.1.0.11	Situs inversus abdominalis	Abdominal situs inversus
E5.4.8.0.1.0.12	Heterotaxia	Heterotaxy; Isomerism
E5.4.8.0.1.0.13	Colon retrojejunale	Retrojejunal colon
E5.4.8.0.1.0.14	Vestigium ductus omphaloenterici; Vestigium ductus vitellointestinalis	Omphalo-enteric duct vestige; Vitello-intestinal duct vestige
E5.4.8.0.0.0.4	Diverticulum ilei	Ileal diverticulum
E5.4.8.0.1.0.15	Chorda fibrosa vestigii ductus omphaloenterici; Chorda fibrosa vestigii ductus vitellointestinalis	Fibrous band of omphalo-enteric duct vestige; Fibrous band of vitello-intestinal duct vestige

[157] E5.4.6.0.1.3.10 *Noduli lymphoidei aggregati* The term *aggregated lymphoid nodules* is shorthand for the localized, persistent, macroscopic, subepithelial aggregations of coalescent lymphoid nodules, which not only penetrate the submucosa but also are visible from the serosal aspect of the small intestine.

[158] E5.4.7.0.0.0.9 *Rotatio ansae umbilicalis* Although not entirely appropriate, the commonly-used word *rotation* is retained. The process is one of differential growth of the developing organs, of which one result is 'rotation'.

E5.4.8.0.1.0.16	Fistula umbilicalis faecalis	Umbilical faecal fistula
E5.4.8.0.1.0.17	Volvulus congenitus	Congenital volvulus
E5.4.8.0.1.0.18	Intussusceptio congenita	Congenital intussusception
E5.4.8.0.1.0.19	Nonfixatio viscerum	Nonfixation of viscera
E5.4.8.0.1.0.20	Absentia systematis nervosi enterici post duodenalis	Absence of postduodenal enteric nervous system
E5.4.8.0.1.0.21	Recessus peritoneales anomalii	Abnormal peritoneal recesses
E5.4.9.0.0.0.1	**Intestinum crassum**	**Large intestine**
E5.4.7.0.0.0.2	**Mesenteron**	**Midgut**
E5.4.9.0.1.0.1	Pars mesenteralis coli primordialis[154]	Midgut part of primordial colon
E5.4.8.0.0.0.7	Mesenterium dorsale commune	Common dorsal mesentery
E5.4.9.0.1.0.2	Mesocolon commune	Common mesocolon
E5.4.9.0.1.0.3	Colon primordiale	Primordial colon
E5.4.9.0.1.0.4	Caecum primordiale	Primordial caecum▲
E5.4.9.0.1.0.5	Primordium appendicis vermiformis	Primordium of appendix
E5.4.9.0.1.0.6	Bulla caecalis	Caecal swelling▲
E5.4.9.0.1.0.7	Caecum	Caecum▲
E5.4.9.0.1.0.8	Appendix vermiformis	Appendix; Vermiform appendix
E5.4.9.0.1.0.9	Colon ascendens primordiale	Primordial ascending colon
E5.4.9.0.1.0.10	Colon ascendens	Ascending colon
E5.4.9.0.1.0.11	Defectio mesocoli ascendentis	Disappearance of ascending mesocolon
E5.4.9.0.1.0.12	Pars mesenteralis coli transversi primordialis[154]	Midgut part of primordial transverse colon
E5.4.9.0.1.0.13	Pars mesenteralis coli transversi[154]	Midgut part of transverse colon
E5.4.9.0.1.0.14	Mesocolon transversum	Transverse mesocolon
E5.4.9.0.2.0.1	**Metenteron**	**Hindgut**
E5.4.9.0.2.0.2	Pars metenteralis coli primordialis	Hindgut part of primordial colon
E5.4.8.0.0.0.7	Mesenterium dorsale commune	Common dorsal mesentery
E5.4.9.0.1.0.2	Mesocolon commune	Common mesocolon
E5.4.9.0.2.0.3	Pars metenteralis coli transversi primordialis	Hindgut part of primordial transverse colon
E5.4.9.0.2.0.4	Pars metenteralis coli transversi	Hindgut part of transverse colon
E5.4.9.0.2.0.5	Colon descendens primordiale	Primordial descending colon
E5.4.9.0.2.0.6	Colon descendens	Descending colon
E5.4.9.0.2.0.7	Colon sigmoideum primordiale	Primordial sigmoid colon
E5.4.9.0.2.0.8	Defectio mesocoli descendentis	Disappearance of descending mesocolon
E5.4.9.0.2.0.9	Colon sigmoideum	Sigmoid colon
E5.4.9.0.2.0.10	Mesocolon sigmoideum	Sigmoid mesocolon
E5.4.9.0.2.0.11	Rectum primordiale	Primordial rectum
E5.4.9.0.2.0.12	Rectum	Rectum
E5.4.9.0.2.0.13	Mesorectum	Mesorectum
E5.4.9.0.2.0.14	Septum urorectale	Urorectal septum
E3.0.0.6.1.0.45	**Histogenesis**	**Histogenesis; Histogeny**
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.4.0.0.0.7	Epithelium stratificatum columnare	Stratified columnar epithelium
E5.4.9.0.3.0.1	Proliferatio inlocalis cellularum epithelialium	Localized proliferation of epithelial cells
E5.4.9.0.3.0.2	Plicatio epithelialis	Epithelial fold formation
E5.4.9.0.3.0.3	Plica epithelialis longitudinalis	Longitudinal epithelial fold
E5.4.9.0.3.0.4	Lumen secundarium intraepitheliale	Secondary lumen
E5.4.9.0.3.0.5	Colonocytus primordialis	Primordial colonocyte
E5.4.6.0.1.2.5	Exocrinocytus caliciformis	Goblet cell
E5.4.9.0.3.0.6	Crypta intraepithelialis	Intra-epithelial crypt
E5.4.9.0.3.0.5	Colonocytus primordialis	Primordial colonocyte
E5.4.9.0.3.0.7	Villus transiens intestini crassi	Transient villus of large intestine
E5.4.9.0.3.0.8	Crypta extraepithelialis	Extra-epithelial crypt
E5.4.9.0.3.0.5	Colonocytus primordialis	Primordial colonocyte
E5.4.6.0.1.2.5	Exocrinocytus caliciformis	Goblet cell
E5.4.9.0.3.0.9	Divisio cryptae	Division of crypt
E5.4.9.0.3.0.10	Elongatio cryptae	Elongation of crypt
E5.4.9.0.3.0.11	Tunica mucosa definitiva intestini crassi	Definitive mucosa of large intestine
E5.4.5.0.1.1.10	Endocrinocytus gastrointestinalis	Entero-endocrine cell; Gastro-enteropancreatic cell; GEP endocrine cell
E5.4.6.0.1.3.4	(Cellula panethensis; Exocrinocytus cum granulis acidophilis)	(Paneth cell)
E5.4.9.0.3.0.12	Taeniae coli	Taeniae coli▲

E5.4.9.0.3.0.13	Haustra coli	Haustra of colon
E5.4.9.0.3.0.14	Plicae semilunares coli	Semilunar folds of colon
E5.4.6.0.1.3.9	Nodulus lymphoideus solitarius	Solitary lymphoid nodule
E5.4.6.0.1.3.10	Noduli lymphoidei aggregati	Aggregated lymphoid nodules
E5.4.9.0.4.0.1	**Anomaliae coli et appendicis vermiformis**	**Anomalies of colon and appendix**
E5.4.9.0.4.0.2	Aganglionosis coli	Colonic aganglionosis
E5.4.9.0.4.0.3	Aganglionosis coli completa	Total colonic aganglionosis
E5.4.9.0.4.0.4	Aganglionosis coli partialis	Partial colonic aganglionosis
E5.4.9.0.4.0.5	Megacolon congenitum	Congenital megacolon
E5.4.9.0.4.0.6	Diverticulum congenitum coli	Congenital colonic diverticulum
E5.4.9.0.4.0.7	Dysplasia neuralis coli	Colonic neuronal dysplasia
E5.4.9.0.4.0.8	Hypoganglionosis coli	Colonic hypoganglionosis; Colonic hypogangliosis
E5.4.9.0.4.0.9	Caecum mobile	Mobile caecum▲
E5.4.9.0.4.0.10	Caecum retroperitoneale	Retroperitoneal caecum▲
E5.4.9.0.4.0.11	Ectopia caeci	Ectopic caecum▲
E5.4.8.0.1.0.4	Atresia intestini	Intestinal atresia
E5.4.8.0.1.0.2	Duplicatio intestini	Intestinal duplication
E5.4.8.0.1.0.5	Malrotatio intestini	Intestinal malrotation
E5.4.8.0.1.0.6	Rotatio non completa intestini	Incomplete intestinal rotation
E5.4.9.0.4.0.12	Caecum altum	High caecum▲
E5.4.8.0.1.0.7	Caecum subhepaticum	Subhepatic caecum▲
E5.4.8.0.1.0.8	Hyperrotatio intestini	Intestinal hyperrotation
E5.4.8.0.1.0.9	Nonrotatio intestini	Intestinal nonrotation
E5.4.8.0.1.0.10	Inversio rotationis intestini	Reverse intestinal rotation
E5.4.8.0.1.0.11	Situs inversus abdominalis	Abdominal situs inversus
E5.4.8.0.1.0.12	Heterotaxia	Heterotaxy; Isomerism
E5.4.8.0.1.0.13	Colon retrojejunale	Retrojejunal colon
E5.4.8.0.1.0.19	Nonfixatio viscerum	Nonfixation of viscera
E5.4.8.0.1.0.3	Stenosis intestini	Intestinal stenosis
E5.4.9.0.4.0.13	Agenesis appendicis vermiformis	Agenesis of appendix
E5.4.9.0.4.0.14	Appendix vermiformis duplex	Duplication of appendix
E5.4.9.0.4.0.15	Appendix vermiformis triplex	Triple appendix
E5.4.10.0.0.0.1	**Canalis analis**	**Anal canal**
E5.4.10.0.0.0.2	Pars metenteralis canalis analis	Hindgut part of anal canal
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.10.0.0.0.3	Myoblastus musculi sphincteris ani interni	Myoblast of internal anal sphincter
E4.0.4.4.9.0.7	Myocytus levis; Myocytus non striatus	Smooth muscle cell
E5.4.10.0.0.0.4	Pars fovealis canalis analis	Foveal part of anal canal
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.10.0.0.0.5	Tuberculum anale	Anal tubercle
E5.4.0.0.0.0.13	Fovea analis[142]	Anal pit
E5.4.10.0.0.0.6	Pars analis membranae cloacalis; Membrana analis[159]	Anal part of cloacal membrane; Anal membrane
E5.4.10.0.0.0.7	Abruptio membranae cloacalis	Rupture of cloacal membrane
E5.4.10.0.0.0.8	Apertura ani	Anal opening
E5.2.0.3.1.2.12	Blastema musculi sphincteris ani externi	Blastema of external anal sphincter
E5.4.10.0.0.0.9	Myoblastus striatus	Striated myoblast
E4.0.4.4.9.0.9	Status multinuclearis	Multinuclear state
E4.0.4.4.9.0.10	Myotubus	Myotube
E4.0.4.4.9.0.11	Myofibra	Myofibre▲
E5.4.10.0.0.0.10	Occlusio canalis analis	Closure of anal canal
E5.4.10.0.0.0.11	Restitutio canalis analis	Restitution of anal canal
E5.4.10.0.0.0.12	Anus	Anus

[159] E5.4.10.0.0.0.6 *Pars analis membranae cloacalis* Because the urorectal septum does not reach the cloacal membrane, a separate anal membrane does not exist. After the cloacal membrane ruptures, the anorectal lumen is temporarily closed by an epithelial plug, which might previously have been interpreted as an anal membrane.

E5.4.11.0.0.0.1	**Urenteron; Pars postcloacalis intestini**[197]	**Postcloacal gut; Tailgut; Endgut**
E5.4.11.0.1.0.1	**Anomaliae recti et canalis analis**	**Anomalies of rectum and anal canal**
E5.4.11.0.1.0.2	Aganglionosis rectalis	Rectal aganglionosis
E5.4.11.0.1.0.3	Atresia rectalis	Rectal atresia
E5.4.11.0.1.0.4	Fistula rectalis	Rectal fistula
E5.4.11.0.1.0.5	Fistula rectovaginalis	Rectovaginal fistula
E5.4.11.0.1.0.6	Fistula rectovesicalis	Rectovesical fistula
E5.4.11.0.1.0.7	Fistula rectovestibularis	Rectovestibular fistula
E5.4.11.0.1.0.8	Fistula rectourethralis	Recto-urethral fistula
E5.4.11.0.1.0.9	Stenosis rectalis	Rectal stenosis
E5.4.11.0.1.0.10	Anus imperforatus	Imperforate anus
E5.4.11.0.1.0.11	Anus tectus	Covered anus
E5.4.11.0.1.0.12	Fistula anocutanea	Anocutaneous fistula
E5.4.11.0.1.0.13	Fistula anovestibularis	Anovestibular fistula
E5.4.11.0.1.0.14	Atresia canalis analis	Atresia of anal canal
E5.4.11.0.1.0.15	Stenosis canalis analis	Stenosis of anal canal
E5.4.12.0.0.0.1	**Hepar**	**Liver**
E5.4.12.0.0.0.2	Praeenteron distale	Distal foregut
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.12.0.0.0.3	Gemma hepatopancreatica	Hepatopancreatic bud
E5.4.12.0.0.0.4	Ductus hepatopancreaticus	Hepatopancreatic duct
E5.4.6.0.0.0.14	Diverticulum hepaticum	Hepatic diverticulum
E5.4.12.0.0.0.5	Pars distalis diverticuli hepatici	Distal part of hepatic diverticulum
E5.4.12.0.0.0.6	Irruptio septi transversi	Invasion of septum transversum
E5.4.12.0.0.0.7	Morphogenesis ramificans partis distalis diverticuli hepatici	Branching morphogenesis of distal part of hepatic diverticulum
E5.4.12.0.0.0.8	Dilatatio dextra	Right dilatation
E5.4.12.0.0.0.9	Lobus dexter epithelialis	Epithelial right lobe
E5.4.12.0.0.0.10	Lobus caudatus epithelialis	Epithelial caudate lobe
E5.4.12.0.0.0.11	Lobus quadratus epithelialis	Epithelial quadrate lobe
E5.4.12.0.0.0.12	Dilatatio sinistra	Left dilatation
E5.4.12.0.0.0.13	Lobus sinister epithelialis	Epithelial left lobe
E5.4.12.0.0.0.14	Deminutio incrementi crescentiae	Slowing of growth
E5.4.12.0.0.0.15	Irruptio a mesenchymati	Invasion by mesenchyme
E4.0.4.4.2.0.3	Irruptio a vasis	Vascularization
E5.4.12.0.0.0.16	Vas sinusoideum hepaticum	Hepatic sinusoid; Vascular sinus
E5.4.12.0.0.1.1	**Lobulus hepaticus primordialis**	**Primordial hepatic lobule**
E5.4.12.0.0.1.2	Lamina hepatocytica primordialis	Primordial hepatocyte lamina; Primordial hepatocyte plate; Primordial hepatic trabecula
E5.4.12.0.0.1.3	Differentiatio laminae hepatocyticae	Hepatocyte laminal differentiation
E5.4.12.0.0.1.4	Lamina hepatocytica frontalis dorsalis[160]	Dorsal frontal hepatocyte plate
E5.4.12.0.0.1.5	Lamina hepatocytica frontalis ventralis	Ventral frontal hepatocyte plate
E5.4.12.0.0.1.6	Lamina hepatocytica sagittalis	Sagittal hepatocyte plate
E5.4.12.0.0.1.7	Lamina hepatocytica anastomotica	Anastomotic hepatocyte plate
E5.4.12.0.0.1.8	Epithelium stratificatum cuboideum	Stratified cuboidal epithelium
E5.4.12.0.0.1.9	Hepatoblastus	Hepatoblast
E5.4.12.0.0.1.10	Hepatocytus	Hepatocyte
E5.4.12.0.0.1.11	Canaliculus bilifer	Bile canaliculus
E5.4.12.0.0.2.1	**Formatio ductuum**	**Duct formation**
E5.4.12.0.0.2.2	Capsula epthelialis circum ramum venae portae	Epithelial capsule around branch of portal vein
E5.4.12.0.0.2.3	Cellula obscura	Dark cell
E5.4.12.0.0.2.4	Vesicula epithelialis	Epithelial vesicle
E5.4.12.0.0.2.3	Cellula obscura	Dark cell
E5.4.12.0.0.2.5	Ductulus bilifer intralobularis	Intralobular bile ductule
E5.4.12.0.0.2.6	Canalis bilifer	Bile canal
E5.4.12.0.0.2.7	Ductulus bilifer interlobularis	Interlobular bile ductule

[160] E5.4.12.0.0.1.4 *Lamina hepatocytica frontalis dorsalis* Differentiation results in the formation first of two *frontal plates* and then of sagittally-orientated plates between them: the ventral plate also gives rise to ventrally-projecting hepatic plates (Lipp W. Die frűhe Strukturentwicklung des Leberparenchyms beim Menschen. Z Mikrosk Anat Forsch 1952;59:161-186).

E5.4.12.0.0.2.8	Trias hepatica	Portal triad
E5.4.12.0.0.2.9	Ductus hepaticus dexter	Right hepatic duct
E5.4.12.0.0.2.10	Ductus hepaticus sinister	Left hepatic duct
E5.4.12.0.0.2.11	Porta hepatis	Porta hepatis
E5.4.12.0.0.2.12	Ductus hepaticus communis	Common hepatic duct
E5.4.12.0.0.3.1	**Vasa hepatica**	**Hepatic vessels**
E5.4.12.0.0.3.2	A. hepatica	Hepatic artery
E5.4.12.0.0.3.3	V. vitellina	Vitelline vein
E5.4.12.0.0.3.4	V. portae	Portal vein
E5.4.12.0.0.3.5	V. umbilicalis sinistra	Left umbilical vein
E5.4.12.0.0.3.6	V. hepatica	Hepatic vein
E5.4.12.0.0.3.7	Ductus venosus	Ductus venosus
E5.4.12.0.0.3.8	Haematopoiesis transiens in hepate	Transient hepatic haematopoiesis▲
E5.4.12.0.0.4.1	**Histogenesis hepatica definitiva**	**Final hepatic histogenesis; Final hepatic histogeny**
E5.4.12.0.0.4.2	Lobulus hepaticus classicus; Lobulus hepaticus polygonalis	Classic hepatic lobule; Polygonal hepatic lobule
E5.4.12.0.0.4.3	V. centralis	Central vein
E5.4.12.0.0.4.4	Lamina hepatocytica	Hepatocyte lamina; Hepatocyte plate; Hepatic trabecula
E5.4.12.0.0.4.5	Epithelium bistratificatum cuboideum	Two-layered cuboidal epithelium
E5.4.12.0.0.1.9	Hepatoblastus	Hepatoblast
E5.4.12.0.0.1.10	Hepatocytus	Hepatocyte
E5.4.12.0.0.1.11	Canaliculus bilifer	Bile canaliculus
E5.4.12.0.0.0.16	**Vas sinusoideum hepaticum**	**Hepatic sinusoid; Vascular sinus**
E5.4.12.0.0.5.1	Endotheliocytus	Endothelial cell
E5.4.12.0.0.5.2	Cellula necatoria hepatica	Pit cell; Natural killer cell; NK cell
E5.4.12.0.0.5.3	Macrophagocytus stellatus	Stellate macrophage
E5.4.12.0.0.5.4	Cellula perisinusoidalis; Cellula accumulans adipem	Perisinusoidal cell; Fat storing cell
E5.4.12.0.0.5.5	Spatium perisinusoideum	Perisinusoidal space
E5.4.12.0.1.0.1	**Anomaliae hepatis**	**Hepatic anomalies**
E5.4.12.0.1.0.2	Agenesis hepatis	Hepatic agenesis
E5.4.12.0.1.0.3	Ectopia hepatis	Ectopic liver
E5.4.12.0.1.0.4	Ectopia textus hepatici	Ectopic liver tissue
E5.4.12.0.1.0.5	Fibrosis hepatis congenita	Congenital liver fibrosis
E5.4.12.0.1.0.6	Lobus accessorius hepatis	Accessory hepatic lobe
E5.4.12.0.1.0.7	Lobus accessorius dexter	Accessory right lobe
E5.4.12.0.1.0.8	Hepar polycysticum congenitum	Congenital polycystic liver
E5.4.12.0.1.0.9	Cystis hepatica solitaria congenita	Congenital solitary liver cyst
E5.4.12.0.1.0.10	Atresia biliaris intrahepatica	Intrahepatic biliary atresia
E5.4.13.0.0.0.1	**Ductus choledochus; Ductus biliaris**	**Bile duct**
E5.4.13.0.0.0.2	Primordium hepatocysticum; Lamina hepatica	Hepatocystic primordium; Hepatic plate
E5.4.13.0.0.0.3	Diverticulum hepatocysticum	Hepatocystic diverticulum
E5.4.13.0.0.0.4	Pars proximalis diverticuli hepatocystici	Proximal part of hepatocystic diverticulum
E5.4.13.0.0.0.5	Elongatio diverticuli cystici	Elongation of cystic diverticulum
E5.4.13.0.0.0.6	Diverticulum cysticum cystiforme	Cystiform cystic diverticulum
E5.4.4.0.0.0.4	**Epithelium endodermale**	**Endodermal epithelium**
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.13.0.0.1.1	Cholangiocytus	Cholangiocyte
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.13.0.0.1.2	Glandula ductus choledochi	Gland of bile duct
E5.4.13.0.0.1.3	Pars intramuralis ductus choledochi	Intramural part of bile duct
E5.4.13.0.0.1.4	Appositio ad ductum pancreaticum	Apposition to pancreatic duct
E4.0.4.1.0.0.4	**Mesenchyma splanchnopleurale**[207]	**Splanchnopleuric mesenchyme**
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.4.13.0.0.2.2	Vagina mesenchymalis communis[161]	Common mesenchymal sheath
E5.4.13.0.0.2.3	Myoblastus levis	Smooth myoblast

[161] E5.4.13.0.0.2.2 *Vagina mesenchymalis communis* The *mesenchymal sheath* is common to the bile and pancreatic ducts but not initially continuous with that of the duodenum.

E5.4.13.0.0.2.4	M. sphincter superior ductus choledochi	Superior sphincter of bile duct
E5.4.13.0.0.2.5	M. sphincter inferior ductus choledochi	Inferior sphincter of bile duct
E5.4.13.0.0.2.6	M. sphincter ampullae hepatopancreaticae; M. sphincter ampullae biliaropancreaticae	Sphincter of hepatopancreatic ampulla; Sphincter of biliaropancreatic ampulla
E5.4.13.0.1.0.1	**Anomaliae biliares**	**Biliary anomalies**
E5.4.13.0.1.0.2	Absentia ductus choledochi; Absentia ductus biliaris	Absence of bile duct
E5.4.13.0.1.0.3	Absentia ductus hepatici communis	Absence of common hepatic duct
E5.4.13.0.1.0.4	Atresia biliaris extrahepatica	Extrahepatic biliary atresia
E5.4.13.0.1.0.5	Atresia ductus choledochi; Atresia ductus biliaris	Bile duct atresia
E5.4.13.0.1.0.6	Dilatationes congenitae intrahepaticae ductuum choledochorum	Congenital intrahepatic bile duct dilatations
E5.4.13.0.1.0.7	Ductus hepaticus accessorius	Accessory hepatic duct
E5.4.13.0.1.0.8	Hamartoma ductus choledochi	Bile duct hamartoma
E5.4.13.0.1.0.9	Junctura intrahepatica ductuum hepaticorum	Intrahepatic union/junction of hepatic ducts
E5.4.13.0.1.0.10	Junctura intrapancreatica ductuum hepaticorum	Intrapancreatic union/junction of hepatic ducts
E5.4.13.0.1.0.11	Stenosis ductus choledochi; Stenosis ductus biliaris	Bile duct stenosis
E5.4.14.0.0.0.1	**Vesica biliaris et ductus cysticus**	**Gallbladder and cystic duct**
E5.4.12.0.0.0.2	Praeenteron distale	Distal foregut
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.3.0.0.2.2	Irruptio a cellulis cristae neuralis	Invasion by neural crest cells
E5.4.12.0.0.0.3	Gemma hepatopancreatica	Hepatopancreatic bud
E5.4.12.0.0.0.4	Ductus hepatopancreaticus	Hepatopancreatic duct
E5.4.14.0.0.0.2	Diverticulum cysticum	Cystic diverticulum
E5.4.14.0.0.0.3	Vesica biliaris; Vesica fellea	Gallbladder
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.14.0.0.0.4	Cholecystocytus	Cholecystocyte
E5.4.6.0.1.3.7	Epitheliocytus penicillatus	Brush cell; Tuft cell
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.14.0.0.0.5	Crypta mucosae	Mucosal crypt; Diverticulum
E5.4.14.0.0.0.6	Plicae mucosae; Rugae	Mucosal folds; Rugae
E5.4.14.0.0.0.7	Glandula mucosa vesicae biliaris	Mucous gland of gallbladder
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.4.14.0.0.0.8	Ductus cysticus	Cystic duct
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.4.14.0.0.0.9	Plica spiralis	Spiral fold
E5.4.14.0.0.0.10	Tunica fibromuscularis	Fibromuscular coat
E5.4.14.0.1.0.1	Anomaliae vesicae biliaris et ductus cystici	Anomalies of gallbladder and cystic duct
E5.4.14.0.1.0.2	Absentia vesicae biliaris	Absence of gallbladder
E5.4.14.0.1.0.3	Atresia ductus cystici	Atresia of cystic duct
E5.4.14.0.1.0.4	Ductus cysticus brevis	Short cystic duct
E5.4.14.0.1.0.5	Duplicatio vesicae biliaris	Duplication of gallbladder
E5.4.14.0.1.0.6	Vesica biliaris bilobata	Bilobed gallbladder
E5.4.14.0.1.0.7	Vesica biliaris rudimentaria	Rudimentary gallbladder
E5.4.15.0.0.0.1	**Pancreas**	**Pancreas**
E5.4.12.0.0.0.2	Praeenteron distale	Distal foregut
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.3.0.0.2.2	Irruptio a cellulis cristae neuralis	Invasion by neural crest cells
E5.4.15.0.1.0.1	**Pancreas dorsale**	**Dorsal pancreas**
E5.4.6.0.0.0.15	Gemma pancreatica dorsalis	Dorsal pancreatic bud
E5.4.6.0.0.0.8	Dextrorotatio duodeni	Dextrorotation of duodenum
E5.4.15.0.1.0.1	Pancreas dorsale	Dorsal pancreas
E5.4.15.0.1.0.2	Ductus pancreaticus dorsalis	Dorsal pancreatic duct
E5.4.15.0.1.0.3	Pars dorsalis capitis pancreatis	Dorsal part of head of pancreas
E5.4.15.0.1.0.4	Corpus pancreatis	Body of pancreas
E5.4.15.0.1.0.5	Cauda pancreatis	Tail of pancreas
E5.4.15.0.2.0.1	**Pancreas ventrale**	**Ventral pancreas**

E5.4.12.0.0.0.3	Gemma hepatopancreatica	Hepatopancreatic bud
E5.4.6.0.0.0.14	Diverticulum hepaticum	Hepatic diverticulum
E5.4.12.0.0.0.4	Ductus hepatopancreaticus	Hepatopancreatic duct
E5.4.15.0.2.0.2	Gemma pancreatica ventralis	Ventral pancreatic bud
E5.4.15.0.2.0.3	Ductus pancreaticus ventralis	Ventral pancreatic duct
E5.4.15.0.2.0.1	Pancreas ventrale	Ventral pancreas
E5.4.15.0.2.0.4	Pars ventralis capitis pancreatis	Ventral part of head of pancreas
E5.4.15.0.2.0.5	Processus uncinatus pancreatis	Uncinate process of pancreas
E5.4.15.0.2.0.6	Translatio dorsaliter pancreatis ventralis	Dorsal positional change of ventral pancreas
E5.4.15.0.2.0.7	Convergentia pancreatium dorsalis et ventralis	Merging of dorsal and ventral pancreases
E5.4.15.0.2.0.8	Anastomosis ductalis	Anastomosis of ducts
E5.4.15.0.2.0.9	Ductus pancreaticus accessorius	Accessory pancreatic duct
E5.4.15.0.2.0.10	Ductus pancreaticus	Pancreatic duct
E5.4.15.0.2.0.11	Positio intraperitonealis primaria pancreatis	Primary intraperitoneal position of pancreas
E5.4.15.0.2.0.12	Translatio dorsaliter pancreatis	Dorsal positional change of pancreas
E5.4.15.0.2.0.13	Conjunctio cum peritoneo parietale dorsale	Fusion with dorsal parietal peritoneum
E5.4.15.0.2.0.14	Positio retroperitonealis secundaria pancreatis	Secondary retroperitoneal position of pancreas
E3.0.0.6.1.0.45	**Histogenesis**	**Histogenesis; Histogeny**
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.4.15.0.3.0.1	Pars exocrina pancreatis	Exocrine pancreas
E5.4.15.0.3.0.2	Ductus pancreaticus primordialis	Primordial pancreatic duct
E5.4.15.0.3.0.3	Gemma ductalis	Ductal bud
E3.0.0.6.1.0.60	Morphogenesis gemmans[65]	Budding morphogenesis
E5.4.15.0.3.0.4	Lobulus pancreatis	Pancreatic lobule
E5.4.15.0.3.0.5	Acinus pancreatis	Pancreatic acinus
E5.4.15.0.3.0.6	Pancreatocytus exocrinus	Exocrine cell of pancreas
E5.4.15.0.3.0.7	Cellula centroacinosa	Centro-acinar cell
E5.4.15.0.3.0.8	Ductus intercalatus	Intercalated duct
E5.4.1.3.0.0.11	Ductus intralobularis	Intralobular duct
E5.4.15.0.3.0.9	Ductus interlobularis	Interlobular duct
E5.4.15.0.3.0.10	Ductus excretorius	Excretory duct
E5.4.15.0.3.0.11	Epitheliocytus basalis	Basal cell
E5.4.15.0.3.0.12	Epitheliocytus principalis	Principal cell
E5.4.15.0.3.0.13	Pars endocrina pancreatis	Endocrine pancreas
E5.4.15.0.3.0.2	Ductus pancreaticus primordialis	Primordial pancreatic duct
E5.4.15.0.3.0.14	Gemma endocrina	Endocrine bud
E5.4.15.0.3.0.15	Insula pancreatica initialis[162]	Early pancreatic islet
E5.4.15.0.3.0.16	Insula pancreatica definitiva[163]	Definitive pancreatic islet §Langerhans§
E5.4.15.0.3.0.17	Differentiatio endocrinocyti[164]	Endocrinocyte differentiation
E5.4.15.0.3.0.18	Endocrinocytus α; Glucagonocytus	α Cell; A cell; Glucagon-secreting cell
E5.4.15.0.3.0.19	Endocrinocytus β; Insulinocytus	β Cell; B cell; Insulin-secreting cell
E5.4.15.0.3.0.20	Endocrinocytus δ; Somatostatinocytus	δ Cell; D cell; Somatostatin-secreting cell
E5.4.15.0.3.0.21	Endocrinocytus δ_1	δ_1 Cell; D1 cell; VIP cell
E5.4.15.0.3.0.22	Endocrinocytus EC	EC cell; Enterochromaffin cell
E5.4.15.0.3.0.23	Endocrinocytus G pancreaticus	Pancreatic G cell; Pancreatic gastrin cell
E5.4.15.0.3.0.24	Endocrinocytus PP	Pancreatic polypeptide cell; PP cell
E5.4.15.0.3.0.25	Endocrinocytus PYY	Peptide YY cell; PYY cell
E5.4.15.0.3.0.26	Endocrinocytus secretans ghrelinum	Ghrelin-secreting cell
E5.4.15.0.3.0.27	Gemma insulae pancreaticae	Pancreatic islet bud
E5.4.15.0.3.0.28	Endocrinocytus β extrainsularis; Insulinocytus extrainsularis	Extra-insular β cell; Extra-insular B cell; Extra-insular insulin cell
E5.4.15.0.3.0.29	Transformatio acinocytoendocrinalis	Acinocyto-endocrinal transformation

[162] E5.4.15.0.3.0.15 *Insula pancreatica initialis* At twenty weeks the organization of the endocrine cells is still not definitive: β cells lie in the centre and α, δ and PP cells surround them.

[163] E5.4.15.0.3.0.16 *Insula pancreatica definitiva* At twenty-four weeks the organization of the endocrine cells in the islets is complete: α, δ and PP cells lie in the center and are surrounded by β cells.

[164] E5.4.15.0.3.0.17 *Differentiatio endocrinocyti* Endocrinocytes β, δ, α, and PP are present in that descending order of relative volume fraction at 10 weeks, (Hahn von Dorsche H. Inselorgan. 626-32 in Hinrichsen KV. Humanembryologie. Berlin: Springer-Verlag; 1990): the relative volume fraction of other endocrinocytes is not known from this reference.

E5.4.15.0.4.0.1	**Anomaliae pancreatis**	**Anomalies of pancreas**
E5.4.15.0.4.0.2	Agenesis pancreatis	Pancreatic agenesis
E5.4.15.0.4.0.3	Heterotopia pancreatica	Heterotopic pancreas
E5.4.15.0.4.0.4	Pancreas anulare	Anular pancreas
E5.5.0.0.0.0.1	**Systema respiratorium**	**Respiratory system**
E5.5.1.0.0.0.1	**Nasus**	**Nose**
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E5.3.0.0.0.0.9	Fovea nasalis	Nasal pit
E5.5.1.0.0.0.2	Saccus nasalis	Nasal sac
E5.5.1.0.0.0.3	Tunica mucosa olfactoria	Olfactory mucous membrane
E5.5.1.0.0.0.4	Tunica mucosa glandularis organi vomeronasalis	Glandular mucosa of vomeronasal organ
E4.0.3.1.0.0.6	Neuroblastus olfactorius	Olfactory neuroblast
E4.0.3.1.0.0.7	Neuron olfactorium immaturum	Immature olfactory neuron
E5.5.1.0.0.0.5	Tunica mucosa respiratoria	Respiratory mucosa
E5.5.1.0.0.0.6	Epithelium stratificatum squamosum non cornificatum vestibuli nasi	Nonkeratinized stratified squamous epithelium of nasal vestibule
E5.5.1.0.0.0.7	Epithelium stratificatum squamosum cornificatum vestibuli nasi	Keratinized stratified squamous epithelium of nasal vestibule
E5.3.0.0.0.0.6	Prominentia frontonasalis	Frontonasal prominence
E5.3.0.0.0.0.7	Prominentia frontalis	Frontal prominence
E5.3.0.0.0.0.12	Prominentia nasalis lateralis[139]	Lateral nasal prominence
E5.3.0.0.0.0.11	Prominentia nasalis medialis	Medial nasal prominence
E5.4.1.1.4.0.1	Cavitas oronasalis	Oronasal cavity
E5.4.1.1.4.0.3	Palatum primarium; Processus palatinus medianus	Primary palate; Median palatal process
E5.5.1.0.0.0.8	Cavitas nasalis primaria	Primary nasal cavity
E5.3.0.0.0.0.10	Pinna nasalis	Nasal fin
E5.5.1.0.0.0.9	Membrana oronasalis	Oronasal membrane
E5.5.1.0.0.0.10	Choana primaria	Primary choana
E5.4.1.1.4.0.5	Palatum secundarium; Palatum definitivum	Secondary palate; Definitive palate
E5.5.1.0.0.0.11	Cavitas nasalis	Nasal cavity
E5.5.1.0.0.0.12	Crista septalis	Septal ridge
E5.5.1.0.0.0.13	Septum nasi	Nasal septum
E5.5.1.0.0.0.14	Sulcus vomeronasalis	Vomeronasal groove
E5.5.1.0.0.0.15	Ruga conchalis	Conchal ridge
E5.5.1.0.0.0.16	Naris	Naris
E5.5.1.0.0.0.17	Choana	Choana
E5.5.1.0.1.0.1	**Tunica mucosa respiratoria sinus paranasalis**	**Respiratory mucosa of paranasal sinus**
E5.5.1.0.1.0.2	Gemma mucosae sinus maxillaris	Mucosal bud of maxillary sinus
E5.5.1.0.1.0.3	Sulcus sinus maxillaris	Sulcus of maxillary sinus
E5.5.1.0.1.0.4	Diverticulum sinus maxillaris[166]	Diverticulum of maxillary sinus
E5.5.1.0.1.0.5	Sinus maxillaris	Maxillary sinus
E5.5.1.0.1.0.6	Sulci cellularum ethmoidalium	Sulci of ethmoidal cells
E5.5.1.0.1.0.7	Diverticula cellularum ethmoidalium[167]	Diverticula of ethmoidal cells
E5.5.1.0.1.0.8	Cellulae ethmoidales	Ethmoidal cells
E5.5.1.0.1.0.9	Sulcus sinus sphenoidalis	Sulcus of sphenoidal sinus
E5.5.1.0.1.0.10	Diverticulum sinus sphenoidalis	Diverticulum of sphenoidal sinus
E5.5.1.0.1.0.11	Sinus sphenoidalis	Sphenoidal sinus
E5.5.1.0.1.0.12	Sulcus sinus frontalis	Sulcus of frontal sinus
E5.5.1.0.1.0.13	Diverticulum sinus frontalis	Diverticulum of frontal sinus
E5.5.1.0.1.0.14	Sinus frontalis	Frontal sinus

[165] E5.3.0.0.0.0.8 *Placoda nasalis; Placoda olfactoria* The term *nasal placode* is preferred as the placode gives rise to respiratory and vomeronasal as well as olfactory structures.

[166] E5.5.1.0.1.0.4 *Diverticulum sinus maxillaris* The *maxillary sinus* is large enough to be clinically important at birth: it grows significantly during the first 3 years of postnatal life and again from 7-18 years (Snow JB, Ballenger JJ. Eds. Ballenger's Otorhinology Head and Neck Surgery. 16th ed. Hamilton, Ontario: BC Decker Publisher; 2003).

[167] E5.5.1.0.1.0.7 *Diverticula cellularum ethmoidalium* At birth there are 3 or 4 *ethmoidal cells* and they are large enough to be clinically important (Snow JB, Ballenger JJ. Eds. Ballenger's Otorhinology Head and Neck Surgery. 16th ed. Hamilton, Ontario: BC Decker Publisher; 2003).

E5.5.1.0.2.0.1	**Anomaliae nasi**[168]	**Nasal anomalies**
E5.5.1.0.2.0.2	Atresia choanarum	Choanal atresia
E5.5.1.0.2.0.3	Conjunctio anomaliarum cardiacarum, genitalium et oticarum, colobomatis, atresiae choanarum atque crescentiae retardatae	CHARGE association [**c**oloboma, **h**eart defect, **a**tresia of choanae, **r**etardation of growth, **g**enital anomaly and **e**ar defect]
E5.5.1.0.2.0.4	Dyskinesiae ciliares primariae	Primary ciliary dyskinesias
E5.4.2.0.0.0.1	**Pharynx**	**Pharynx**
E5.4.1.2.0.0.12	Eminentia hypopharyngea[169]	Hypopharyngeal eminence
E5.5.2.0.0.0.1	Epiglottis	Epiglottis
E5.5.2.0.0.0.2	Epithelium stratificatum squamosum non cornificatum partis proximalis epiglottidis	Nonkeratinized stratified squamous epithelium of proximal epiglottis
E5.5.2.0.0.0.3	Tunica mucosa respiratoria partis distalis epiglottidis	Respiratory mucosa of distal epiglottis
E5.5.3.0.0.0.1	**Formatio arboris respiratoriae** [170]	**Formation of respiratory tree**
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.5.3.0.0.0.2	Sulcus laryngotrachealis	Laryngotracheal groove
E5.5.3.0.0.0.3	Gemma respiratoria[171]	Respiratory bud
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.5.3.0.1.0.1	**Gradus initialis formationis**	**Initial stage of formation**
E5.5.3.0.1.0.2	Diverticulum laryngotracheale	Laryngotracheal diverticulum
E5.5.3.0.1.0.3	Crista tracheooesophagea	Tracheo-oesophageal fold▲
E5.5.3.0.1.0.4	Septum tracheooesophageum	Tracheo-oesophageal septum▲
E5.5.3.0.1.0.5	Tubus laryngotrachealis	Laryngotracheal tube
E5.5.3.0.1.0.6	Larynx	Larynx
E5.5.3.0.1.0.7	Primordium glottidis	Primordium of glottis
E5.5.3.0.1.0.8	Tuber arytenoideum	Arytenoid swelling
E5.5.3.0.1.0.9	Septum epitheliale laryngis[172]	Epithelial septum of larynx
E5.5.3.0.1.0.10	Lamina epithelialis laryngis	Epithelial lamina of larynx
E5.5.3.0.1.0.11	Cartilago arytenoidea	Arytenoid cartilage
E5.4.1.2.0.0.12	Eminentia hypopharyngea[169]	Hypopharyngeal eminence
E5.5.3.0.1.0.12	Condensatio mesenchymalis epiglottidis[173]	Mesenchymal condensation of epiglottis
E5.5.3.0.1.0.13	Condensatio mesenchymalis ossis hyoidei	Mesenchymal condensation of hyoid bone
E5.0.2.1.4.2.10	Cartilago ossis hyoidei[174]	Cartilage of hyoid bone
E5.5.3.0.1.0.14	Condensatio mesenchymalis cartilaginis cricoideae	Mesenchymal condensation of cricoid cartilage
E5.5.3.0.1.0.15	Cartilago cricoidea	Cricoid cartilage
E5.5.3.0.1.0.16	Condensationes mesenchymales cartilaginum thyroidearum	Mesenchymal condensations of thyroid cartilages
E5.5.3.0.1.0.17	Cartilagines laminarum thyroidearum[175]	Cartilages of thyroid laminae
E5.5.3.0.1.0.18	Aditus laryngis	Laryngeal inlet
E5.5.3.0.1.0.19	Vestibulum laryngis[176]	Laryngeal vestibule
E5.5.3.0.1.0.20	Plica vestibuli	Vestibular fold

[168] E5.5.1.0.2.0.1 *Anomaliae nasi* For more see: Losee JE, Kirschner RE, Whitaker LA, Bartlett SP. Congenital nasal anomalies: a classification scheme. Plast Reconstr Surg 2004;113:676-689.

[169] E5.4.1.2.0.0.12 *Eminentia hypopharyngea* The *hypopharyngeal eminence* was formerly called the hypobranchial eminence and is not to be confused with the adult hypopharynx.

[170] E5.5.3.0.0.0.1 *Formatio arboris respiratoriae* The term *respiratory tree* is used to denote the postpharyngeal airways: the larynx, the trachea, the bronchi, the bronchioles, the respiratory bronchioles, the alveolar ducts, atria and saccules and the pulmonary alveoli.

[171] E5.5.3.0.0.0.3 *Gemma respiratoria* The term *respiratory bud* denotes the single bud from which the respiratory tree originates.

[172] E5.5.3.0.1.0.9 *Septum epitheliale laryngis* The *epithelial septum* is a primary structure responsible for the final configuration of the laryngotracheal groove (Sanudo JR and Domenech-Mateu JM. The laryngeal primordium and epithelial lamina: a new interpretation. J Anat 1990;171:207-222).

[173] E5.5.3.0.1.0.12 *Condensatio mesenchymalis epiglottidis* The *epiglottis* begins to chondrify during the fetal period.

[174] E5.0.2.1.4.2.10 *Cartilago ossis hyoidei* The *hyoid cartilage* begins to ossify during the fetal period.

[175] E5.5.3.0.1.0.17 *Cartilagines laminarum thyroidearum* The *thyroid laminae* fuse during the fetal period.

[176] E5.5.3.0.1.0.19/ E5.5.3.0.1.0.22 *Vestibulum laryngis / Ventriculus laryngis* Although the subdivisions of the laryngeal cavity, the infrahyoid muscles and most of the major laryngeal muscles are established by the eighth week, some events occur during the fetal period. In addition to those listed under previous footnotes, first the vocal and then the vestibular folds develop; the ary-epiglottic, thyro-epiglottic and vocalis muscles develop; the larynx undergoes relative descent until, at birth, its lower border is at the level of C IV.

E5.5.3.0.1.0.21	Rima vestibuli	Rima vestibuli
E5.5.3.0.1.0.22	Ventriculus laryngis[176]	Laryngeal ventricle
E5.5.3.0.1.0.23	Plica vocalis	Vocal fold
E5.5.3.0.1.0.24	Rima glottidis; Rima vocalis	Rima glottidis
E5.5.3.0.1.0.25	Cavitas infraglottica	Infraglottic cavity
E5.5.3.0.1.0.26	Trachea	Trachea
E5.5.3.0.1.0.27	Tunica mucosa respiratoria laryngotrachealis	Laryngotracheal respiratory mucosa
E4.0.3.5.0.3.18	Neuroendocrinocytus respiratorius	Respiratory neuro-endocrine cell
E5.5.3.0.1.0.28	Glandulae laryngeales et tracheales	Laryngeal and tracheal glands
E5.5.3.0.1.0.29	Mucocytus	Mucous cell
E5.5.3.0.1.0.30	Seromucocytus	Seromucous cell
E5.5.3.0.1.0.31	Myoepitheliocytus	Myo-epithelial cell
E5.5.3.0.1.0.32	Tunica fibromusculocartilaginea laryngotrachealis	Laryngotracheal fibromusculocartilaginous layer
E5.5.3.0.1.0.33	Tunica adventitia laryngotrachealis	Laryngotracheal adventitia
E3.0.0.6.1.0.60	Morphogenesis gemmans[65]	Budding morphogenesis
E5.5.3.0.1.0.34	Gemma bronchialis primaria	Primary bronchial bud
E5.5.3.0.1.0.35	Gemmae bronchiales secundariae; Gemmae loborum pulmonalium	Secondary bronchial buds; Pulmonary lobar buds
E5.5.3.0.1.0.36	Gemmae bronchiales tertiariae; Gemmae segmentorum bronchopulmonalium	Tertiary bronchopulmonary buds; Bronchopulmonary segmental buds
E5.5.3.0.1.0.37	Saccus pulmonalis primordialis	Primordial lung sac
E5.5.3.0.1.0.38	Pulmo fetalis	Fetal lung
E5.5.3.0.2.0.1	**Tempus pseudoglandulare pulmonis**	**Pseudoglandular period of lung**
E5.5.3.0.2.0.2	Bronchus	Bronchus
E5.5.3.0.2.0.3	Tunica mucosa respiratoria bronchialis	Bronchial respiratory mucosa
E4.0.3.5.0.3.18	Neuroendocrinocytus respiratorius	Respiratory neuro-endocrine cell
E5.5.3.0.2.0.4	Glandula bronchialis	Bronchial gland
E5.5.3.0.1.0.29	Mucocytus	Mucous cell
E5.5.3.0.1.0.30	Seromucocytus	Seromucous cell
E5.5.3.0.1.0.31	Myoepitheliocytus	Myo-epithelial cell
E5.5.3.0.2.0.5	Bronchiolus	Bronchiole
E5.5.3.0.2.0.6	Epithelium simplex columnare ciliatum	Simple ciliated columnar epithelium
E5.5.3.0.2.0.7	Exocrinocytus bronchiolaris	Bronchiolar exocrine cell
E5.5.3.0.2.0.8	Exocrinocytus caliciformis; Mucocytus	Goblet cell; Mucous cell
E5.5.3.0.2.0.9	Bronchiolus terminalis	Terminal bronchiole
E5.5.3.0.2.0.10	Epithelium simplex cuboideum ciliatum	Simple ciliated cuboidal epithelium
E5.5.3.0.2.0.7	Exocrinocytus bronchiolaris	Bronchiolar exocrine cell
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.2.0.12	Tunica fibromusculocartilaginea bronchialis	Bronchial fibromusculocartilaginous layer
E5.5.3.0.2.0.13	Tunica adventitia bronchialis	Bronchial adventitia
E5.5.3.0.3.0.1	**Tempus canaliculare**	**Canalicular stage**
E5.5.3.0.3.0.2	Acinus pulmonalis	Pulmonary acinus
E5.5.3.0.3.0.3	Bronchiolus respiratorius	Respiratory bronchiole
E5.5.3.0.2.0.10	Epithelium simplex cuboideum ciliatum	Simple ciliated cuboidal epithelium
E4.0.4.4.2.0.3	Irruptio a vasis	Vascularization
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
E5.5.3.0.2.0.7	Exocrinocytus bronchiolaris	Bronchiolar exocrine cell
E5.5.3.0.4.0.1	**Tempus sacci terminalis; Tempus sacculare**	**Terminal sac stage; Saccular stage**
E5.5.3.0.3.0.2	Acinus pulmonalis	Pulmonary acinus
E5.5.3.0.3.0.3	Bronchiolus respiratorius	Respiratory bronchiole
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
E5.5.3.0.2.0.7	Exocrinocytus bronchiolaris	Bronchiolar exocrine cell
E5.5.3.0.4.0.2	Ductus transitionalis	Transitional duct
E5.5.3.0.4.0.3	Saccus terminalis	Terminal sac
E5.5.3.0.4.0.4	Parenchyma pulmonis	Parenchyma of lung
E5.5.3.0.4.0.5	Interstitium pulmonis	Interstitium of lung
E5.5.3.0.4.0.6	Pleura visceralis	Visceral pleura
E5.5.3.0.5.0.1	**Tempus alveolare**	**Alveolar stage**
E5.5.3.0.5.0.2	Sacculus alveolaris	Alveolar saccule
E5.5.3.0.5.0.3	Ductulus alveolaris	Alveolar duct
E5.5.3.0.5.0.4	Alveolus pulmonalis	Pulmonary alveolus

E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.5.0.5	Surfactantum pulmonale	Pulmonary surfactant
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
E5.5.3.0.6.0.1	**Anomaliae arboris respiratoriae**	**Anomalies of respiratory tree**
E5.5.3.0.6.1.1	**Anomaliae laryngis**	**Laryngeal anomalies**
E5.5.3.0.6.1.2	Atresia laryngis	Atresia
E5.5.3.0.6.1.3	Atresia non completa laryngis	Incomplete atresia; Laryngeal web
E5.5.3.0.6.1.4	Cystis laryngis	Cyst
E5.5.3.0.6.1.5	Fissura laryngotracheooesophagea	Laryngotracheal-oesophageal cleft▲
E5.5.3.0.6.2.1	**Anomaliae tracheae**	**Tracheal anomalies**
E5.5.3.0.6.2.2	Absentia tracheae	Absence of trachea
E5.5.3.0.6.2.3	Diverticulum tracheale	Diverticulum of trachea; Tracheal bronchus
E5.4.4.0.1.0.3	Fistula tracheooesophagea	Tracheo-oesophageal fistula▲
E5.5.3.0.6.2.4	Segmentatio abnormalis skeleti cartilaginei trachealis	Abnormal segmentation of cartilaginous skeleton of trachea
E5.5.3.0.6.2.5	Stenosis tracheae	Stenosis of trachea
E5.5.3.0.6.3.1	**Anomaliae bronchorum**	**Bronchial anomalies**
E5.5.3.0.6.3.2	Atresia bronchi	Atresia of bronchus
E5.5.3.0.6.3.3	Bronchus eparterialis sinister	Left eparterial bronchus
E5.5.3.0.6.3.4	Cystis bronchogenica	Bronchogenic cyst
E5.5.3.0.6.3.5	Segmentatio abnormalis skeleti cartilaginei bronchi	Abnormal segmentation of cartilaginous skeleton of bronchus
E5.5.3.0.6.4.1	**Anomaliae pulmonum**	**Lung anomalies**
E5.5.3.0.6.4.2	Agenesis pulmonalis bilateralis aut unilateralis	Bilateral or unilateral pulmonary agenesis
E5.5.3.0.6.4.3	Aplasia pulmonalis	Pulmonary aplasia
E5.5.3.0.6.4.4	Hypoplasia pulmonalis non tota aut tota	Partial or total pulmonary hypoplasia
E5.5.3.0.6.4.5	Emphysema congenitale	Congenital emphysema
E5.5.3.0.6.4.6	Cystis pulmonalis	Pulmonary cyst
E5.5.3.0.6.4.7	Absentia fissurae pulmonis	Absence of pulmonary fissure; Fused lobes
E5.5.3.0.6.4.8	Fissura accessoria pulmonis	Accessory fissure
E5.5.3.0.6.4.9	Fistula arteriovenosa pulmonis	Arteriovenous fistula of lung
E5.5.3.0.6.4.10	Lobus azygos pulmonis	Azygos lobe; Lobe of azygos vein
E5.5.3.0.6.4.11	Lymphangiectasia cystica pulmonis	Cystic lymphangiectasia
E5.5.3.0.6.4.12	Pulmo accessorius	Accessory lung
E5.5.3.0.6.4.13	Pulmo multilobatus	Multilobed lung
E5.5.3.0.6.4.14	Pulmo polycysticus	Polycystic lung
E5.5.3.0.6.4.15	Pulmo unguliformis	Horseshoe lung
E5.5.3.0.6.4.16	Situs inversus thoracis	Thoracic situs inversus
E5.5.3.0.6.4.17	Situs inversus totus thoracis	Total thoracic situs inversus
E5.5.3.0.6.4.18	Situs inversus non totus thoracis	Partial thoracic situs inversus
E5.4.8.0.1.0.12	Heterotaxia	Heterotaxy; Isomerism
E5.5.3.0.6.4.19	Isomerismus dexter	Right isomerism
E5.5.3.0.6.4.20	Isomerismus sinister	Left isomerism
E5.6.0.0.0.0.1	**Systema urinarium**	**Urinary system**
E5.6.0.0.0.0.2	Mesenchyma intermedium[177]	Intermediate mesenchyme
E5.6.1.0.0.0.1	**Pronephros**[178]	**Pronephros**
E5.6.1.0.0.0.2	Nephrotomus	Nephrotome
E5.6.1.0.0.0.3	Nephrocoeloma	Nephrocoele▲
E5.6.1.0.0.0.4	(Glomerulus externus)[179]	(External glomerulus)
E5.6.1.0.0.0.5	(Ductus pronephricus)	(Pronephric duct)
E5.6.2.0.0.0.1	**Mesonephros**	**Mesonephros**

[177] E5.6.0.0.0.0.2 *Mesenchyma intermedium* The tissue primarily responsible for the formation of the kidneys and internal genitalia and their ducts. Experimental studies suggest that this collection of loose mesenchyme arises, not from the original cells that ingressed through the primitive streak to form mesoderm but, by differentiation from the somites and lateral plate mesoderm, between which it lies. The term *intermediate mesenchyme* is thus more appropriate than the commonly used *intermediate mesoderm.*

[178] E5.6.1.0.0.0.1 *Pronephros* The parts of the *pronephros* are rudimentary and do not form tubules so that it is never a functioning structure.

[179] E5.6.1.0.0.0.4 *Glomerulus externus* Pronephric tubules which link the pronephric duct with the intraembryonic coelom via a nephrostoma are occasionally present in human embryos (Hinrichsen KV. Humanembryologie. Berlin:Springer-Verlag; 1990).

E5.6.2.0.0.0.2	Crista mesonephrica; Plica mesonephrica	Mesonephric ridge; Mesonephric fold
E5.6.2.0.0.0.3	Chorda nephrogenica; Chorda mesonephrica[180]	Nephrogenic cord; Mesonephric cord
E5.6.2.0.0.0.4	Ductus mesonephricus	Mesonephric duct §Wolff§
E5.6.2.0.0.0.5	Ductus mesonephricus cum cloaca connectus	Mesonephric duct connected to cloaca
E5.6.2.0.0.0.6	Aggregatio cellularum in chordis nephrogenicis	Clustering of mesonephric cord cells
E5.6.2.0.0.0.7	Vesicula mesonephrica	Mesonephric vesicle
E5.6.2.0.0.0.8	Vesicula commaformata	Comma-shaped vesicle
E5.6.2.0.0.0.9	Vesicula piriformis	Piriform vesicle
E5.6.2.0.0.0.10	Tubulus sigmoideus	S-shaped tubule
E5.6.2.1.0.0.1	**TUBULI MESONEPHRICI**	**MESONEPHRIC TUBULES**
E5.6.2.1.0.0.2	Tubulus mesonephricus proximalis	Proximal mesonephric tubule; Secretory tubule
E5.6.2.1.0.0.3	Tubulus mesonephricus distalis	Distal mesonephric tubule; Collecting tubule
E5.6.2.1.0.0.4	Corpusculum mesonephricum	Mesonephric corpuscle
E5.6.2.1.0.0.5	Capsula glomeruli	Glomerular capsule
E5.6.2.1.0.0.6	Glomerulus mesonephricus	Mesonephric glomerulus
E5.6.3.0.0.0.1	**Metanephros**	**Metanephros**
E5.6.3.1.0.0.1	**PARS CAUDALIS DUCTUS MESONEPHRICI**	**CAUDAL END OF MESONEPHRIC DUCT**
E5.6.3.1.0.0.2	Gemma ureterica; Diverticulum metanephricum[181]	Ureteric bud; Metanephric diverticulum
E5.6.3.1.1.0.1	**Ureter**	**Ureter**
E5.6.3.1.1.0.2	Occlusio luminis ureteri	Occluded ureteric lumen
E5.6.3.1.1.0.3	Recanalisatio luminis ureteri	Recanalised ureteric lumen
E5.6.3.1.2.0.1	**Pelvis renalis**	**Renal pelvis**
E5.6.3.1.2.0.2	Ampulla ureterica[182]	Ureteric ampulla
E5.6.3.1.2.0.3	Ramificatio primi ordinis symmetrica	Symmetrical first branching
E5.6.3.1.2.0.4	R. inferior	Inferior branch
E5.6.3.1.2.0.5	R. superior	Superior branch
E5.6.3.1.2.0.6	Ramificatio ulterior asymmetrica	Asymmetrical subsequent branching
E5.6.3.1.2.0.7	R. brevis	Short branch
E5.6.3.1.2.0.8	Ductus interpolaris[183]	Interpolar duct
E5.6.3.1.2.0.9	Propelvis interpolaris	Interpolar propelvis
E5.6.3.1.2.0.10	R. longus	Long branch
E5.6.3.1.2.0.11	Ductus polaris superior[183]	Superior polar duct.
E5.6.3.1.2.0.12	Propelvis polaris superior	Superior polar propelvis
E5.6.3.1.2.0.13	Ductus polaris inferior[183]	Inferior polar duct
E5.6.3.1.2.0.14	Propelvis polaris inferior	Inferior polar propelvis
E5.6.3.1.2.0.15	Conjunctio propelvium	Fusion of propelvises
E5.6.3.1.2.0.1	Pelvis renalis	Renal pelvis
E5.6.3.1.2.0.16	Typus dendriticus pelvis renalis	Dendritic type of renal pelvis
E5.6.3.1.2.0.17	(Typus ampullaris pelvis renalis)	(Ampullary type of renal pelvis)
E5.6.3.1.2.0.6	Ramificatio ulterior asymmetrica	Asymmetrical subsequent branching
E5.6.3.1.2.0.18	Calix renalis major	Major renal calyx
E5.6.3.1.2.0.19	Calix renalis minor	Minor renal calyx
E5.6.3.1.2.0.20	Ductus papillaris	Papillary duct
E5.6.3.1.2.0.21	Tubuli metanephrici colligentes; Ductus metanephricus colligentes	Collecting tubules of metanephros; Collecting ducts of metanephros [CD] §Bellini§
E5.6.3.2.0.0.1	**BLASTEMA METANEPHROGENICUM**	**METANEPHROGENIC BLASTEMA; METANEPHRIC MASS OF MESENCHYME**
E5.6.3.2.0.0.2	Stroma renalis	Stroma of kidney

[180] E5.6.2.0.0.0.3 *Chorda nephrogenica; Chorda mesonephrica* The term *nephrogenic cord* is preferred as the cord gives rise to both mesonephric structures and the metanephric blastema.

[181] E5.6.3.1.0.0.2 *Gemma ureterica; Diverticulum metanephricum* The term *ureteric bud* is preferred: while it is initially a hollow diverticulum, it becomes solid and then recanalises; while it is largely surrounded by a metanephric cap, its origin is from the caudal end of the mesonephric duct.

[182] E5.6.3.1.2.0.2 *Ampulla ureterica* In accordance with current practice the term *ureteric ampulla* is here used as a generic term for the expanded ends of successive divisions of the ureteric bud. The ampullae form d*ucts, propelves, calyces, papillary ducts* and *collecting tubules.* Each of the latter induces the formation of a metanephric vesicle in the metanephrogenic blastema and fuses with it.

[183] E5.6.3.1.2.0.8/ E5.6.3.1.2.0.11/ E5.6.3.1.2.0.13 *Ductus interpolaris, Ductus polaris superior, Ductus polaris inferior* Each of the ducts induces change in part of the overlying metanephrogenic blastema to form a transient embryonic lobule.

E5.6.3.2.0.0.3	Capsula fibrosa renis	Fibrous capsule of kidney; Renal capsule
E5.6.3.2.0.0.4	Galea metanephrogenica	Metanephrogenic cap
E5.6.3.2.0.0.5	Lobulus embryonicus metanephricus	Embryonic metanephric lobule
E5.6.3.2.0.0.6	Lobus fetalis metanephricus	Fetal metanephric lobe
E5.6.3.2.0.0.7	Ren extra non lobatus	Externally unlobulated kidney
E5.6.3.2.0.0.8	Nephronum	Nephron
E5.6.3.2.0.0.9	Vesicula metanephrica; Vesicula renalis	Metanephric vesicle; Renal vesicle
E5.6.3.2.0.0.10	Tubulus metanephricus sigmoideus	S-shaped metanephric tubule
E5.6.3.2.0.0.11	Tubulus metanephricus conglutinatus cum ampulla tubuli metanephrici colligentis	Metanephric tubule fused with ampulla of collecting tubule of metanephros
E5.6.3.2.0.0.12	Tubulus metanephricus distalis	Distal metanephric tubule; Distal convoluted tubule
E5.6.3.2.0.0.13	Ansa nephroni	Nephron loop §Henle§
E5.6.3.2.0.0.14	Tubulus metanephricus proximalis	Proximal convoluted tubule; Proximal metanephric tubule
E5.6.3.2.0.0.15	Complexus juxtaglomerularis	Juxtaglomerular complex
E5.6.3.2.0.0.16	Pars terminalis attenuata	Attenuated terminal receiving part
E5.6.3.2.0.0.17	Corpusculum renale	Renal corpuscle §Malpighi §
E5.6.3.2.0.0.18	Capsula glomerularis	Glomerular capsule §Bowman§
E5.6.3.2.0.0.19	Invaginatio a vase sanguineo	Invagination by blood vessel
E5.6.3.2.0.0.20	Glomerulus	Glomerulus
E5.6.3.2.0.0.21	Mesangium	Mesangium
E5.6.3.2.0.0.22	Podocytus	Podocyte
E5.6.3.2.0.0.23	Cortex renalis	Renal cortex
E5.6.3.2.0.0.8	Nephronum	Nephron
E5.6.3.2.0.0.24	Columna renalis	Renal column §Bertin§
E5.6.3.2.0.0.25	Medulla renalis	Renal medulla
E5.6.3.2.0.0.26	Pyramis renalis	Renal pyramid
E5.6.3.2.0.0.13	Ansa nephroni	Nephron loop §Henle§
E5.6.3.1.2.0.21	Tubuli metanephrici colligentes; Ductus metanephricus colligentes	Collecting tubules of metanephros; Collecting ducts of metanephros [CD] §Bellini§
E5.6.3.2.0.0.27	Arcuatio nephronis[184]	Nephron arcade
E5.6.3.2.1.0.1	**Anomaliae tractus urinarii superioris**	**Upper urinary tract anomalies**
E5.6.3.2.1.0.2	Agenesis renis	Renal agenesis
E5.6.3.2.1.0.3	Ectopia renis	Ectopic kidney
E5.6.3.2.1.0.4	Ren unguliformis	Horseshoe kidney
E5.6.3.2.1.0.5	Ren pelvicus	Pelvic kidney
E5.6.3.2.1.0.6	Ren contralateralis	Crossed kidney
E5.6.3.2.1.0.7	Ren lobatus	Lobulated kidney
E5.6.3.2.1.0.8	Ren malrotatus	Malrotated kidney
E5.6.3.2.1.0.9	Ren polycysticus	Polycystic kidney
E5.6.3.2.1.0.10	Dysplasia multiplex renis	Multiple dysplastic kidney
E5.6.3.2.1.0.11	Ren sigmoideus	Sigmoid kidney
E5.6.3.2.1.0.12	Ren supernumerarius	Supernumerary kidney
E5.6.3.2.1.0.13	Nephroblastoma	Nephroblastoma
E5.6.3.2.1.0.14	Hydronephrosis	Hydronephrosis
E5.6.3.2.1.0.15	Ureter duplex	Double ureter
E5.6.3.2.1.0.16	Ureter bifidus	Bifid ureter
E5.6.3.2.1.0.17	Ureter ectopicus	Ectopic ureter
E5.6.3.2.1.0.18	Ureter postcavalis; Ureter retrocavalis	Postcaval ureter; Retrocaval ureter
E5.6.3.2.1.0.19	Ureter retroiliacus	Retroiliac ureter
E5.6.3.2.1.0.20	Stenosis ureteri	Stenotic ureter
E5.6.4.0.0.0.1	**Vesica urinaria et Urethra**	**Urinary bladder and Urethra**
E5.6.4.1.0.0.1	**VESICA URINARIA**	**URINARY BLADDER**
E5.6.4.1.0.0.2	Pars vesicalis canalis vesicourethralis	Vesical part of vesico-urethral canal

[184] E5.6.3.2.0.0.27 *Arcuatio nephronis* Early in the second trimester additional nephrons form from the points where metanephric tubules fuse with ampullae and form chains of adjacent nephrons.

E5.6.4.1.0.0.3	Incorporatio partis terminalis ductus mesonephrici	Incorporation of terminal part of mesonephric duct
E5.6.4.1.0.0.4	Ostia separata ureteris et ductus mesonephrici	Openings for ureter and mesonephric duct separated
E5.6.4.1.0.0.5	Motio cephalolateralis ostii ureterici et caudomedialis ostii ductus mesonephrici	Cephalolateral movement of ureteric duct opening and caudomedial movement of mesonephric duct opening
E5.6.4.1.0.0.6	Trigonum vesicae	Bladder trigone §Lieutaud§
E5.6.4.1.0.0.7	Urachus	Urachus
E5.6.4.1.0.0.8	Lig. umbilicale medianum	Median umbilical ligament
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.6.4.1.0.0.9	Tunica mucosa vesicae	Bladder mucosa; Bladder mucous membrane
E5.6.4.1.0.0.10	Urothelium; Epithelium transitionale	Urothelium; Transitional epithelium
E5.6.4.1.0.0.11	Urotheliocytus superficialis	Superficial urothelial cell
E5.6.4.1.0.0.12	Area intermedia	Intermediate area
E5.6.4.1.0.0.13	Mesenchyma intermedium in maxima parte parietis vesicalis	Intermediate mesenchyme for most of bladder wall
E5.6.4.1.0.0.14	Mesoderma laminae lateralis in pariete corporis vesicae	Lateral plate mesoderm for wall of body of bladder
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.6.4.2.0.0.1	**URETHRA PRIMORDIALIS**	**PRIMORDIAL URETHRA**
E5.6.4.2.1.0.1	**Pars urethralis canalis vesicourethralis**	**Urethral part of vesico-urethral canal**
E5.6.4.2.1.1.1	**Pars proximalis maxima urethrae femininae**	**Major proximal part of female urethra**
E5.6.4.2.1.1.2	Tuberculum sinuale fugax[185]	Transient sinus tubercle§Müller§
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.6.4.2.1.1.3	Tunica mucosa urethrae	Urethral mucosa; Urethral mucous membrane
E5.6.4.1.0.0.10	Urothelium; Epithelium transitionale	Urothelium; Transitional epithelium
E5.4.4.0.0.0.7	Epithelium stratificatum columnare	Stratified columnar epithelium
E5.6.4.2.1.1.4	Gemma glandulae urethralis	Urethral gland bud
E5.6.4.2.1.1.5	Lacunae urethrales	Urethral lacunae
E5.6.4.2.1.1.6	Glandula urethralis	Urethral gland
E5.6.4.2.1.1.7	Textus mesenchymalis	Mesenchymal tissue
E5.6.4.2.1.1.8	Tunica spongiosa	Spongy layer
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.6.4.2.1.2.1	**Dimidium proximale urethrae prostaticae**♂	**Proximal half of prostatic urethra**♂
E5.6.4.2.1.2.2	Tuberculum sinuale[185]	Sinus tubercle §Müller§
E5.6.4.2.1.2.3	Colliculus seminalis	Seminal colliculus
E5.6.4.2.1.2.4	Glandula collicularis	Collicular gland
E5.6.4.2.1.2.5	Utriculus prostaticus; Vagina masculina[186]	Prostatic utricle; Vagina masculina
E5.6.4.2.1.2.6	Ductus ejaculatorius	Ejaculatory duct
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.6.4.2.1.1.3	Tunica mucosa urethrae	Urethral mucosa; Urethral mucous membrane
E5.6.4.1.0.0.10	Urothelium; Epithelium transitionale	Urothelium; Transitional epithelium
E5.6.4.2.1.1.7	Textus mesenchymalis	Mesenchymal tissue
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.6.4.2.1.3.1	**Pars pelvina sinus urogenitalis definitivi** {vide etiam paginam **XX**}	**Pelvic part of definitive urogenital sinus** {see also page **XX E5.7.3.1.0.0.1**}
E5.6.4.2.1.4.1	**Pars distalis minima urethrae femininae**	**Minor distal part of female urethra**
E5.6.4.2.1.4.2	Apertura communis cum vagina	Common opening with vagina
E5.6.4.2.1.4.3	Crescentia perinei[187]	Growth of perineum
E5.6.4.2.1.4.4	Apertura separata a vagina	Separate opening from vagina

[185] E5.6.4.2.1.1.2/ E5.6.4.2.1.2.2 *Tuberculum sinuale* Sinual, mesonephric and paramesonephric epithelia meet at the *sinus tubercle*.

[186] E5.6.4.2.1.2.5 *Utriculus prostaticus; Vagina masculina* The cephalic part of the utricle is derived from the paramesonephric ducts and its caudal part from the mixed epithelium of the sinus tubercle.

[187] E5.6.4.2.1.4.3 *Crescentia perinei* Growth of the perineum brings the urethral and vaginal orifices to the surface (Ammini AC, Pandey J, Vijyaraghavan M, Sabherwal U. Human female phenotypic development: role of fetal ovaries. J Clin Endocrinol Metab 1994;79:604-8.

E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium
E5.6.4.2.1.1.4	Gemma glandulae urethralis	Urethral gland bud
E5.6.4.2.1.1.6	Glandula urethralis	Urethral gland §Littré§
E5.6.4.2.1.4.5	Gemma glandulae paraurethralis	Para-urethral gland bud
E5.6.4.2.1.4.6	Glandula paraurethralis; Prostata feminina	Para-urethral gland; Female prostate §Skene; Guérin§
E5.6.4.2.1.4.7	(Ductus paraurethralis)	(Para-urethral duct) §Skene; Schüller§
E5.6.4.2.1.1.7	Textus mesenchymalis	Mesenchymal tissue
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.6.4.2.1.4.8	M. sphincter urethrae externus	External urethral sphincter; Rhabdosphincter
E5.6.4.2.1.5.1	**Dimidium distale urethrae prostaticae**♂	**Distal half of prostatic urethra**♂
E5.6.4.2.1.5.2	Gemma prostaticae[188]	Prostate bud
E5.6.4.2.1.6.1	**Pars intermedia urethrae; Pars membranacea urethrae**♂	**Intermediate part of urethra; Membranous urethra**♂
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.6.4.2.1.1.3	Tunica mucosa urethrae	Urethral mucosa; Urethral mucous membrane
E5.4.4.0.0.0.7	Epithelium stratificatum columnare	Stratified columnar epithelium
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.6.4.2.1.1.7	Textus mesenchymalis	Mesenchymal tissue
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.6.4.2.1.6.2	Stratum nonstriatum	Smooth muscle layer
E5.6.4.2.1.4.8	M. sphincter urethrae externus	External urethral sphincter; Rhabdosphincter
E5.6.4.2.1.7.1	**Pars phallica sinus urogenitalis definitivi**♂ {vide etiam paginam **XX**}	**Phallic part of definitive urogenital sinus**♂ {see also page **XX**}
E5.6.4.2.1.7.2	Lamina urethralis; Chorda glandis	Urethral plate; Cord of glans
E5.6.4.2.1.7.3	Sulcus urethralis primarius	Primary urethral groove
E5.6.4.2.1.7.4	Plica urethralis primaria	Primary urethral fold
E3.0.0.6.1.0.6	Cavitatio	Cavitation
E5.6.4.2.1.7.5	Sulcus urethralis secundarius	Secondary urethral groove
E5.6.4.2.1.7.6	Plica urethralis secundarius	Secondary urethral fold
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E3.0.0.6.1.0.10	Conjunctio	Fusion
E5.6.4.2.1.8.1	**Pars spongiosa urethrae**♂	**Spongy urethra**♂
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.6.4.2.1.1.3	Tunica mucosa urethrae	Urethral mucosa; Urethral mucous membrane
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.6.4.2.1.8.2	Glandula bulbourethralis♂	Bulbo-urethral gland♂ §Cowper§
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.6.4.2.1.8.3	Exocrinocytus bulbourethralis	Bulbo-urethral exocrine cell
E5.6.4.2.1.8.4	Endocrinocytus bulbourethralis	Bulbo-urethral endocrine cell
E5.5.3.0.1.0.31	Myoepitheliocytus	Myo-epithelial cell
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E5.6.4.2.1.8.5	Stroma glandulae bulbourethralis	Stroma of bulbo-urethral gland
E5.4.3.0.0.2.5	Textus muscularis levis	Smooth muscle tissue
E5.6.4.2.1.8.6	Textus muscularis striatus	Striated muscle tissue
E5.6.4.2.1.8.7	Ductus glandulae bulbourethralis	Duct of bulbo-urethral gland
E5.6.4.2.1.8.8	Epitheliocytus principalis	Principal cell
E5.6.4.2.1.8.9	Epitheliocytus basalis	Basal cell
E5.5.3.0.1.0.29	Mucocytus	Mucous cell
E5.6.4.2.1.1.4	Gemma glandulae urethralis♂	Urethral gland buds♂
E5.6.4.2.1.1.5	Lacunae urethrales	Urethral lacunae
E5.6.4.2.1.1.6	Glandula urethralis	Urethral gland
E5.6.4.2.1.8.10	Fossa navicularis urethrae	Navicular fossa
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium

[188] E5.6.4.2.1.5.2 *Gemma prostaticae* A series of five clusters of endodermal buds grow into the surrounding mesenchyme. The latter becomes the fibromuscular part and forms about one third of the prostate. The five fetal lobules are obscured in postnatal life, so that there is no external sign of lobulation.

E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.7.0.0.0.0.1	**Systemata genitalia**	**Genital systems**
E5.7.1.0.0.0.1	**Gonada**	**Gonad**
E5.0.2.2.1.0.1	Epiblastus[357]	Epiblast; Primary ectoderm
E5.7.1.0.0.0.2	Cellula germinalis praecursoria	Primordial germ cell
E1.0.5.0.1.5.3	Chromosoma sexuale; Gonosoma	Sex chromosome
E5.7.1.0.0.0.3	Translatio cellularum germinalium praecursorium; Migratio cellularum germinalium praecursorium[189]	Positional change of primordial germ cells; Migration of primordial germ cells
E5.7.1.0.0.0.4	Vesicula umbilicalis; Saccus vitellinus[242]	Umbilical vesicle; Yolk sac
E5.4.9.0.2.0.1	Metenteron	Hindgut
E5.6.2.0.0.0.2	Crista mesonephrica; Plica mesonephrica	Mesonephric ridge; Mesonephric fold
E5.7.1.0.0.0.5	Crista gonadalis	Gonadal ridge
E5.7.1.1.0.0.1	**STADIUM NEUTRALE**	**INDIFFERENT STAGE**
E5.6.2.0.0.0.2	Crista mesonephrica; Plica mesonephrica	Mesonephric ridge; Mesonephric fold
E5.7.1.0.0.0.5	Crista gonadalis	Gonadal ridge
E5.7.1.1.0.0.2	Epithelium coelomicum	Coelomic epithelium▲
E5.7.1.0.0.0.2	Cellula germinalis praecursoria	Primordial germ cell
E5.7.1.1.0.0.3	Chorda epithelii coelomici[190]	Coelomic epithelial cord▲
E5.7.1.1.0.0.4	Cellula somatica sustinens	Somatic support cell
E5.7.1.1.0.0.5	Mesenchyma gonadale[191]	Gonadal mesenchyme
E5.7.1.1.0.0.6	Cellula mesonephrica	Mesonephric cell
E5.7.1.1.0.0.7	Chorda sexualis primordialis gonadalis[192]	Gonadal cord; Primordial sex cord
E5.7.1.2.0.0.1	**OVARIUM**	**OVARY**
E5.7.1.1.0.0.2	Epithelium coelomicum	Coelomic epithelium▲
E5.7.1.2.0.0.2	Epithelium coelomicum ovarii	Coelomic epithelium of ovary▲
E5.7.1.2.0.0.3	Mesothelium ovaricum; Epithelium superficiale ovarii	Ovarian mesothelium; Surface epithelium of ovary
E5.7.1.2.0.0.4	Mesotheliocytus cuboideus microvillosus	Microvillous cuboidal epithelial cell
E5.7.1.2.0.0.5	Medulla ovarii	Ovarian medulla
E5.7.1.2.0.0.6	Rete ovarii	Rete ovarii
E5.7.1.2.0.0.7	Cellula hili ovarii	Ovarian hilus cell
E5.7.1.1.0.0.7	Chorda sexualis primordialis gonadalis[192]	Gonadal cord; Primordial sex cord
E1.0.5.0.1.5.4	Chromosoma X; Gonosoma femininum	X chromosome
E5.7.1.2.0.0.8	Absentia regionis determinantis chromosomatis Y[SRY]	Absence of sex determining region of Y chromosome [SRY]
E5.7.1.2.0.0.9	Chorda sexualis primordialis ovarii[193]	Primordial sex cord of ovary; Medullary cord of ovary
E5.7.1.2.0.0.10	Mesovarium	Mesovarium
E5.7.1.2.0.0.11	Cortex ovarii	Ovarian cortex
E5.7.1.2.1.0.1	**Chorda folliculogenica**	**Folliculogenous cord; Cortical cord of ovary**
E5.7.1.0.0.0.2	Cellula germinalis praecursoria	Primordial germ cell

[189] E5.7.1.0.0.0.3 *Translatio cellularum germinalium praecursorium; Migratio cellularum germinalium praecursorium* The relocation of primordial germ cells from the wall of the umbilical vesicle to that of the hindgut can be explained by growth movements and shape changes (Freeman B. The active migration of germ cells in the embryos of mice and men is a myth. Reproduction 2003;125:635-643). However, relocation from the wall of the hindgut to the gonadal ridge is difficult to envision without true migration playing a part.

[190] E5.7.1.1.0.0.3 *Chorda epithelii coelomici* These cords were previously called primary sex cords but they represent only proliferative coelomic epithelium, presumably contributing to gonadal mesenchyme; they are not the precursors of the cords in which primordial germ cells will develop (Satoh M. Histogenesis and organogenesis of the gonad in human embryos. J Anat 1991;177:85-107).

[191] E5.7.1.1.0.0.5 *Mesenchyma gonadale* The *gonadal mesenchyme* that forms most gonadal cells comes from the mesonephros (Campagnolo L, Russo MA, Puglianello A, Favale A, Siracusa G. Mesenchymal cell precursors of peritubular smooth muscle cells of the mouse testis can be identified by the presence of the p75 neurotrophin receptor. Biol Reprod 2001;64:464-472). However, that which forms sustentacular (and granulosa) cells comes from the coelomic epithelium (Karl J, Capel B. Sertoli cells of the mouse testis originate from the coelomic epithelium. Dev Biol 1998;203:323-333).

[192] E5.7.1.1.0.0.7 *Chorda sexualis primordialis gonadalis* *Gonadal cords or primordial sex cords* extend from the mesonephros into the gonadal ridge and become associated with primordial germ cells; the coelomic epithelium flattens and the gonad protrudes into the coelomic cavity (Satoh M. Histogenesis and organogenesis of the gonad in human embryos. J Anat 1991;177:85-107).

[193] E5.7.1.2.0.0.9 *Chorda sexualis primordialis ovarii* In the ovary, primordial sex cords enlarge, extend peripherally, pick up primordial germ cells, leave the medulla and become the folliculogenic sex cords of the cortex (Satoh M. Histogenesis and organogenesis of the gonad in human embryos. J Anat 1991;177:85-107). Some cords remain in the medulla but do not develop and disappear in the third trimester.

E5.7.1.2.1.0.2	Oogonium	Oogonium
E5.7.1.2.1.0.3	Mitosis oogoniorum	Oogonial mitosis
E5.7.1.2.1.0.4	Syncytium oogenicum	Oogenetic syncytium
E5.7.1.2.1.0.5	Clonum oogenicum	Oogenetic clone
E5.7.1.2.1.0.6	Pons intercellularis oogonialis	Oogonial intercellular bridge
E5.7.1.2.1.0.7	Apoptosis oogoniorum	Oogonial apoptosis
E5.7.1.2.1.0.8	Oocytus primarius	Primary oocyte
E1.0.5.0.0.3.2	Meiosis I	Meiosis I
E5.7.1.2.1.0.9	Oocytus primarius interruptus in phase diplonemale	Primary oocyte arrested in diplotene
E5.7.1.2.1.0.10	Epithelium simplex squamosum folliculi	Simple squamous follicular epithelium
E5.7.1.2.1.0.11	Epitheliocytus follicularis; Folliculocytus primordialis	Primordial follicular epithelial cell
E5.7.1.2.1.0.12	Folliculus ovaricus primordialis	Primordial ovarian follicle
E5.7.1.2.1.0.13	Apoptosis oocytorum	Oocytic apoptosis
E5.7.1.2.1.0.14	Folliculus atreticus ovarii	Atretic ovarian follicle
E5.7.1.2.2.0.1	**Stroma ovarii**	**Stroma of ovary**
E5.7.1.2.2.0.2	Textus connectivus fusocellularis	Fusocellular connective tissue
E5.7.1.2.2.0.3	Cellula obscura fusiformis	Dark spindle-shaped cell
E5.7.1.2.2.0.4	Cellula lucida epithelioidea	Light epithelioid cell
E5.7.1.2.2.0.5	Endocrinocytus interstitialis ovarii	Interstitial cell of ovary
E5.7.1.2.2.0.6	Tunica albuginea	Tunica albuginea
E1.0.2.1.0.0.4	**Phasis pubertalis** {vide Terminologia Histologica}	**Pubertal phase** {see Terminologia Histologica}
E5.7.1.2.3.0.1	Folliculogenesis {vide Terminologia Histologica}	Folliculogenesis {see Terminologia Histologica}
E5.7.1.2.3.0.2	Luteogenesis {vide Terminologia Histologica}	Luteogenesis {see Terminologia Histologica}
E1.0.2.2.0.0.2	Oogenesis {vide supra}	Oogenesis {see above}
E5.7.1.3.0.0.1	**TESTIS**	**TESTIS**
E5.7.1.1.0.0.2	Epithelium coelomicum	Coelomic epithelium▲
E5.7.1.3.0.0.2	Epithelium coelomicum testis	Coelomic epithelium of testis▲
E5.7.1.3.0.0.3	Mesothelium testis; Epithelium superficiale testis; Lamina visceralis tunicae vaginalis testis	Testicular mesothelium; Surface epithelium of testis; Visceral layer of tunica vaginalis testis
E5.7.1.3.0.0.4	Mesotheliocytus	Mesothelial cell; Mesotheliocyte
E5.7.1.3.0.0.5	Tunica albuginea primaria testis	Primary tunica albuginea of testis
E5.7.1.1.0.0.7	Chorda sexualis primordialis gonadalis[192]	Gonadal cord; Primordial sex cord
E1.0.5.0.1.5.6	Chromosoma Y; Gonosoma masculinum	Y chromosome
E5.7.1.3.0.0.7	Regio chromosomatis Y determinans sexum [SRY]	Sex determining region of Y chromosome [SRY]
E5.7.1.3.0.0.8	Chorda sexualis primordialis testis; Chorda testicularis	Primordial sex cord of testis; Medullary cord of testis
E5.7.1.3.0.0.9	Mesorchium	Mesorchium
E5.7.1.3.0.0.10	Rete testis	Rete testis
E5.7.1.3.0.0.8	**Chorda sexualis primordialis testis; Chorda testicularis**	**Primordial sex cord of testis; Medullary cord of testis**
E5.7.1.3.1.0.1	Prospermatogonium; Spermatogonium praesumptivum	Prospermatogonium; Presumptive spermatogonium
E5.7.1.3.1.0.2	Mitosis prospermatogonialis	Prospermatogonial mitosis
E5.7.1.3.1.0.3	Syncytium spermatogenicum	Spermatogenic syncytium
E5.7.1.3.1.0.4	Clonum spermatogenicum	Spermatogenic clone
E5.7.1.3.1.0.5	Pons intercellularis prospermatogonialis	Prospermatogonial intercellular bridge
E5.7.1.3.1.0.6	Sustentocytus lucidus praesumptivus	Light presumptive sustentacular cell
E5.7.1.3.1.0.7	Inhibitio mitosis et meiosis	Inhibition of mitosis and meiosis
E5.7.1.3.1.0.8	Factor antiparamesonephricus[194]	Antiparamesonephric hormone [AMH/MIS]
E5.7.1.3.2.0.1	**Chorda seminifera**	**Seminiferous cord**
E5.7.1.3.2.0.2	Membrana basalis chordae seminiferae	Basement membrane of seminiferous cord
E5.7.1.3.1.0.1	Prospermatogonium; Spermatogonium praesumptivum	Prospermatogonium; Presumptive spermatogonium

[194] E5.7.1.3.1.0.8 *Factor antiparamesonephricus* The antiparamesonephric factor is eponymously known as AMH (AntiMüllerian Hormone) or MIS (Müllerian Inhibiting Substance).

E5.7.1.3.1.0.6	Sustentocytus lucidus praesumptivus	Light presumptive sustentacular cell
E5.7.1.3.2.0.3	Sustentocytus obscurus praesumptivus	Dark presumptive sustentacular cell
E5.7.1.3.2.0.4	Promotio meiosis	Promotion of meiosis
E5.4.1.3.0.0.12	Canalisatio	Canalization
E5.7.1.3.3.0.1	**Tubulus seminifer**	**Seminiferous tubule**
E5.7.1.3.3.0.2	Tubulus seminifer contortus	Convoluted seminiferous tubule
E5.7.1.0.0.0.2	Cellula germinalis praecursoria	Primordial germ cell
E5.7.1.3.3.0.3	Sustentocytus; Epitheliocytus sustenans	Sustentacular cell; Supporting cell; Nurse cell §Sertoli§
E5.7.1.3.3.0.4	Tubulus rectus	Straight tubule
E5.7.1.3.3.0.5	Conjunctio tubuli recti cum rete testis incipiens[195]	Incipient connection between straight tubule and rete testis
E5.7.1.3.3.0.6	Epithelium simplex cuboideum; Epithelium simplex isoprismaticum	Simple cuboidal epithelium; Simple isoprismatic epithelium
E5.7.1.3.4.0.1	**Parenchyma testis**	**Parenchyma of testis; Stroma of testis**
E5.7.1.3.4.0.2	Textus connectivus intertubularis	Intertubular connective tissue; Interstitial connective tissue
E5.7.1.3.4.0.3	Cellula compartimentans	Compartment-forming cell
E5.7.1.3.4.0.4	Endocrinocytus interstitialis	Interstitial endocrine cell; Interstitial cell §Leydig§
E5.7.1.3.4.0.5	Testosteronum	Testosterone
E5.7.1.3.4.0.6	Tunica albuginea testis definitiva	Definitive tunica albuginea of testis
E5.7.1.3.4.0.7	Mediastinum testis	Mediastinum of testis
E5.7.1.3.4.0.8	Septulum testis	Septum of testis
E5.7.1.3.4.0.9	Lobulus testis	Lobule of testis
E1.0.2.1.0.0.4	**Phasis pubertalis** {vide Terminologia Histologica}	**Pubertal phase** {see Terminologia Histologica}
E5.7.1.3.5.0.1	Spermatogenesis {vide supra}	Spermatogenesis; Spermatogeny {see above}
E1.0.5.3.0.0.4	Spermatogonium **[**Diploidia II] {vide Terminologia Histologica}	Spermatogonium [Diploid 2N] {see Terminologia Histologica}
E1.0.5.3.0.0.11	Spermiogenesis {vide Terminologia Histologica}	Spermiogenesis {see Terminologia Histologica}
E1.0.5.3.0.0.12	Spermatozoon; Spermium; Gametus masculinus [Haploidia I] {vide Terminologia Histologica}	Sperm; Sperm cell; Male gamete [Haploid 1N] {see Terminologia Histologica}
E5.7.2.0.0.0.1	**Ductus genitales**	**Genital ducts**
E5.7.2.1.0.0.1	**DERIVATIVA MESONEPHRI**	**DERIVATIVES OF MESONEPHROS**
E5.7.2.1.0.0.2	Tubulus mesonephricus	Mesonephric tubule
E5.7.2.1.0.0.3	Ductulus transversus epoophori♀	Transverse ductule of epoophoron♀
E5.7.2.1.0.0.4	Paroophoron♀	Paroophoron♀ §Kobelt§
E5.7.2.1.0.0.5	Ductulus efferens testis♂	Efferent ductule of testis♂
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.7.2.1.0.0.6	Epitheliocytus cuboideus microvillosus	Cuboidal epithelial cell with microvilli
E5.7.2.1.0.0.7	Epitheliocytus columnaris ciliatus	Ciliated columnar epithelial cell
E5.7.2.1.0.0.8	Mesenchyma periductale	Periductal mesenchyme
E5.7.2.1.0.0.9	Stratum musculare ductuli efferentis testis	Muscular layer of efferent ductule of testis
E5.7.2.1.0.0.10	Myocytus levis periductalis	Periductal smooth muscle cell
E5.7.2.1.0.0.11	(Ductulus aberrans superior♂)	(Superior aberrant ductule♂) §Haller§
E5.7.2.1.0.0.12	(Ductulus aberrans inferior♂)	(Inferior aberrant ductule♂) §Haller§
E5.7.2.1.0.0.13	(Paradidymis♂)	(Paradidymis♂) §Giraldés§
E5.7.2.1.0.0.14	(Ductulus paradidymidis♂)	(Paradidymal ductule♂)
E5.7.2.2.0.0.1	**DERIVATIVA DUCTUS MESONEPHRICI**	**DERIVATIVES OF MESONEPHRIC DUCT**
E5.7.2.2.0.0.2	(Appendix vesiculosa♀)	(Vesicular appendix♀) §Morgagni§
E5.7.2.2.0.0.3	(Ductus longitudinalis epoophori♀)	(Longitudinal duct of epoophoron♀) §Gärtner§ §Malpighii§
E5.7.2.2.0.0.4	(Ductus deferens vestigialis♀)	(Vestige of ductus deferens♀)
E5.7.2.2.0.0.5	Epididymis♂	Epididymis♂
E5.7.2.2.0.0.6	Ductus epididymidis♂	Duct of epididymis

[195] E5.7.1.3.3.0.5 *Conjunctio tubuli recti cum rete testis incipiens* Although the primordium of the rete testis is present in the embryo, it is not until the second trimester that it begins to connect with straight tubules and the process is not completed until puberty.

E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.7.2.2.0.0.7	Epitheliocytus stereociliatus	Stereociliated epithelial cell; Principal cell
E5.7.2.2.0.0.8	Epitheliocytus basalis	Basal cell
E5.7.2.2.0.0.9	Macrophagocytus spermatophagus	Spermatophagous macrophage
E5.7.2.1.0.0.8	Mesenchyma periductale	Periductal mesenchyme
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.7.2.2.0.0.10	Interstitium	Interstitium
E5.7.2.2.0.0.11	Tela subserosa	Subserosa; Subserous layer
E5.7.2.2.0.0.12	Tunica serosa	Serosa; Serous coat
E5.7.2.2.0.0.13	Appendix epididymidis♂	Appendix of epididymis♂
E5.7.2.2.0.0.14	Ductus deferens♂	Ductus deferens; Vas deferens♂
E5.7.2.2.0.0.15	Tunica mucosa ductus deferentis	Mucosa of ductus deferens; Mucous membrane of ductus deferens
E5.7.2.2.0.0.16	Plica longitudinalis	Longitudinal mucosal fold
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.7.2.2.0.0.7	Epitheliocytus stereociliatus	Stereociliated epithelial cell; Principal cell
E5.7.2.2.0.0.17	Epitheliocytus basalis	Basal cell
E5.7.2.1.0.0.8	Mesenchyma periductale	Periductal mesenchyme
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.7.2.2.0.0.18	Stratum longitudinale internum	Internal longitudinal layer
E5.7.2.2.0.0.19	Stratum circulare	Circular layer
E5.7.2.2.0.0.20	Stratum longitudinale externum	External longitudinal layer
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.7.2.2.0.0.11	Tela subserosa	Subserosa; Subserous layer
E5.7.2.2.0.0.12	Tunica serosa	Serosa; Serous coat
E5.7.2.2.0.0.21	Glandula vesiculosa et structurae pertinentae♂	Seminal gland and related structures♂
E5.7.2.2.0.0.22	Tunica mucosa	Mucosa; Mucous membrane
E5.7.2.2.0.0.23	Plica mucosa primaria	Primary mucosal fold
E5.7.2.2.0.0.24	Plica mucosa secundaria	Secondary mucosal fold
E5.7.2.2.0.0.25	Plica mucosa tertiaria	Tertiary mucosal fold
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.7.2.2.0.0.26	Diverticulum	Diverticulum
E5.7.2.2.0.0.27	Exocrinocytus principalis	Principal cell
E5.7.2.2.0.0.28	Epitheliocytus basalis	Basal cell
E5.7.2.1.0.0.8	Mesenchyma periductale	Periductal mesenchyme
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.7.2.2.0.0.11	Tela subserosa	Subserosa; Subserous layer
E5.7.2.2.0.0.12	Tunica serosa	Serosa; Serous coat
E5.6.4.1.0.0.6	Trigonum vesicae	Bladder trigone §Lieutaud§
E5.7.2.3.0.0.1	**DERIVATIVA CRISTAE GONADALIS**	**GONADAL RIDGE DERIVATIVES**
E5.7.2.3.0.0.2	Sulcus paramesonephricus	Paramesonephric groove
E5.7.2.3.0.0.3	Ductus paramesonephricus	Paramesonephric duct §Müller§
E5.7.2.3.0.0.4	Pars praeinfundibularis	Pre-infundibular part
E5.7.2.2.0.0.2	(Appendix vesiculosa♀)	(Vesicular appendix♀) §Morgagni§
E5.7.2.3.0.0.5	(Appendix testis♂)	(Appendix of testis♂) §Morgagni§
E5.7.2.3.0.0.6	Pars infundibularis	Infundibular part
E5.7.2.3.0.0.7	Pars postinfundibularis	Postinfundibular part
E5.7.2.3.0.0.8	Pars non conjuncta	Unfused part
E5.7.2.3.0.0.9	Ampulla tubae uterinae	Ampulla of uterine tube
E5.7.2.3.0.0.10	Isthmus tubae uterinae	Isthmus of uterine tube
E5.7.2.3.0.0.11	Pars uterina tubae uterinae	Uterine part of uterine tube
E5.7.2.3.0.0.12	Pars conjuncta	Fused part
E5.7.2.3.0.0.13	Canalis uterovaginalis	Uterovaginal canal
E5.7.2.3.1.0.1	**Tuba uterina♀**	**Uterine tube♀**
E5.7.2.3.1.0.2	Tunica mucosa tubae uterinae	Mucosa of uterine tube; Mucous membrane of uterine tube
E5.7.2.3.1.0.3	Plica mucosae tubae uterinae	Mucosal fold of uterine tube
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.7.2.3.1.0.4	Epitheliocytus ciliatus	Ciliated epithelial cell

E5.7.2.3.1.0.5	Exocrinocytus tubarius	Tubal secretory cell
E5.7.2.3.1.0.6	Epitheliocytus tubarius angustus	Peg cell; Intercalary cell
E5.7.2.3.1.0.7	Epitheliocytus tubarius basalis	Basal epithelial cell
E5.4.3.0.0.2.9	Lamina propria mucosae	Lamina propria
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.7.2.3.1.0.8	Stratum circulare; Stratum internum	Circular layer; Internal layer
E5.7.2.3.1.0.9	Stratum longitudinale; Stratum externum	Longitudinal layer; External layer
E5.7.2.2.0.0.11	Tela subserosa	Subserosa; Subserous layer
E5.7.2.3.1.0.10	Tunica serosa; Perimetrium	Serosa; Serous coat; Perimetrium
E5.7.2.3.2.0.1	**Corpus uteri**♀	**Body of uterus**♀
E5.7.2.3.2.0.2	Tunica mucosa corporis uteri; Endometrium	Endometrium
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.7.2.3.1.0.4	Epitheliocytus ciliatus	Ciliated epithelial cell
E5.7.2.3.2.0.3	Exocrinocytus uterinus	Uterine secretory cell
E5.7.2.3.2.0.4	Glandula uterina	Uterine gland
E5.7.2.3.2.0.5	Stroma endometriale; Lamina propria mucosae	Endometrial stroma; Lamina propria
E5.7.2.3.2.0.6	Cellula stromalis	Stromal cell
E5.7.2.3.2.0.7	Cellula granularis	Granular cell; Uterine natural killer [uNK] cell §Hamperl§
E5.7.2.3.2.0.8	Myometrium	Myometrium
E5.7.2.3.2.0.9	Tunica serosa; Perimetrium	Serosa; Serous coat; Perimetrium
E5.7.2.3.3.0.1	**Cervix uteri**♀	**Cervix of uterus**♀
E5.7.2.3.3.0.2	Tunica mucosae endocervicalis	Endocervical mucosa
E5.4.4.0.0.0.5	Epithelium simplex columnare	Simple columnar epithelium
E5.5.3.0.1.0.29	Mucocytus	Mucous cell
E5.7.2.3.1.0.4	Epitheliocytus ciliatus	Ciliated epithelial cell
E5.7.2.3.3.0.3	Glandula cervicalis	Cervical gland
E5.7.2.3.3.0.4	Tunica mucosae exocervicalis; Tunica mucosae portionis vaginalis	Exocervical mucosa; Mucosa of portio vaginalis
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium
E5.7.2.3.4.0.1	**Pars superior vaginae**♀{vide ulterius Cloaca}	**Upper part of vagina**♀ {see Cloaca following}
E5.7.2.3.5.0.1	**Utriculus prostaticus; Pars superior vaginae masculinae**♂ {vide ulterius Cloaca}	**Prostatic utricle; Upper part of vagina masculina**♂ {see Cloaca following}
E5.7.2.3.6.0.1	**Anomaliae gonadarum et organorum genitalium internorum**	**Anomalies of gonads and internal genitalia**
E5.7.2.3.6.0.2	Anovaria	Absence of ovary
E5.7.2.3.6.0.3	Ovotestis[196]	Ovotestis
E5.7.2.3.6.0.4	Ovarium polycysticum	Polycystic ovary
E5.7.2.3.6.0.5	Polyovaria	Multiple ovaries
E5.7.2.3.6.0.6	Agenesis tubae uterinae	Agenesis of uterine tube
E5.7.2.3.6.0.7	Tuba uterina rudimentaria	Rudimentary uterine tube
E5.7.2.3.6.0.8	Atresia tubae uterinae	Atresia of uterine tube
E5.7.2.3.6.0.9	Ostium accessorium tubae uterinae	Accessory ostium of uterine tube
E5.7.2.3.6.0.10	Tuba uterina accessoria	Accessory uterine tube
E5.7.2.3.6.0.11	Agenesis uteri	Uterine agenesis
E5.7.2.3.6.0.12	Uterus arcuatus	Arcuate uterus
E5.7.2.3.6.0.13	Uterus bicornis	Bicornuate uterus
E5.7.2.3.6.0.14	Uterus bicervicalis	Bicervical uterus
E5.7.2.3.6.0.15	Uterus didelphys	Uterus didelphys
E5.7.2.3.6.0.16	Uterus duplex	Double uterus
E5.7.2.3.6.0.17	Uterus infantilis	Infantile uterus
E5.7.2.3.6.0.18	Uterus septatus	Septate uterus
E5.7.2.3.6.0.19	Uterus subseptatus	Subseptate uterus
E5.7.2.3.6.0.20	Uterus unicornis	Unicornuate uterus
E5.7.2.3.6.0.21	Agenesis vaginae	Vaginal agenesis
E5.7.2.3.6.0.22	Hymen imperforatus	Imperforate hymen

[196] E5.7.2.3.6.0.3 *Ovotestis* An abnormal gonad that contains both ovarian and testicular tissue.

E5.7.2.3.6.0.23	Vagina duplex	Double vagina
E5.7.2.3.6.0.24	Clitoris bifidus	Bifid clitoris
E5.7.2.3.6.0.25	Anorchismus	Anorchism
E5.7.2.3.6.0.26	Cryptorchismus	Cryptorchism
E5.7.2.3.6.0.27	Ectopia testis	Ectopic testis
E5.7.2.3.6.0.28	Testis contralateralis	Crossed testis
E5.7.2.3.6.0.29	Polyorchismus	Polyorchism
E5.7.2.3.6.0.30	Hydrocoelia	Hydrocoele▲
E5.7.2.3.6.0.31	Hydrocoelia testis	Testicular hydrocoele▲
E5.7.2.3.6.0.32	Hydrocoelia funiculi spermatici	Hydrocoele of spermatic cord▲
E5.7.2.3.6.0.33	Intersexus	Intersex
E5.7.2.3.6.0.34	Hermaphroditismus	True hermaphroditism
E5.7.2.3.6.0.35	Dysgenesis gonadalis mixta	Mixed gonadal dysgenesis
E5.7.2.3.6.0.36	Pseudohermaphroditismus {vide paginam **XX**}	Pseudohermaphroditism {see page **XX E5.7.4.0.2.0.1**}
E5.4.0.0.0.0.14	**Cloaca**	**Cloaca**
E5.7.3.0.1.0.1	**Diverticulum allantoicum; ductus allantoicus**	**Allantoic diverticulum; allantoic duct**
E5.7.3.0.1.0.2	Mesenchyma allantoicum et umbilicale	Allantoic and umbilical mesenchyme
E5.4.9.0.2.0.14	Septum urorectale	Urorectal septum
E5.4.9.0.2.0.1	**Metenteron**	**Hindgut**
E5.4.9.0.2.0.11	Rectum primordiale	Primordial rectum
E5.4.10.0.0.0.2	Pars metenteralis canalis analis	Hindgut part of anal canal
E5.4.11.0.0.0.1	Urenteron; Pars postcloacalis intestini[197]	Postcloacal gut; Tailgut; Endgut
E5.6.2.0.0.0.4	**Ductus mesonephricus**	**Mesonephric duct** §Wolff§
E5.7.3.0.3.0.1	Sinus urogenitalis primordialis	Primordial urogenital sinus
E5.7.3.0.3.0.2	Canalis vesicourethralis	Vesico-urethral canal
E5.6.4.1.0.0.2	Pars vesicalis canalis vesicourethralis {vide paginam **XX**}	Vesical part of vesico-urethral canal {see page **XX E5.6.4.0.0.0.2**}
E5.6.4.2.1.0.1	Pars urethralis canalis vesicourethralis {vide paginam **XX**}	Urethral part of vesico-urethral canal {see page **XX E5.6.4.2.1.0.1**}
E5.6.4.2.1.1.2	**Tuberculum sinuale fugax**♀[185]	**Transient sinus tubercle**♀ §Müller§
E5.7.3.0.4.0.1	Bulbus sinuvaginalis♀	Sinuvaginal bulb♀
E5.7.3.0.4.0.2	Lamina vaginae	Vaginal plate
E3.0.0.6.1.0.5	Canalisatio	Canalisation
E5.7.3.0.4.0.3	Vagina[198]	Vagina
E5.7.3.0.4.0.4	Hymen	Hymen
E5.7.3.0.5.0.1	**Histogenesis vaginae**	**Histogenesis of vagina; Histogeny of vagina**
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium
E5.7.3.0.5.0.2	Epitheliocytus basalis	Basal cell
E5.7.3.0.5.0.3	Epitheliocytus parabasalis	Parabasal epithelial cell
E5.7.3.0.5.0.4	Epitheliocytus superficialis	Superficial epithelial cell
E5.6.4.2.1.1.8	Tunica spongiosa	Spongy layer
E5.4.13.0.0.2.1	Tunica muscularis	Muscular layer; Muscular coat
E5.7.2.3.5.0.5	Stratum circulare; Stratum internum	Circular layer; Internal layer
E5.7.2.3.5.0.6	Stratum longitudinale; Stratum externum	Longitudinal layer; External layer
E5.4.3.0.0.2.11	Tunica adventitia	Adventitial layer; Adventitial coat
E5.6.4.2.1.2.2	**Tuberculum sinuale**♂[185]	**Sinus tubercle**♂ §Müller§
E5.7.3.0.6.0.1	Bulbus sinuutricularis♂	Sinu-utricular bulb♂
E5.6.4.2.1.2.3	Colliculus seminalis	Seminal colliculus
E5.6.4.2.1.2.4	Glandula collicularis	Collicular gland
E5.6.4.2.1.2.5	Utriculus prostaticus; Vagina masculina[198]	Prostatic utricle; Vagina masculina
E5.7.3.1.0.0.1	**SINUS UROGENITALIS DEFINITIVUS**	**DEFINITIVE UROGENITAL SINUS**
E5.6.4.2.1.3.1	Pars pelvina sinus urogenitalis definitivi {vide etiam paginam **XX**}	Pelvic part of definitive urogenital sinus {see also page **XX E5.6.4.2.1.3.1**}

[197] E5.4.11.0.0.0.1 *Urenteron; Pars postcloacalis intestini* The term postanal gut is a misnomer because the tailgut is evanescent and has disappeared before there is an established anorectum.

[198] E5.7.3.0.4.0.3/ E5.6.4.2.1.2.5 *Vagina / Utriculus prostaticus; Vagina masculina* Accounts vary but the cephalic parts of the vagina and of the utricle are probably derived from the paramesonephric ducts and their caudal parts from the mixed epithelium of the sinus tubercle.

E5.7.3.1.0.0.2	Apertura communis urethrae et vaginae♀	Common opening of urethra and vagina♀
E5.7.3.1.0.0.3	Perineum primarium[199]	Primary perineum
E5.6.4.2.1.4.3	Crescentia perinei[187]	Growth of perineum
E5.7.3.1.0.0.4	Perineum secundarium[200]	Secondary perineum
E5.7.3.1.0.0.5	Corpus perineale; Centrum perinei	Perineal body
E5.7.3.1.0.0.6	Aperturae disjunctae urethrae et vaginae♀	Separate openings of urethra and vagina♀
E5.7.3.1.0.0.7	Pars prostatica urethrae♂	Prostatic urethra♂
E5.6.4.2.1.6.1	Pars intermedia urethrae; Pars membranacea urethrae♂	Intermediate part of urethra; Membranous urethra♂
E5.6.4.2.1.7.1	Pars phallica sinus urogenitalis definitivi {vide paginam **XX**}	Phallic part of definitive urogenital sinus {see page **XX E5.6.4.2.1.7.1**}
E5.4.0.0.0.0.15	Membrana cloacalis	Cloacal membrane
E5.4.10.0.0.0.7	Abruptio membranae cloacalis	Rupture of cloacal membrane
E5.7.3.2.0.0.1	**ANOMALIAE CLOACAE**	**ANOMALIES OF CLOACA**
E5.7.3.2.0.0.2	Cloaca persistens	Persistent cloaca
E5.7.3.2.0.0.3	Exstrophia cloacae	Exstrophy of cloaca
E5.7.3.2.0.0.4	Fistula rectalis congenita	Congenital rectal fistula
E5.4.11.0.1.0.8	Fistula rectourethralis	Recto-urethral fistula
E5.4.11.0.1.0.5	Fistula rectovaginalis	Rectovaginal fistula
E5.4.11.0.1.0.7	Fistula rectovestibularis	Rectovestibular fistula
E5.7.3.2.0.0.5	Fistula rectovesicalis congenita	Congenital rectovesical fistula
E5.7.3.2.0.0.6	Fistula vesicalis congenita	Congenital vesical fistula
E5.7.3.2.0.0.7	Fistula vesicouterina	Vesico-uterine fistula
E5.7.3.2.0.0.8	Fistula vesicovaginalis	Vesicovaginal fistula
E5.7.4.0.0.0.1	**Organa genitalia externa**	**External genitalia**
E5.7.1.1.0.0.1	**Stadium neutrale**	**Indifferent stage**
E5.7.4.0.1.0.1	Tuberculum phallicum; Tuberculum genitale	Phallic tubercle; Genital tubercle
E5.7.4.0.1.0.2	Phallus primordialis	Primordial phallus
E5.7.4.0.1.0.3	Lamina urethralis endodermalis	Endodermal urethral plate
E5.7.4.0.1.0.4	Tuberculum labioscrotale	Labioscrotal swelling; Genital swelling
E5.7.4.0.1.0.5	Plica cloacalis[201]	Cloacal fold
E5.6.4.2.1.7.4	Plica urethralis primaria	Primary urethral fold
E5.6.4.2.1.7.3	Sulcus urethralis primarius	Primary urethral groove
E3.0.0.6.1.0.6	Cavitatio	Cavitation
E5.6.4.2.1.7.5	Sulcus urethralis secundarius	Secondary urethral groove
E5.6.4.2.1.7.6	Plica urethralis secundarius	Secondary urethral fold
E5.7.4.0.1.0.6	Plica analis	Anal fold
E5.4.0.0.0.0.13	Fovea analis[142]	Anal pit
E5.4.10.0.0.0.7	Abruptio membranae cloacalis	Rupture of cloacal membrane
E5.7.3.1.0.0.4	Perineum secundarium[200]	Secondary perineum
E5.7.4.0.2.0.1	**Stadium discriminatum**	**Differentiating stage**
E5.7.4.0.2.1.1	**Tuberculum phallicum; Tuberculum genitale**	**Phallic tubercle; Genital tubercle**
E5.6.4.2.1.7.1	Pars phallica sinus urogenitalis definitivi {vide etiam supra et paginam **XX**}	Phallic part of definitive urogenital sinus {see also above and page **XX E5.6.4.2.1.7.1**}
E5.7.4.0.2.1.2	Corpus et glans clitoridis♀	Body and glans of clitoris♀
E5.7.4.0.2.1.3	Glans et pars dorsalis corporis penis♂	Glans and dorsal part of body of penis♂
E5.7.4.0.2.1.4	Sulcus coronarius	Coronary groove
E5.7.4.0.2.1.5	Glans clitoridis♀	Glans of clitoris♀
E5.7.4.0.2.1.6	Glans penis♂	Glans of penis♂
E5.7.4.0.2.1.7	Plica glandopraeputialis glandis	Preputial fold of glans
E5.7.4.0.2.1.8	Lamella glandopraeputialis glandis	Preputial lamella of glans
E5.7.4.0.2.1.9	Praeputium	Prepuce
E5.6.4.2.1.7.2	Lamina urethralis; Chorda glandis	Urethral plate; Cord of glans

[199] E5.7.3.1.0.0.3 *Perineum primarium* Mesenchyme from the caudal eminence tracks around the anal pit and forms the *primary perineum* between the anal canal and the pelvic part of definitive urogenital sinus.

[200] E5.7.3.1.0.0.4 *Perineum secundarium* As the perineum is reinforced by mesenchyme from the urorectal septum, it becomes prominent and expands forming the *perineal body*.

[201] E5.7.4.0.1.0.5 *Plica cloacalis* The *cloacal folds* are commonly referred to as primary urethral folds. However, they extend beyond presumptive urethra to flank the presumptive anus and thus have both urethral and anal derivatives, the primary urethral and anal folds.

E5.6.4.2.1.8.10	Fossa navicularis urethrae♂	Navicular fossa ♂
E5.6.4.2.1.7.6	**Plica urethralis secondarius**	**Secondary urethral fold**
E5.7.4.0.2.2.1	Labium minus♀	Labium minus♀
E5.7.4.0.2.2.2	Frenulum labiorum pudendi♀	Frenulum of labia minora; Fourchette♀
E5.7.4.0.2.2.3	Vestibulum vaginae♀	Vestibule of vagina♀
E5.7.4.0.2.2.4	Corpus spongiosum clitoridis; Bulbus vestibularis[202]	Corpus spongiosum of clitoris; Vestibular bulb
E5.7.4.0.2.2.5	Glandula vestibularis major♀	Greater vestibular gland♀ §Bartholin§
E5.7.4.0.2.2.6	Exocrinocytus glandulae vestibularis major♀	Secretory cell of greater vestibular gland♀
E5.7.4.0.2.2.7	Endocrinocytus glandulae vestibularis majoris♀[203]	Endocrine cell of greater vestibular gland♀
E5.5.3.0.1.0.31	Myoepitheliocytus	Myo-epithelial cell
E5.7.4.0.2.2.8	Glandula vestibularis minor♀	Lesser vestibular gland♀
E5.6.4.2.1.7.3	Sulcus urethralis primarius♂	Primary urethral groove♂
E5.6.4.2.1.7.4	Plica urethralis primaria♂	Primary urethral fold♂
E3.0.0.6.1.0.6	Cavitatio	Cavitation
E5.6.4.2.1.7.5	Sulcus urethralis secundarius♂	Secondary urethral groove♂
E5.6.4.2.1.7.6	Plica urethralis secundarius♂	Secondary urethral fold♂
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E3.0.0.6.1.0.10	Conjunctio	Fusion
E5.6.4.2.1.8.1	Pars spongiosa urethrae♂	Spongy urethra♂
E5.7.4.0.1.0.4	**Tuberculum labioscrotale**	**Labioscrotal swelling; Genital swelling**
E5.7.4.0.2.3.1	Labium majus♀	Labium majus♀
E5.7.4.0.2.3.2	Commissura labiorum anterior♀	Anterior commissure♀
E5.7.4.0.2.3.3	Commissura labiorum posterior♀	Posterior commissure♀
E5.7.4.0.2.3.4	Scrotum♂	Scrotum♂
E5.7.4.0.2.3.5	Raphe scroti♂	Raphe of scrotum♂
E5.7.4.0.2.3.6	Raphe perinealis♂	Perineal raphe♂
E5.7.4.0.3.0.1	**Anomaliae organorum genitalium externorum et tractus urinarii inferioris**	**Anomalies of external genitalia and lower urinary tract**
E5.7.4.0.3.0.2	Epispadias	Epispadias
E5.7.4.0.3.0.3	Hypospadias	Hypospadias
E5.7.4.0.3.0.4	Hypospadias glandis	Hypospadias of glans; Glandular hypospadias
E5.7.4.0.3.0.5	Hypospadias corporis penis	Penile hypospadias
E5.7.4.0.3.0.6	Hypospadias penoscrotalis	Penoscrotal hypospadias
E5.7.4.0.3.0.7	Hypospadias perinealis	Perineal hypospadias
E5.7.4.0.3.0.8	Penis bifidus	Bifid penis
E5.7.4.0.3.0.9	Phimosis	Phimosis
E5.7.4.0.3.0.10	Pseudohermaphroditismus	Pseudohermaphroditism
E5.7.4.0.3.0.11	Pseudohermaphroditismus femininus	Female pseudohermaphroditism
E5.7.4.0.3.0.12	Pseudohermaphroditismus masculinus	Male pseudohermaphroditism
E5.7.4.0.3.0.13	Agenesis vesicae urinariae	Agenesis of bladder
E5.7.4.0.3.0.14	Ectopia vesicae urinariae	Ectopic urinary bladder
E5.7.4.0.3.0.15	Exstrophia vesicae urinariae	Exstrophy of bladder
E5.7.4.0.3.0.16	Vesica urinaria duplex	Double bladder
E5.7.4.0.3.0.17	Cystis urachi	Urachal cyst
E5.7.4.0.3.0.18	Sinus urachi	Urachal sinus
E5.7.4.0.3.0.19	Fistula urachi	Urachal fistula
E5.8.0.0.0.0.1	**Coeloma et septa**[204]	**Coelom and septa**▲

[202] E5.7.4.0.2.1.4 *Corpus spongiosum clitoridis; Bulbus vestibularis* The corpus spongiosum of the clitoris extends anteriorly from the bilateral vestibular bulbs to terminate as the glans clitoridis and corresponds to the corpus spongiosum penis (Van Turnhout AA, Hage JJ,van Diest PJ. The female corpus spongiosum revisited. Acta Obstet Gynecol Scand 1995; 74: 767–771). For homology with the male, this term is preferrred to the proposed term bulbus clitoridis (O'Connell HE, Hutson JM, Anderson CR, Plenter RJ. Anatomical relationship between urethra and clitoris. J Urol 1998; 159: 1892–1897).

[203] E5.7.4.0.2.1.7 *Endocrinocytus glandulae vestibularis majoris* Endocrine cells similar to those found elsewhere in the urogenital tract (Fetissov F, Arbeille B, Bellet D, Barre I, Lansac J. Endocrine cells in human Bartholin's glands. Virch Arch B Cell Pathol1989;57:117-121).

[204]E5.8.0.0.0.0.1 *Coelomata et septa* The coelom is described as a tubular blastema. The walls of this hollow organ are built up of prospective mesothelium which delimits the lumen from the surrounding mesenchyme. The lumen enlarges by the coalescence of small spaces in this mesenchyme. In this way organs are "liberated" from their surrounding mesenchyme and may reach an intraserosal position. This process leads to serosal connections of the organs with the body wall, carrying vessels and nerves. The mesenterial relations in the developing embryo are quite different from those in the fetus. The "mesenteria" are relatively much more voluminous in the younger organism. They are shaped by the

E5.8.0.0.1.0.1	**Coeloma extraembryonicum**	**Extra-embryonic coelom▲**
E5.8.0.0.1.0.2	Cavitas chorionica	Chorionic cavity
E5.8.0.0.1.0.3	Coeloma umbilicale[205]	Umbilical coelom▲
E5.8.0.0.2.0.1	**Coeloma intraembryonicum**	**Intra-embryonic coelom▲**
E5.8.0.0.2.0.2	Cavitas coelomica	Coelomic cavity; Coelomic vesicle; Coelomic space▲
E5.7.1.1.0.0.2	Epithelium coelomicum	Coelomic epithelium▲
E5.0.3.0.0.0.2	Mesoderma laminae lateralis	Lateral plate mesoderm
E5.8.0.0.2.0.3	Cavitatio mesenchymatis	Cavitation of mesenchyme
E5.8.0.0.2.0.4	Spatia coelomica segrega	Isolated coelomic spaces▲
E5.8.0.0.2.0.5	Spatia coelomica coalita	Coalesced coelomic spaces▲
E5.8.0.0.2.0.6	Mesenchyma cardiogenicum	Cardiogenic mesenchyme
E5.2.0.4.0.0.2	Septum transversum	Septum transversum
E5.8.0.0.2.0.7	Pars transversa cavitatis coelomaticae	Transverse part of coelomic cavity▲
E5.8.0.0.2.0.8	Cavitas pericardiaca primordialis	Primordial pericardial cavity
E5.8.0.0.2.0.9	Canalis pericardioperitonealis primordialis	Primordial pericardioperitoneal canal
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.8.0.0.2.0.10	Pars longitudinalis cavitatis coelomaticae	Longitudinal part of coelomic cavity▲
E5.8.0.0.2.0.11	Zona junctionalis mesenchymalis[208]	Junctional zone of mesenchyme
E5.8.0.0.2.0.12	Communicatio inter coelomata embryonicum et extraembryonicum	Communication between intra-embryonic and extra-embryonic coeloms▲
E5.8.0.0.3.0.1	**Cavitas pericardiaca**	**Pericardial cavity**
E5.8.0.0.2.0.8	Cavitas pericardiaca primordialis	Primordial pericardial cavity
E5.8.0.0.3.0.2	Primordium epicardii; Proepicardium[209]	Primordium of epicardium; Pro-epicardium
E5.8.0.0.3.0.3	Mesocardium[210]	Mesocardium; Dorsal mesocardium
E5.8.0.0.3.0.4	Ruptura mesocardii	Breakdown of mesocardium
E5.8.0.0.3.0.5	Sinus transversus pericardii	Transverse pericardial sinus
E5.8.0.0.4.0.1	**Pars rostralis canalis pericardioperitonealis**	**Rostral part of pericardioperitoneal canal**
E5.8.0.0.4.0.2	Invaginatio faciei medialis canalis pericardioperitonealis a pulmone primordiale	Invagination of medial aspect of pericardioperitoneal canal by primordial lung
E5.8.0.0.4.0.3	Hiatus pleuropericardiacus	Pleuropericardial opening
E5.8.0.0.4.0.4	Plica pleuropericardiaca septi transversi[211]	Pleuropericardial fold of septum transversum
E5.8.0.0.4.0.5	Membrana pleuropericardiaca	Pleuropericardial membrane
E5.8.0.0.4.0.6	Cavitas pleuralis	Pleural cavity
E5.8.0.0.4.0.7	Hiatus pleuroperitonealis	Pleuroperitoneal opening
E5.8.0.0.4.0.8	Plica pleuroperitonealis	Pleuroperitoneal fold
E5.8.0.0.4.0.9	Membrana pleuroperitonealis	Pleuroperitoneal membrane
E5.2.0.4.0.0.1	Diaphragma	Diaphragm
E5.8.0.0.5.0.1	**Pars caudalis canalis pericardioperitonealis**	**Caudal part of pericardioperitoneal canal**

mentioned "liberation" process and much less so by real folding and rotation. Notwithstanding this difference in relations and topography, the names of the ligaments and plicae (folds) are identical with those in Terminologia Anatomica (1998).

[205] E5.8.0.0.1.0.3 *Coeloma umbilicale* The coelom in the proximal part of the umbilical cord communicates with the intraembryonic coelom and is a remnant of the extraembryonic coelom, most of which is obliterated as the amnion surrounds the connecting stalk to form the umbilical cord.

[206] E4.0.4.1.0.0.3 *Mesenchyma somatopleurale* Together with ectoderm, *somatopleuric mesenchyme* makes up the body wall. The unqualified term somatopleure is not recommended because it is ambiguous, having been used to mean either the whole thickness of the body wall or only its mesenchymal component.

[207] E4.0.4.1.0.0.4 *Mesenchyma splanchnopleurale* Together with endoderm, the *splanchnopleuric mesenchyme* makes up the walls of the gut-related viscera. The unqualified term splanchnopleure is not recommended because it is ambiguous, having been used to mean either the whole thickness of the visceral wall or only its mesenchymal component.

[208] E5.8.0.0.2.0.11 *Zona junctionalis mesenchymalis* The bar of mesenchyme where somatopleuric and splanchnopleuric mesenchymes meet and which separates the embryonic and extra-embryonic coeloms on each side of the Stage 9 embryo. It breaks down, allowing them to communicate, in Stage 10.

[209] E5.8.0.0.3.0.2 *Primordium epicardii; Proepicardium* A cluster of mesothelial cells over the septum transversum; pro-epicardial vesicles flatten and join to form the epicardium, the cells of which undergo epitheliomesenchymal transformation and invade the heart tube (Poelmann RE, Lie-Venema H, Gittenberger-de Groot AC. The role of the epicardium and the neural crest. Tex Heart Inst J 2002;29:255-261).

[210] E5.8.0.0.3.0.3 *Mesocardium* Athough a homologue of the dorsal mesocardium in other species, the recommended term is *mesocardium* because, unlike chick embryos, there is no corresponding ventral mesocardium in normal human embryos.

[211] E5.8.0.0.4.0.4 *Plica pleuropericardialis septi transversi* The *pleuropericardial fold of the septum transversum* contains the common cardinal vein.

E5.8.0.0.5.0.2	Cavitas peritonealis propria	Greater sac
E5.8.0.0.5.0.3	Spatium subphrenicum	Subphrenic space
E5.8.0.0.5.0.4	Recessus duodenalis superior	Superior duodenal recess §Treves§
E5.8.0.0.5.0.5	Recessus duodenalis inferior	Inferior duodenal recess §Treves§
E5.8.0.0.5.0.6	Recessus paraduodenalis	Paraduodenal recess
E5.8.0.0.5.0.7	Recessus retroduodenalis	Retroduodenal recess
E5.8.0.0.5.0.8	Recessus duodenojejunalis; Recessus mesocolicus	Duodenojejunal recess; Mesocolic recess
E5.8.0.0.5.0.9	Recessus ileocaecalis inferior	Inferior ileocaecal recess▲ §Treves§
E5.8.0.0.5.0.10	Recessus mesentericoparietalis	Mesentericoparietal recess §Waldeyer§
E5.8.0.0.5.0.12	Processus vaginalis	Vaginal process
E5.8.0.0.5.0.13	(Vestigium processus vaginalis)	(Vestige of processus vaginalis)♀ §Nück§
E5.8.0.0.5.0.14	Tunica vaginalis testis	Tunica vaginalis testis
E5.8.0.0.5.0.15	Bursa omentalis[212]	Omental bursa; Lesser sac
E5.8.0.0.5.0.16	Recessus pneumatoenterici	Pneumato-enteric recesses
E5.8.0.0.5.0.17	Recessus pneumatoentericus dexter	Right pneumato-enteric recess
E5.8.0.0.5.0.18	Recessus hepatoentericus dexter	Right hepato-enteric recess
E5.8.0.0.5.0.19	Bursa infracardialis	Infracardiac bursa
E5.8.0.0.5.0.20	Recessus superior bursae omentalis	Superior recess of omental bursa; Superior recess of lesser sac
E5.8.0.0.5.0.21	Recessus inferior bursae omentalis; Bursa omentalis propria	Inferior recess of omental bursa; Inferior recess of lesser sac; Omental bursa proper
E5.8.0.0.5.0.22	Plica pancreaticoduodenalis	Pancreaticoduodenal fold
E5.8.0.0.5.0.23	Recessus splenicus; Recessus lienalis	Splenic recess
E5.8.0.0.5.0.24	Plica gastropancreatica	Gastropancreatic fold
E5.8.0.0.5.0.25	Vestibulum bursae omentalis	Vestibule of omental bursa; Vestibule of lesser sac
E5.8.0.0.5.0.26	Communicatio inter cavitatem peritonealem propriam et bursam omentalem	Communication between greater sac and omental bursa; Communication between greater sac and lesser sac
E5.8.0.0.5.0.27	Foramen omentale; Foramen epiploicum	Omental foramen; Epiploic foramen §Winslow§
E5.8.0.0.2.0.12	**Communicatio inter coelomata embryonicum et extraembryonicum**	**Communication between intra-embryonic and extra-embryonic coeloms▲**
E5.8.0.0.1.0.3	Coeloma umbilicale[205]	Umbilical coelom▲
E5.8.0.0.6.0.1	Communicatio inter latera dextrum et sinistrum cavitatis peritonealis caudaliter ductui omphaloenterico	Communication between right and left sides of peritoneal cavity caudal to omphalo-enteric duct
E5.8.0.0.6.0.2	Communicatio inter latera dextrum et sinistrum cavitatis peritonealis cranialiter ductui omphaloenterico	Communication between right and left sides of peritoneal cavity cranial to omphalo-enteric duct
E5.2.0.3.2.0.9	Anulus umbilicalis[213]	Umbilical ring
E5.8.0.0.7.0.1	**Herniae abnormales**	**Abnormal hernias**
E5.8.0.0.7.0.2	Hernia diaphragmatica	Diaphragmatic hernia
E5.8.0.0.7.0.3	Hernia glutealis	Sciatic hernia; Gluteal hernia
E5.8.0.0.7.0.4	Hernia inguinalis	Inguinal hernia
E5.8.0.0.7.0.5	Processus vaginalis persistens	Patent processus vaginalis
E5.8.0.0.7.0.6	Hernia fluitans appendicis	Sliding hernia of appendix
E5.8.0.0.7.0.7	Hernia fluitans coli	Sliding hernia of colon
E5.2.0.4.1.0.7	Hernia fluitans hiatus; Hernia fluitans oesophagi	Sliding hiatus hernia; Sliding hernia of oesophagus▲
E5.8.0.0.7.0.8	Hernia obturatoria	Obturator hernia
E5.8.0.0.7.0.9	Hernia peritonealis	Peritoneal hernia
E5.8.0.0.7.0.10	Hernia retrocaecalis	Retrocaecal hernia▲

[212] E5.8.0.0.5.0.15 *Bursa omentalis* The *anlage* of the omental bursa is a thickening and invagination of coelomic epithelium on the right side of the dorsal mesogastrium (C. Viebahn, unpublished observation on 7mm embryo).

[213] E5.2.0.3.2.0.9 *Anulus umbilicalis* The term *umbilical ring* is used in two different but related ways: firstly, it describes the site on the ventral aspect of an embryo where the margins of the folded embryonic disc converge – the structures transmitted by the ring become covered by amnion and mesenchyme and form the umbilical cord; secondly, it describes the opening through which the umbilical vessels pass: in young embryos it is relatively closer to the pubis than in the fetus, in which it becomes an umbilical hiatus in the linea alba, which normally closes in postnatal life.

E5.8.0.0.7.0.11	Hernia umbilicalis	Umbilical hernia
E5.9.0.0.0.0.1	**Massae mesenchymales mesentericae; Mesenteria primordalia**	**Mesenchymal mesenteric masses; Primordial mesenteries**
E5.9.0.0.0.0.2	Mesenterium dorsale primordiale	Primordial dorsal mesentery
E5.8.0.0.3.0.3	Mesocardium[210]	Mesocardium; Dorsal mesocardium
E5.9.0.0.0.0.3	Mesooesophagum dorsale	Dorsal meso-oesophagus▲
E5.9.0.0.0.0.4	Mesogastrium dorsale	Dorsal mesogastrium
E5.9.0.0.0.0.5	Omentum majus	Greater omentum
E5.9.0.0.0.0.6	Plica cystoduodenalis	Cystoduodenal fold
E5.9.0.0.0.0.7	Plica gastrocolica	Gastrocolic fold
E5.9.0.0.0.0.8	Plica gastrophrenica	Gastrophrenic fold
E5.9.0.0.0.0.9	Plica gastrosplenica; Plica gastrolienalis	Gastrosplenic fold; Gastrolienal fold
E5.9.0.0.0.0.10	Plica pancreaticocolica	Pancreaticocolic fold
E5.9.0.0.0.0.11	Plica pancreaticosplenica	Pancreaticosplenic fold
E5.9.0.0.0.0.12	Plica paraduodenalis	Paraduodenal fold
E5.9.0.0.0.0.13	Plica presplenalis	Presplenal fold
E5.9.0.0.0.0.14	Plica vascularis caecalis	Vascular fold of caecum▲
E5.9.0.0.0.0.15	Plica phrenicocolica	Phrenicocolic fold
E5.9.0.0.0.0.16	Plica phrenicosplenica	Phrenicosplenic fold
E5.9.0.0.0.0.17	Plica praesplenica	Presplenic fold
E5.9.0.0.0.0.18	Plica splenorenalis; Plica lienorenalis	Splenorenal fold; Lienorenal fold
E5.4.6.0.0.0.6	Mesoduodenum dorsale	Dorsal mesoduodenum
E5.4.8.0.0.0.7	Mesenterium dorsale commune	Common dorsal mesentery
E5.4.8.0.0.0.8	Mesojejunum	Mesojejunum
E5.4.8.0.0.0.9	Mesoileum	Meso-ileum
E5.9.0.0.0.0.19	Mesoappendix	Mesoappendix
E5.9.0.0.0.0.20	Mesocolon	Mesocolon
E5.4.9.0.2.0.13	Mesorectum	Mesorectum
E5.9.0.0.0.0.21	Mesenterium ventrale primordiale	Primordial ventral mesentery
E5.9.0.0.0.0.22	Omentum minus	Lesser omentum
E5.9.0.0.0.0.23	Mesooesophageum ventrale	Ventral meso-oesophagus▲
E5.9.0.0.0.0.24	Plica hepatooesophagea	Hepato-oesophageal fold▲
E5.9.0.0.0.0.25	Plica hepatophrenica	Hepatophrenic fold
E5.9.0.0.0.0.26	Mesogastrium ventrale	Ventral mesogastrium
E5.9.0.0.0.0.27	Plica hepatogastrica	Hepatogastric fold
E5.4.6.0.0.0.7	Mesoduodenum ventrale	Ventral mesoduodenum
E5.9.0.0.0.0.28	Plica hepatoduodenalis	Hepatoduodenal fold
E5.9.0.0.0.0.29	Mesocolon ventrale	Ventral mesocolon
E5.9.0.0.0.0.30	Plica hepatocolica	Hepatocolic fold
E5.9.0.0.0.0.31	Plica umbilicalis mediana	Median umbilical fold
E5.9.0.0.0.0.32	Plica umbilicalis medialis	Medial umbilical fold
E5.9.0.0.0.0.33	Mesenterium urogenitale	Urogenital mesentery
E5.9.0.0.0.0.34	Lig. suspensorium ovarii♀	Suspensory ligament of ovary♀; Infundibulopelvic ligament♀
E5.9.0.0.0.0.35	Mesorchium♂	Mesorchium♂
E5.9.0.0.0.0.36	Mesenterium ductus paramesonephrici	Paramesonephric duct mesentery
E5.9.0.0.0.0.37	Plica lata uterina	Broad ligament of uterus
E5.7.1.2.0.0.10	Mesovarium	Mesovarium
E5.9.0.0.0.0.38	Mesosalpinx	Mesosalpinx
E5.9.0.0.0.0.39	Mesometrium	Mesometrium
E5.9.0.0.0.0.40	Mesenchyma gubernaculare	Gubernacular mesenchyme
E5.9.0.0.0.0.41	Gubernaculum ovarii	Gubernaculum of ovary
E5.9.0.0.0.0.42	Lig. ovarii proprium; Lig. uteroovaricum	Ligament of ovary
E5.9.0.0.0.0.43	Lig. teres uteri	Round ligament of uterus
E5.9.0.0.0.0.44	Gubernaculum testis	Gubernaculum of testis
E5.9.0.0.0.0.45	Lig. scrotale[214]	Scrotal ligament
E5.9.0.0.1.0.1	**Anomaliae mesenterii**	**Mesenteric defects**
E5.9.0.0.1.0.2	Cystis enterica dorsalis abdominalis	Abdominal dorsal enteric cyst

[214] E5.9.0.0.0.0.45 *Lig. scrotale* A scrotal ligament is not usually seen on dissection of the adult scrotum.

E5.10.0.0.0.0.1	**Glandulae endocrinae**	**Endocrine glands**
E5.10.1.0.0.0.1	**Hypophysis; Glandula pituitaria**	**Pituitary gland**
E5.10.1.1.0.0.1	**ADENOHYPOPHYSIS**	**ADENOHYPOPHYSIS**
E5.10.1.1.0.0.2	Ectoderma stomodei; Ectoderma stomatodei	Stomodeal ectoderm
E5.4.1.1.2.2.2	Primordium adenohypophysis	Adenohypophysial primordium
E5.10.1.1.0.0.3	Placoda adenohypophysialis[215]	Adenohypophysial placode
E5.10.1.1.0.0.4	Saccus adenohypophysialis[112]	Adenohypophysial pouch §Rathke§
E5.10.1.1.0.0.5	Truncus sacci adenohypophysialis patens[112]	Open stem of adenohypophysial pouch
E5.10.1.1.0.0.6	Truncus occlusus sacci adenohypophysialis[112]	Closed stem of adenohypophysial pouch
E5.10.1.1.0.0.7	Truncus extensus sacci adenohypophysialis[112]	Elongated stem of adenohypophysial pouch
E5.10.1.1.0.0.8	Truncus dissolutus sacci adenohypophysialis[112]	Fragmented stem of adenohypophysial pouch
E5.10.1.1.0.0.9	Pars pharyngea hypophysis	Pharyngeal hypophysis
E5.10.1.1.0.0.10	Paries abinfundibularis sacci adenohypophysialis	Abinfundibular wall of adenohypophysial pouch
E5.10.1.1.0.0.11	Pars distalis adenohypophysis	Pars distalis of adenohypophysis; Pars anterior of hypophysis
E5.10.1.1.0.0.12	Endocrinocytus corticotropicus	Corticotropic cell
E5.10.1.1.0.0.13	Endocrinocytus somatotropicus	Somatotropic cell
E5.10.1.1.0.0.14	Endocrinocytus gonadotropicus	Gonadotropic cell
E5.10.1.1.0.0.15	Endocrinocytus thyrotropicus	Thyrotropic cell
E5.10.1.1.0.0.16	Endocrinocytus prolactinicus	Prolactin cell
E5.10.1.1.0.0.17	Lumen sacci adenohypophysis	Lumen of of adenohypophysial pouch
E5.10.1.1.0.0.18	Lumen residuale hypophysis	Residual lumen of hypophysis
E5.10.1.1.0.0.19	Paries infundibularis sacci adenohypophysialis	Infundibular wall of adenohypophysial pouch
E5.10.1.1.0.0.20	Pars intermedia adenohypophysis	Pars intermedia of adenohypophysis
E5.10.1.1.0.0.12	Endocrinocytus corticotropicus	Corticotropic cell
E5.10.1.1.0.0.21	Paries dorsolateralis sacci adenohypophysialis	Dorsolateral wall of adenohypophysial pouch
E5.10.1.1.0.0.22	Pars tuberalis hypophysis	Pars tuberalis of hypophysis
E5.10.1.1.0.0.23	Sulcus infundibularis	Infundibular notch
E5.10.1.1.1.0.1	**Anomaliae adenohypophysis**	**Anomalies of adenohypophysis**
E5.10.1.1.1.0.2	Absentia adenohypophysis	Absence of adenohypophysis
E5.10.1.1.1.0.3	Aplasia adenohypophysis	Aplasia of adenohypophysis
E5.10.1.1.1.0.4	Craniopharyngioma	Craniopharyngioma
E5.10.1.1.1.0.5	Duplicatio adenohypophysis	Duplication of adenohypophysis
E5.10.1.1.1.0.6	Dystopia adenohypophysis	Dystopia of adenohypophysis
E5.10.1.1.1.0.7	Ectopia adenohypophysis	Ectopia of adenohypophysis
E5.10.1.1.1.0.8	Hypoplasia adenohypophysis	Hypoplasia of adenohypophysis; Hypopituitarism
E5.10.1.1.1.0.9	Cystis sacci adenohypophysis	Cyst of adenohypophysial pouch
E5.10.1.2.0.0.1	**NEUROHYPOPHYSIS**	**NEUROHYPOPHYSIS**
E5.10.1.2.0.0.2	Evaginatio neurohypophysialis diencephali[112]	Neurohypophysial evagination of diencephalon
E5.10.1.2.0.0.3	Recessus infundibularis	Infundibular recess
E5.10.1.2.0.0.4	Primordium neurohypophysis	Primordium of neurohypophysis
E5.10.1.2.0.0.5	Gemma neurohypophysis	Neurohypophysial bud
E5.10.1.2.0.0.6	Eminentia mediana	Median eminence
E5.10.1.2.0.0.7	Truncus infundibularis	Infundibular stem
E5.10.1.2.0.0.8	Pars nervosa hypophysis; Lobus nervosus hypophysis	Pars nervosa of hypophysis; Neural lobe of hypophysis
E5.10.1.2.0.0.9	Neurofibra neurosecretoria	Neurosecretory nerve fibre▲

[215] E5.10.1.1.0.0.3 *Placoda adenohypophysialis* The use of this term to describe the primordium of the adenohypophysis seems justified by the observation that mutant embryos that cannot transduce hedgehog signals mis-specify median pituitary precursors and form an ectopic lens (Dutta S, Dietrich JE, Aspock G, Burdine RD, Schier A, Westerfield M, Varga ZM. pitx3 defines an equivalence domain for lens and anterior pituitary placode. Development 2005;132:1579-90).

E5.10.1.2.0.0.10	Pituicytus	Pituicyte
E5.10.1.2.1.0.1	**Anomaliae neurohypophysis**	**Anomalies of neurohypophysis**
E5.10.1.2.1.0.2	Absentia neurohypophysis	Absence of neurohypophysis
E5.10.1.2.1.0.3	Duplicatio neurohypophysis	Duplication of neurohypophysis
E5.10.1.2.1.0.4	Dystopia neurohypophysis	Dystopia of neurohypophysis
E5.10.2.0.0.0.1	**Glandula pinealis; Epiphysis cerebri; Corpus pineale**	**Pineal gland; Pineal body**
E5.10.2.0.0.0.2	Primordium glandulae pinealis	Primordium of pineal gland
E5.10.2.0.0.0.3	Diverticulum pineale	Pineal diverticulum
E5.10.2.0.0.0.4	Paries diverticuli pinealis	Wall of pineal diverticulum
E5.10.2.0.0.0.5	Paries rostralis	Rostral wall
E5.10.2.0.0.0.6	Lobus anterior	Anterior lobe
E5.10.2.0.0.0.7	Paries caudalis	Caudal wall
E5.10.2.0.0.0.8	Lobus posterior	Posterior lobe
E5.10.2.0.0.0.9	Conjunctio lobi anterioris cum lobo posteriore	Fusion of anterior and posterior lobes
E5.10.2.0.0.0.10	Pinealocytus	Pinealocyte
E5.10.2.0.0.0.11	Astrocytus	Astrocyte
E5.10.2.0.0.0.12	N. pinealis	Pineal nerve
E5.10.2.0.0.0.13	Truncus diverticuli pinealis	Stalk of pineal gland; Stem of pineal gland
E5.10.2.0.0.0.14	Recessus pinealis	Pineal recess
E5.10.2.0.1.0.1	**Anomaliae glandulae pinealis**	**Pineal gland anomalies**
E5.10.2.0.1.0.2	Aplasia glandulae pinealis	Aplasia of pineal gland
E5.10.2.0.1.0.3	Hypoplasia glandulae pinealis	Hypoplasia of pineal gland
E5.10.2.0.1.0.4	Hyperplasia glandulae pinealis	Hyperplasia of pineal gland
E5.10.2.0.1.0.5	Cystis glandulae pinealis	Cyst of pineal gland
E4.0.3.5.0.3.21	**Glandula thyroidea**	**Thyroid gland**
E5.10.3.0.0.0.1	Lamina thyroidea	Thyroid plate
E5.4.1.2.0.0.9	Saccus thyroideus; Diverticulum thyroideum	Thyroid pouch; Thyroid diverticulum
E5.4.2.0.0.1.22	Ductus thyroglossus	Thyroglossal duct
E5.10.3.0.0.0.2	Primordium thyroideum	Thyroid primordium
E5.10.3.0.0.0.3	Folliculus thyroideus	Thyroid follicle
E5.10.3.0.0.0.4	Thyrocytus T	T thyrocyte; Follicular cell
E5.10.3.0.0.0.5	Pars lateralis primordii thyroidei	Lateral thyroid component
E5.4.2.0.0.1.21	Corpus ultimopharyngeum	Ultimopharyngeal body
E5.10.3.0.0.0.6	Pars neurocristalis primordii thyroidei	Neural crest component of thyroid primordium
E4.0.3.5.0.3.22	Thyrocytus C	C thyrocyte; C cell; Parafollicular cell
E5.10.3.0.1.0.1	**Anomaliae glandulae thyroideae**	**Thyroid gland anomalies**
E5.10.3.0.1.0.2	Cretinismus congenitus	Congenital cretinism
E5.10.3.0.1.0.3	Ectopia glandulae thyroideae	Ectopic thyroid
E5.10.3.0.1.0.4	Glandula thyroidea lingualis	Lingual thyroid
E5.10.3.0.1.0.5	Glandula thyroidea sublingualis	Sublingual thyroid
E5.10.3.0.1.0.6	Glandula thyroidea suprahyoidea	Suprahyoid thyroid
E5.10.3.0.1.0.7	Glandula thyroidea infrahyoidea	Infrahyoid thyroid
E5.10.3.0.1.0.8	Glandula thyroidea praetrachealis	Pretracheal thyroid
E5.10.3.0.1.0.9	Glandula thyroidea intratrachealis	Intratracheal thyroid
E5.10.3.0.1.0.10	Glandula thyroidea retrosternalis	Retrosternal thyroid
E5.10.3.0.1.0.11	Hypothyroidia congenita	Congenital hypothyroidism
E5.10.3.0.1.0.12	Vestigium ductus thyroglossi	Thyroglossal duct remnant
E5.10.3.0.1.0.13	Lobus pyramidalis	Pyramidal lobe
E5.10.3.0.1.0.14	Fistula thyroglossa	Thyroglossal fistula
E5.10.3.0.1.0.15	Cystis thyroglossa	Thyroglossal cyst
E5.10.3.0.1.0.16	Glandulae thyroideae accessoriae	Accessory thyroid glands
E5.10.3.0.1.0.17	Glandula thyroidea accessoria cervicis	Cervical accessory thyroid gland
E5.10.3.0.1.0.18	Glandula thyroidea accessoria thymi	Thymic accessory thyroid gland
E5.10.3.0.1.0.19	Glandula thyroidea accessoria mediastini	Mediastinal accessory thyroid gland
E5.10.3.0.1.0.20	Glandula thyroidea accessoria cordis	Cardiac accessory thyroid gland
E5.10.3.0.1.0.21	Glandula thyroidea accessoria tracheae	Tracheal accessory thyroid gland
E5.10.3.0.1.0.22	Glandula thyroidea accessoria oesophagi	Oesophageal accessory thyroid gland▲

E5.10.3.0.1.0.23	Glandula thyroidea accessoria hepatis	Hepatic accessory thyroid gland
E5.10.3.0.1.0.24	Glandula thyroidea accessoria ovarii	Ovarian accessory thyroid gland
E5.10.4.0.0.0.1	**Glandula parathyroidea**	**Parathyroid gland**
E5.4.2.0.0.1.18	Pars dorsalis sacci pharyngei quarti {pro contextu vide Pharyngem}	Dorsal part of fourth pharyngeal pouch {for context see Pharynx}
E5.4.2.0.0.1.19	Gemma parathyroidea superior; Gemma parathyroidea a quarto sacco	Superior parathyroid bud; Parathyroid bud from pouch 4
E5.4.2.0.0.1.11	Pars dorsalis sacci pharyngei tertii {pro contextu vide Pharyngem}	Dorsal part of third pharyngeal pouch {for context see Pharynx}
E5.4.2.0.0.1.12	Gemma parathyroidea inferior; Gemma parathyroidea sacci tertii	Inferior parathyroid bud; Parathyroid bud from pouch 3
E5.10.4.0.0.0.2	Gemma parathyroidea inferior disjuncta; Gemma parathyroidea sacci tertii disjuncta	Detached bud of inferior parathyroid; Detached pouch 3 parathyroid bud
E5.10.4.0.0.0.3	Gemma parathyroidea superior disjuncta; Gemma parathyroidea sacci quarti disjuncta	Detached bud of superior parathyroid; Detached pouch 4 parathyroid bud
E5.10.4.0.0.0.4	Glandula parathyroidea inferior	Inferior parathyroid; Parathyroid 3
E5.10.4.0.0.0.5	(Glandula parathyroidea accessoria inferior)	(Accessory inferior parathyroid)
E5.10.4.0.0.0.6	Glandula parathyroidea superior	Superior parathyroid; Parathyroid 4
E5.10.4.0.0.0.7	(Glandula parathyroidea accessoria superior)	(Accessory superior parathyroid)
E5.10.4.0.0.0.8	Parathyrocytus endocrinus densus; Parathyrocytus principalis	Dense principal cell of parathyroid
E5.10.4.0.0.0.9	Parathyrocytus endocrinus lucidus	Pale principal cell of parathyroid
E5.10.4.0.0.0.10	Parathyrocytus oxyphilicus	Oxyphil cell of parathyroid
E5.10.4.0.2.0.1	**Anomaliae glandulae parathyroideae**	**Parathyroid gland anomalies**
E5.4.2.0.1.0.11	Aplasia thymoparathyroidea	Thymoparathyroid aplasia §DiGeorge§
E5.10.4.0.2.0.2	Absentia glandulae parathyroideae	Absence of parathyroid gland
E5.10.4.0.2.0.3	Ectopia glandulae parathyroideae	Ectopic parathyroid gland
E5.10.4.0.2.0.4	Glandulae parathyroideae aberrantes	Aberrant parathyroid gland
E5.10.4.0.2.0.5	Glandula parathyroidea in pariete pharyngis	Pharyngeal wall parathyroid gland
E5.10.4.0.2.0.6	Glandula parathyroidea submucosa	Submucosal parathyroid gland
E5.10.5.0.0.0.1	**Glandula suprarenalis**	**Suprarenal gland; Adrenal gland**
E5.10.5.1.0.0.1	**CORTEX SUPRARENALIS**	**SUPRARENAL CORTEX**
E5.6.0.0.0.0.2	Mesenchyma intermedium[177]	Intermediate mesenchyme
E5.10.5.1.0.0.2	Primordium corticis glandulae suprarenalis	Primordium of cortex of suprarenal gland
E5.6.2.0.0.0.1	Mesonephros	Mesonephros
E5.10.5.1.0.0.3	Chorda suprarenalis	Suprarenal cord
E5.10.5.1.0.0.4	Vas sinusoideum suprarenale	Suprarenal sinusoid
E5.10.5.1.0.0.5	Cortex suprarenalis temporarius[216]	Provisional suprarenal cortex; X zone
E5.10.5.1.0.0.6	Mesenchyma in cortice suprarenale temporaria	Mesenchyme in provisional suprarenal cortex
E5.10.5.1.0.0.7	Cortex suprarenalis definitivus	Definitive suprarenal cortex; Permanent suprarenal cortex
E4.0.3.5.1.3.4	**MEDULLA SUPRARENALIS**	**SUPRARENAL MEDULLA**
E5.10.5.2.0.0.1	Textus cristae neuralis	Neural crest tissue
E5.10.5.2.0.0.2	Primordium medullae glandulae suprarenalis	Primordium of medulla of suprarenal gland
E5.10.5.2.0.0.3	Medulla suprarenalis fetalis	Fetal suprarenal medulla
E5.10.5.3.0.0.1	**GLANDULA SUPRARENALIS AD PARTUM MATURUM**[217]	**SUPRARENAL GLAND AT FULL TERM**
E5.10.5.3.1.0.1	**Anomaliae glandulae suprarenalis**	**Suprarenal gland anomalies**
E5.10.5.3.1.0.2	Aplasia glandulae suprarenalis	Aplastic suprarenal gland
E5.10.5.3.1.0.3	Hypoplasia glandulae suprarenalis	Hypoplastic suprarenal gland
E5.10.5.3.1.0.4	Hyperplasia congenita corticis suprarenalis	Congenital adrenocortical hyperplasia; Adrenogenital syndrome
E5.10.5.3.1.0.5	Ectopia glandulae suprarenalis	Ectopic suprarenal gland
E5.10.5.3.1.0.6	Ectopia renalis glandulae suprarenalis	Renal suprarenal gland

[216] E5.10.5.1.0.0.5 *Cortex suprarenalis temporarius* The term *provisional cortex*, rather than *fetal cortex,* is recommended because it is present in embryos from Stage 16 onwards.

[217] E5.10.5.3.0.0.1 *Glandula suprarenalis ad partum maturum* The suprarenal gland is relatively large at birth but the volume of its fetal cortex decreases rapidly, as it undergoes haemorrhagic non-inflammatory necrosis, and is negligible after two postnatal months. The definitive cortex, however, continues to differentiate and grow until early childhood while the medulla also differentiates and undergoes some postnatal growth.

E5.10.5.3.1.0.7	Ectopia hepatica glandulae suprarenalis	Hepatic suprarenal gland
E5.10.5.3.1.0.8	Ectopia testicularis glandulae suprarenalis	Testicular suprarenal gland
E5.10.5.3.1.0.9	Glandula suprarenalis intracranialis	Intracranial suprarenal gland
E5.10.5.3.1.0.10	Conjunctio glandularum suprarenalium	Fused suprarenal glands
E5.10.5.3.1.0.11	Glandula suprarenalis cystica	Cystic suprarenal gland
E5.10.5.3.1.0.12	Glandulae suprarenales accessoriae	Accessory suprarenal glands
E5.10.5.3.1.0.13	Glandula suprarenalis accessoria renis	Renal accessory suprarenal gland
E5.10.5.3.1.0.14	Glandula suprarenalis accessoria parietis vascularis	Vascular wall accessory suprarenal gland
E5.10.5.3.1.0.15	Glandula suprarenalis accessoria hepatis	Hepatic accessory suprarenal gland
E5.10.5.3.1.0.16	Glandula suprarenalis accessoria pancreatis	Pancreatic accessory suprarenal gland
E5.10.5.3.1.0.17	Glandula suprarenalis accessoria splenis	Splenic accessory suprarenal gland
E5.10.5.3.1.0.18	Glandula suprarenalis accessoria coli	Colonic accessory suprarenal gland
E5.10.5.3.1.0.19	Glandula suprarenalis accessoria ductus seminiferi	Seminal duct accessory suprarenal gland
E5.10.5.3.1.0.20	Glandula suprarenalis accessoria testis	Testicular accessory suprarenal gland
E5.10.5.3.1.0.21	Glandula suprarenalis accessoria epididymidis	Epididymal accessory suprarenal gland
E5.10.5.3.1.0.22	Glandula suprarenalis accessoria paradidymidis	Paradidymal accessory suprarenal gland
E5.10.5.3.1.0.23	Glandula suprarenalis accessoria ovarii	Ovarian accessory suprarenal gland
E5.10.5.3.1.0.24	Glandula suprarenalis accessoria mesosalpingis	Mesosalpingeal accessory suprarenal gland
E5.10.5.3.1.0.25	Glandula suprarenalis accessoria ligamenti suspensorii ovarii	Accessory suprarenal gland in suspensory ligament of ovary
E5.10.6.0.0.0.1	**Insula pancreatica** {vide Pancreas}	**Pancreatic islet** {see Pancreas}
E5.11.0.0.0.0.1	**Systema cardiovasculare**	**Cardiovascular system**
E5.11.1.0.0.0.1	**Cor**	**Heart**
E5.11.1.1.0.0.1	**CARDIOGENESIS INITIALIS**	**EARLY CARDIOGENESIS**
E5.11.1.1.1.0.1	**Mesenchyma cardiogenicum; Lamina cardiogenica**	**Cardiogenic mesenchyme; Cardiogenic plate**
E5.11.1.1.1.0.2	Campus cordis primus	Primary heart field
E5.11.1.1.1.0.3	Laminae cardiogenicae non symmetricae; Primordia endocardiaca	Bilateral asymmetric cardiogenic plates; Endocardiac primordia
E5.11.1.1.1.0.4	Primordium cordis; Cor plexiforme	Heart primordium; Plexiform heart
E5.11.1.1.1.0.5	Cor tubulare[218]	Tubular heart
E5.11.1.1.1.0.6	Striomyohistogenesis cardiaca {vide Myohistogenesis in Histogenesis generalis supra}	Cardiac striomyohistogenesis {see Myohistogenesis in General histogenesis above}
E5.11.1.1.1.0.7	Myocardium primarium[219]	Primary myocardium
E5.11.1.1.1.0.8	Gelatinoreticulum; Cardioglia	Cardiac jelly
E5.11.1.1.1.0.9	Endocardium	Endocardium
E5.8.0.0.3.0.3	Mesocardium[210]	Mesocardium; Dorsal mesocardium
E5.11.1.1.1.0.10	Polaritas cardiaca	Cardiac polarity
E5.11.1.1.1.0.11	Polaritas craniocaudalis; Polaritas superoinferior	Cranio-caudal polarity; Supero-inferior polarity
E5.11.1.1.1.0.12	Polus arteriosus	Arterial pole
E5.11.1.1.1.0.13	Polus venosus	Venous pole
E5.11.1.1.1.0.14	Polaritas dorsoventralis	Dorsoventral polarity
E5.11.1.1.1.0.15	Curvatura interna	Inner curvature
E5.11.1.1.1.0.16	Curvatura externa	Outer curvature
E5.11.1.1.1.0.17	Polaritas sinistradextra	Left-right polarity
E3.0.0.6.1.0.41	**FORMATIO ANSAE**[57]	**LOOP FORMATION**
E5.11.1.1.1.0.12	Polus arteriosus	Arterial pole

[218] E5.11.1.1.1.0.5 *Cor tubulare* The adjective simplex has been used at this stage but the phenomenon of polarity makes its use inappropriate.

[219] E5.11.1.1.1.0.7/ E5.11.1.3.1.0.1/ E5.11.1.3.2.0.1/ E5.11.1.5.0.0.9 *Myocardium primarium/Myocardium cordis camerati/Myocardium mediastinale/ Myocardium nodale* Four different types of myocardium can be distinguished by their properties and the level of expression of genes and atrial natriuretic factor (Horsthuis T, Christoffels VM, Anderson RH, Moorman AFM. Can recent insights into cardiac development improve our understanding of congenitally malformed hearts? Clinical Anatomy 2009;22:4-20).

E5.11.1.2.0.0.1	Aa. arcuum primorum pharyngeorum [1][223]	First pharyngeal arch arteries [1]; First aortic arches [1]
E5.11.1.2.0.0.2	Ansa cordis dextra[220]	Dextral heart loop; D-loop; Cardiac loop
E5.11.1.2.0.0.3	Ansa cordis crescentiformis	C-loop
E5.11.1.2.0.0.4	Ansa cordis sigmoidea prima	Early S-loop
E5.11.1.2.0.0.5	Ansa cordis sigmoidea sera	Late S-loop
E5.8.0.0.3.0.5	Sinus transversus pericardii	Transverse pericardial sinus
E5.11.1.1.1.0.13	Polus venosus	Venous pole
E5.11.1.2.0.0.6	Cornua sinistrum et dextrum sinus venosi cordis	Left and right horns of sinus venosus
E5.11.1.3.0.0.1	**FORMATIO CAMERARUM**	**CHAMBER FORMATION**
E5.11.1.1.1.0.16	Curvatura externa[221]	Outer curvature
E3.0.0.6.1.0.50	Inflatio[62]	Ballooning
E5.11.1.3.1.0.1	**Myocardium cordis camerati**[219]	**Chamber myocardium**
E5.11.1.3.1.0.2	Ventriculus embryonicus; Ventriculus communis	Embryonic ventricle
E5.11.1.3.1.0.3	Ventriculi embryonici dexter sinisterque paralleli	Right and left embryonic ventricles in parallel
E5.11.1.3.1.0.4	Formatio trabecularum	Trabeculation
E5.11.1.3.1.0.5	Myocardium compactum	Compact myocardium
E5.11.1.3.1.0.6	Auriculae dextra et sinistra	Right and left auricles; Right and left atrial appendages
E5.11.1.3.1.0.4	Formatio trabecularum	Trabeculation
E5.11.1.3.1.0.7	Pars pectinata atrii; Pars trabeculata atrii	Pectinated part of atrium; Trabeculated part of atrium
E5.11.1.3.2.0.1	**Myocardium mediastinale**[219]	**Mediastinal myocardium**
E5.11.1.3.2.0.2	Campus cordis secundus	Secondary heart field
E3.0.0.6.1.0.54	Invectio[63]	Recruitment
E5.11.1.3.2.0.3	Tractus influxus	Inflow tract
E5.11.1.3.2.0.4	Sinus venosus cordis	Body of sinus venosus; Central part of sinus venosus; Sinus venosus
E5.11.1.3.2.0.5	Cornu dextrum sinus	Right horn of sinus venosus; Right sinus horn
E5.11.1.3.2.0.6	Cornu sinistrum sinus	Left horn of sinus venosus; Left sinus horn
E5.11.1.3.2.0.7	Ostium sinuatriale	Sinuatrial orifice
E5.11.1.3.2.0.8	Pars maior atrii dextri	Greater part of right atrium
E5.11.1.3.2.0.9	Septum primum	Primary interatrial septum
E5.11.1.3.2.0.10	Pars maior atrii sinistri	Greater part of left atrium
E5.11.1.3.2.0.11	Canalis atrioventricularis	Atrioventricular canal
E5.11.1.3.2.0.12	Tuber endocardiacum atrioventriculare	Atrioventricular endocardial cushion
E5.11.1.1.1.0.15	Curvatura interna	Inner curvature
E5.11.1.3.2.0.13	Anulus interventricularis myocardiacus [222]	Interventricular ring of myocardium
E5.11.1.3.2.0.14	Foramen interventriculare primarium	Primary interventricular foramen
E5.11.1.3.2.0.15	Tractus effluxionis	Outflow tract
E4.0.3.5.0.3.10	Ductus communis effluxionis cordis	Common outflow tract of heart
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E5.11.1.3.2.0.16	Saccus aorticus	Aortic sac
E4.0.3.5.0.3.3	Aa. arcuum pharyngeorum[223]	Pharyngeal arch arteries; Aortic arches
E5.11.1.4.0.0.1	**COLLATIONES TEXTUS EXTRACARDIACI**	**EXTRACARDIAC TISSUE CONTRIBUTIONS**
E5.8.0.0.3.0.2	Primordium epicardii; Proepicardium[209]	Primordium of epicardium; Pro-epicardium
E5.11.1.4.0.0.2	Cellulae derivatae ex epicardio	Epicardium-derived cells [EPDC]
E5.11.1.4.0.0.3	Epicardium	Epicardium
E5.11.1.4.0.0.4	Aa. coronariae[224]	Coronary arteries

[220] E5.11.1.2.0.0.2 *Ansa cordis dextra* A D-loop is the normal configuration and usually results in a heart with the apex pointing to the left; an L-loop is abnormal and usually results in a heart with the apex pointing to the right.

[221] E5.11.1.1.1.0.16 *Curvatura externa* With ballooning, the ventricles and atria develop in series on the outer curvature but share the inner curvature.

[222] E5.11.1.3.2.0.13 *Anulus interventricularis myocardiacus* This term denotes the myocardium surrounding the primary ventricular foramen.

[223] E4.0.3.5.0.3.3 *Aa. arcuum pharyngeorum* The terms *pharyngeal arch artery/ies* are preferred to those of *aortic arch/es* to avoid confusion with the definitive aortic arch.

E5.8.0.0.3.0.3	Mesocardium[210]	Mesocardium; Dorsal mesocardium
E3.0.0.6.1.0.54	Invectio[63]	Recruitment
E5.11.1.4.0.0.5	Spina vestibuli	Atrial spine; Vestibular spine; Dorsal mesenchymal protrusion §His§
E5.11.1.4.0.0.6	Fulcimen basale septi atrialis	Basal buttress of atrial septum
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E5.11.1.4.0.0.7	Dens mesenchymalis in crista tractus effluxionis[225]	Prong of condensed mesenchyme in outflow-tract ridge
E5.11.1.4.0.0.8	Vortex mesenchymalis dentium tractus effluxionis	Whorl of fused prongs
E5.11.1.5.0.0.1	**FORMATIO ATRIORUM**	**DEVELOPMENT OF ATRIA**
E5.11.1.5.1.0.1	**Sinus venosus cordis**	**Sinus venosus**
E5.11.1.5.1.0.2	Corpus sinus venosi cordis; Pars centralis sinus venosi cordis	Body of sinus venosus; Central part of sinus venosus
E5.11.1.5.1.0.3	Pars proximalis sinus coronarii	Proximal part of coronary sinus
E5.11.1.3.2.0.6	Cornu sinistrum sinus	Left horn of sinus venosus; Left sinus horn
E5.11.1.5.1.0.4	Pars intermedia sinus coronarii	Intermediate part of coronary sinus
E5.11.1.5.1.0.5	V. obliqua atrii sinistri	Oblique vein of left atrium §Marshall§
E5.11.1.3.2.0.5	Cornu dextrum sinus	Right horn of sinus venosus; Right sinus horn
E5.11.1.5.1.0.6	Cornu dextrum sinus incorporatum	Incorporated right sinus horn
E5.11.1.5.1.0.7	Sinus venarum cavarum	Systemic venous sinus; Smooth-walled part of right atrium
E5.11.1.5.1.0.8	V. cava superior	Superior vena cava
E5.11.1.5.1.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.5.1.0.10	Nodus sinuatrialis	Sinu-atrial node §Keith-Flack§ §Koch§
E5.11.1.5.1.0.11	V. cava inferior	Inferior vena cava
E5.11.1.5.1.0.12	Valva sinuatrialis	Sinu-atrial valve
E5.11.1.5.1.0.13	Valva venosa dextra	Right venous valve
E5.11.1.5.1.0.14	Crista terminalis	Terminal crest
E5.11.1.5.1.0.15	Valvula venae cavae inferioris	Valve of inferior vena cava
E5.11.1.5.1.0.16	Valvula sinus coronarii	Valve of coronary sinus §Thebesius§
E5.11.1.5.1.0.17	Valva venosa sinistra	Left venous valve
E5.11.1.5.1.0.18	Septum spurium	Septum spurium
E5.11.1.5.2.0.1	**Pars mediastinalis atrii**	**Mediastinal part of atrium**
E5.11.1.3.2.0.1	**Myocardium mediastinale**[219]	**Mediastinal myocardium**
E5.11.1.3.2.0.9	Septum primum	Primary interatrial septum
E5.11.1.5.2.1.1	Foramen primum	Primary interatrial foramen
E5.11.1.5.2.1.2	Foramen secundum	Foramen secundum
E5.11.1.4.0.0.5	Spina vestibuli	Atrial spine; Vestibular spine; Dorsal mesenchymal protrusion §His§
E5.11.1.4.0.0.6	Fulcimen basale septi atrialis	Basal buttress of atrial septum
E5.11.1.5.2.1.3	Solum fossae ovalis	Floor of oval fossa; Floor of fossa ovalis
E5.11.1.5.2.1.4	Tendo valvulae venae cavae inferioris	Tendon of valve of inferior vena cava §Todaro§
E5.11.1.5.2.1.5	Plica pulmonalis	Pulmonary fold
E5.11.1.5.2.1.6	V. pulmonalis incorporata	Incorporated pulmonary vein
E5.11.1.5.2.1.7	Pars levis atrii sinistri	Smooth-walled part of left atrium
E5.11.1.5.2.1.8	Plica secunda interatrialis; Septum secundum[226]	Secondary interatrial fold
E5.11.1.5.2.1.9	Limbus fossae ovalis	Border of oval fossa; Border of fossa ovalis
E5.11.1.5.2.1.10	Fossa ovalis	Oval fossa
E5.11.1.5.2.1.11	Foramen ovale	Oval foramen §Botallo§
E5.11.1.6.0.0.1	**FORMATIO CANALIS ATRIOVENTRICULARIS**	**DEVELOPMENT OF ATRIOVENTRICULAR CANAL**

[224] E5.11.1.4.0.0.4 *Aa. coronariae* For a recent review see: Ratajska A, Czarnowska E, Ciszek B. Embryonic development of the proepicardium and coronary vessels. Int J Dev Biol 2008;52:229-36.

[225] E5.11.1.4.0.0.7 *Dens mesenchymalis in cristis tractus effluxionis* – Such prongs represent the precursors of the cardiac skeleton.

[226] E5.11.1.5.1.1.8 *Plica secunda interatrialis; Septum secundum* The term *plica* or *fold* is preferred as the structure is not a septum, *in sensu stricto*.

E5.11.1.6.0.0.2	Vestibulum valvarum atrioventricularium	Vestibule of atrioventricular valves
E5.11.1.5.0.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.6.0.0.3	Nodus atrioventricularis	Atrioventricular node §Aschoff-Tawara§ §Node of Tawara§
E5.11.1.6.0.0.4	Tubera endocardiaca atrioventricularia	Atrioventricular cushions
E5.11.1.6.0.0.5	Tuber endocardiacum atrioventriculare inferius	Inferior atrioventricular cushion
E5.11.1.6.0.0.6	Tuber endocardiacum atrioventriculare laterale dexter	Right lateral atrioventricular cushion
E5.11.1.6.0.0.7	Tuber endocardiacum atrioventriculare laterale sinister	Left lateral atrioventricular cushion
E5.11.1.6.0.0.8	Tuber endocardiacum atrioventriculare superior	Superior atrioventricular cushion
E5.11.1.6.0.0.9	Septum atrioventriculare membranosum	Membranous atrioventricular septum
E5.11.1.7.0.0.1	**FORMATIO VENTRICULORUM**	**DEVELOPMENT OF VENTRICLES**
E5.11.1.7.1.0.1	**Ventriculus sinister**	**Left ventricle**
E5.11.1.7.1.0.2	Pars trabecularis ventriculi sinistri	Trabecular portion of left ventricle
E5.11.1.7.1.0.3	M. papillaris superolateralis ventriculi sinistri; M. papillaris anterior ventriculi sinistri[227]	Superolateral papillary muscle of left ventricle; Anterior papillary muscle of left ventricle
E5.11.1.7.1.0.4	M. papillaris inferoseptalis ventriculi sinistri; M. papillaris posterior ventriculi sinistri[227]	Inferoseptal papillary muscle of left ventricle; Posterior papillary muscle of left ventricle
E5.11.1.5.0.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.7.1.0.5	Crus sinistrum fasciculi atrioventricularis	Left bundle branch; Left branch of atrioventricular bundle
E5.11.1.7.1.0.6	Portio ingressionis ventriculi sinistri	Inlet portion of left ventricle
E5.11.1.7.1.0.7	Portio egressionis ventriculi sinistri	Outlet portion of left ventricle
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E4.0.3.5.0.3.13	Valva aortae	Aortic valve; Aortic arterial valve
E5.11.1.7.1.0.8	Valvulae semilunares	Semilunar cusps
E5.11.1.7.1.0.9	Valvula semilunaris dexter	Right coronary cusp; Right cusp
E5.11.1.7.1.0.10	Valvula semilunaris posterior	Non-coronary cusp; Posterior cusp
E5.11.1.7.1.0.11	Valvula semilunaris sinister	Left coronary cusp; Left cusp
E5.11.1.7.2.0.1	**Ventriculus dexter**	**Right ventricle**
E5.11.1.7.2.0.2	Pars trabecularis ventriculi dextri	Trabecular portion of right ventricle
E5.11.1.7.2.0.3	M. papillaris anterolateralis ventriculi dextri; M. papillaris anterior[228]	Anterolateral papillary muscle; Anterior papillary muscle of right ventricle
E5.11.1.7.2.0.4	M. papillaris posterior ventriculi dextri[229]	Posterior papillary muscle
E5.11.1.5.0.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.7.2.0.5	Crus dextrum fasciculi atrioventricularis	Right bundle branch; Right branch of atrioventricular bundle
E5.11.1.7.2.0.6	Portio influxus ventriculi dextri	Inlet portion of right ventricle
E5.11.1.5.0.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.7.2.0.7	Trabecula septomarginalis	Septomarginal trabecula; Moderator band §Leonardo da Vinci§ §Wolf§
E5.11.1.7.2.0.8	Ostium praepapillare valvae tricuspidalis	Prepapillary orifice of tricuspid valve
E5.11.1.7.2.0.9	Ostium postpapillare valvae tricuspidalis	Postpapillary orifice of tricuspid valve
E5.11.1.7.2.0.10	Portio effluxionis ventriculi dextri; Conus arteriosus	Outlet portion of right ventricle; Infundibulum of right ventricle
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E4.0.3.5.0.3.14	Valva trunci pulmonalis	Pulmonary valve; Pulmonary arterial valve

[227] E5.11.1.7.1.0.3/ E5.11.1.7.1.0.4 *M. papillaris superolateralis ventriculi sinistri; M. papillaris anterior ventriculi sinistri/M. papillaris inferoseptalis ventriculi sinistri; M. papillaris posterior ventriculi sinistri* These muscles are well-defined in the Stage 18 heart. The terms *superolateral* and *inferoseptal papillary muscles* are appropriate for the left ventricle with the heart in the anatomical position (Anderson RH, Loukas M. The importance of attitudinally appropriate description of cardiac anatomy. Clin Anat 2009;22:47-51).

[228] E5.11.1.7.2.0.3 *M. papillaris anterolateralis ventriculi dextri; M. papillaris anterior* This muscle is the only well-defined right papillary muscle in the Stage 18 heart. Although the recommended term in Terminologia Anatomica 1998 is *anterior papillary muscle*, more recent usage seems to favour *anterolateral papillary muscle*.

[229] E5.11.1.7.2.0.4 *M. papillaris posterior ventriculi dextri* The right papillary muscles vary considerably: the so-called posterior papillary muscle develops only after the cavity of the right ventricle expands posteriorly and inferiorly and has a series of muscle bellies.

E5.11.1.7.1.0.8	Valvulae semilunares	Semilunar cusps
E5.11.1.7.2.0.11	Septum musculare tractus effluxionis	Muscular outflow-tract septum
E5.11.1.7.2.0.12	Crista supraventricularis	Supraventricular crest
E5.11.1.7.2.0.13	M. papillaris septalis	Septal papillary muscle
E5.11.1.7.2.0.14	Infundibulum liberum	Freestanding infundibulum
E5.11.1.7.3.0.1	**Septum interventriculare**	**Interventricular septum**
E5.11.1.7.3.0.2	Sulcus interventricularis	Interventricular sulcus; Interventricular groove
E5.11.1.7.3.0.3	Anulus interventricularis myocardiacus	Interventricular ring of myocardium
E5.11.1.3.2.0.14	Foramen interventriculare primarium	Primary interventricular foramen
E5.11.1.7.3.0.4	Portio periaortica foraminis interventricularis primarii	Peri-aortic portion of primary ventricular foramen
E5.11.1.7.3.0.5	Septum conotruncale distale	Distal conotruncal septum
E5.11.1.7.3.0.6	Initium aortae ascendentis et trunci pulmonalis	Beginning of ascending aorta and pulmonary trunk
E5.11.1.7.3.0.7	Portio septalis foraminis interventricularis primarii	Septal portion of primary ventricular foramen
E5.11.1.7.3.0.8	Apertura persistens	Persistent opening
E5.11.1.7.3.0.9	Vestibulum aortae	Aortic vestibule
E5.11.1.7.3.0.10	Portio atrioventricularis dextra foraminis interventricularis	Right atrioventricular portion of primary ventricular foramen
E5.11.1.7.3.0.11	Foramen interventriculare secundarium	Secondary interventricular foramen
E5.11.1.7.3.0.12	Septum interventriculare occludens	Occluding interventricular septum
E5.11.1.7.3.0.13	Pars muscularis septi interventricularis	Muscular part of interventricular septum
E5.11.1.7.3.0.14	Pars trabecularis septi interventricularis	Trabecular part of interventricular septum
E5.11.1.7.3.0.15	Portio influxus septi interventricularis	Inlet portion of interventricular septum
E5.11.1.5.0.0.9	Myocardium nodale[219]	Nodal myocardium
E5.11.1.7.3.0.16	Fasciculus atrioventricularis	Atrioventricular bundle §His§
E5.11.1.7.3.0.17	Reticulum conducens subendocardiacum	Subendocardiac conductive network; Subendocardial conductive network §Purkinje§
E5.11.1.7.3.0.18	Pars membranacea septi interventricularis-[230]	Membranous portion of interventricular septum
E5.11.1.7.4.0.1	**Formatio ulterior valvarum atrioventricularium** [231]	**Further development of atrioventricular valves**
E5.11.1.7.4.0.2	Valva atrioventricularis sinistra; Valva mitralis	Mitral valve; Left atrioventricular valve
E5.11.1.7.4.0.3	Cuspis anterior valvae mitralis	Anterior leaflet of mitral valve; Anterior cusp of mitral valve
E5.11.1.7.4.0.4	Cuspis posterior valvae mitralis	Posterior leaflet of mitral valve; Posterior cusp of mitral valve
E5.11.1.7.4.0.5	Valva atrioventricularis dextra; Valva tricuspidalis	Tricuspid valve; Right atrioventricular valve
E5.11.1.7.4.0.6	Cuspis anterosuperior valvae tricuspidalis; Cuspis anterior valvae tricuspidalis	Anterosuperior leaflet of tricuspid valve; Anterior cusp of tricuspid valve
E5.11.1.7.4.0.7	Cuspis posterior valvae tricuspidalis	Inferior leaflet of tricuspid valve; Posterior cusp of tricuspid valve
E5.11.1.7.4.0.8	Cuspis septalis valvae tricuspidalis	Septal leaflet of tricuspid valve; Septal cusp of tricuspid valve
E5.11.1.8.0.0.1	**FORMATIO JUNCTIONUM VENTRICULOARTERIOSARUM**	**DEVELOPMENT OF VENTRICULO-ARTERIAL JUNCTIONS**
E5.11.1.8.1.0.1	**Ductus communis effluxionis**	**Common outflow tract**
E5.11.1.8.1.0.2	Flexus ductus communis effluxionis [232]	Bend of common outflow tract

[230] E5.11.1.7.3.0.18 *Pars membranacea septi interventricularis* This part develops from the muscular septum after the septal leaflet of tricuspid valve has delaminated after the twelfth week.

[231] E5.11.1.7.4.0.1 *Formatio ulterior valvarum atrioventricularium* While the anterosuperior leaflet of the tricuspid valve and the anterolateral papillary muscle of the right ventricle develop in embryonic life, the other four atrioventricular leaflets and the septal papillary muscle of the right ventricle develop after the twelfth week.

[232] E5.11.1.8.1.0.2 *Flexus ductus communis effluxionis* This is an external landmark that separates the proximal and distal portions of the tract; at the site of the bend the pitch of the spiralling endocardial outflow tract ridges is highest, explaining claims for separate proximal and distal [conal and truncal] ridges.

E5.11.1.8.1.0.3	Pars proximalis; Conus arteriosus	Proximal portion; Conus arteriosus
E5.11.1.8.1.0.4	Pars distalis; Truncus arteriosus	Distal portion; Truncus arteriosus
E5.11.1.8.1.0.5	Regressio myocardii	Myocardial regression
E5.11.1.8.1.0.6	Junctio sinutubularis	Sinutubular junction
E5.11.1.8.1.0.7	Continuatio fibrosa	Fibrous continuity
E5.11.1.8.1.0.8	Aorta ascendens et truncus pulmonalis	Ascending aorta and pulmonary trunk
E5.4.3.0.0.2.2	Irruptio a cellulis cristae neuralis	Invasion by neural crest cells
E5.11.1.8.1.0.9	Dens mesenchymalis in crista ductus effluxionis proximalis	Prong of condensed mesenchyme in proximal outflow tract ridge
E5.11.1.8.1.0.10	Conjunctio distoproximalis	Distoproximal fusion
E5.11.1.8.1.0.11	Septum distale [233]	Distal septum
E5.11.1.8.1.0.12	Valva arteriosa semilunaris	Arterial semilunar valve
E5.11.1.8.1.0.13	Septum proximale {vide Formatio ventriculorum supra}	Proximal septum {see Development of ventricles above}
E5.11.1.4.0.0.2	Cellulae derivatae ex epicardio	Epicardium-derived cells [EPDC]
E5.11.1.4.0.0.4	Aa. coronariae	Coronary arteries
E5.11.1.8.2.0.1	**Anomaliae cordis**	**Heart anomalies**
E5.11.1.8.2.0.2	Acardia	Acardia
E5.11.1.8.2.0.3	Diplocardia	Diplocardia
E5.11.1.8.2.0.4	Cor bifidum	Bifid heart
E5.11.1.8.2.0.5	Ectopia cordis; Ectocardia	Ectopic heart
E5.11.1.8.2.0.6	Hemicardia	Hemicardia
E5.4.8.0.1.0.12	Heterotaxia	Heterotaxy; Isomerism
E5.5.3.0.6.4.19	Isomerismus dexter	Right isomerism
E5.5.3.0.6.4.20	Isomerismus sinister	Left isomerism
E5.11.1.8.2.0.7	Dextrocardia	Dextrocardia
E5.11.1.8.2.0.8	Laevocardia	Laevocardia▲
E5.11.1.8.2.0.9	Mesocardia	Mesocardia
E5.11.1.8.2.0.10	Cor biloculare	Bilocular heart
E5.11.1.8.2.0.11	Cor decussans; Connexio atrioventricularis decussans	Criss-cross heart; Atrioventricular criss-cross connection
E5.11.1.8.2.0.12	Cor triloculare	Trilocular heart
E5.11.1.8.2.0.13	Cor biatriale triloculare	Biatrial heart
E5.11.1.8.2.0.14	Ventriculus communis persistens	Persistent common ventricle
E5.11.1.8.2.0.15	Cor biventriculare triloculare	Biventricular heart
E5.11.1.8.2.0.16	Atrium commune persistens	Persistent common atrium
E5.11.1.8.2.0.17	Cor triatriale	Triatrial heart
E5.11.1.8.2.0.18	Defectus septi interatrialis	Atrial septal defect [ASD]; Interatrial septal defect
E5.11.1.8.2.0.19	Foramen ovale patens	Patent foramen ovale §Botallo§
E5.11.1.8.2.0.20	Absentia septi primi	Absent septum primum
E5.11.1.8.2.0.21	Absentia septi secundi	Absent septum secundum
E5.11.1.8.2.0.22	Defectus septi interventricularis	Ventricular septal defect [VSD]; Interventricular septal defect
E5.11.1.8.2.0.23	Foramen interventriculare patens	Patent interventricular foramen
E5.11.1.8.2.0.24	Defectus partis membranaceae septi interventricularis	Defective membranous part of interventricular septum
E5.11.1.8.2.0.25	Defectus partis muscularis septi interventricularis	Defective muscular part of interventricular septum
E5.11.1.8.2.0.26	Defectus septi atrioventricularis	Defective atrioventricular septum; Defective membranous atrioventricular septum
E5.11.1.8.2.0.27	Anomaliae valvarum	Valve anomalies
E5.11.1.8.2.0.28	Atresia valvae aortae	Aortic atresia
E5.11.1.8.2.0.29	Stenosis valvae aortae	Aortic stenosis
E5.11.1.8.2.0.30	Atresia valvae mitralis	Mitral atresia
E5.11.1.8.2.0.31	Stenosis valvae mitralis	Mitral stenosis
E5.11.1.8.2.0.32	Atresia valvae pulmonalis	Pulmonary atresia
E5.11.1.8.2.0.33	Stenosis valvae pulmonalis	Pulmonary stenosis
E5.11.1.8.2.0.34	Atresia valvae tricuspidalis	Tricuspid atresia
E5.11.1.8.2.0.35	Stenosis valvae tricuspidalis	Tricuspid stenosis

[233] E5.11.1.8.1.0.11 *Septum distale* The *distal septum* lies between intrapericardial parts of aorta and pulmonary trunk (distal to arterial valves).

E5.11.1.8.2.0.36	Dysplasia valvae tricuspidalis et ventriculi dextri	Dysplasia of tricuspid valve and right ventricle §Ebstein§
E5.11.1.8.2.0.37	Dysplasia valvae mitralis et ventriculi sinistri	Dysplasia of mitral valve and left ventricle
E5.11.1.8.2.0.38	Pentalogia cardiaca	Cardiac pentalogy §Fallot§
E5.11.1.8.2.0.39	Tetralogia cardiaca[234]	Cardiac tetralogy §Fallot§
E5.11.1.8.2.0.40	Trilogia cardiaca	Cardiac trilogy §Fallot§
E5.11.1.8.2.0.41	Canalis atrioventricularis communis persistens	Persistent common atrioventricular canal
E5.11.1.8.2.0.42	Transpositio aorticopulmonalis	Aorto-pulmonary transposition; Transposition of great arteries
E5.11.1.8.2.0.43	Ductus communis effluxionis persistens	Persistent common outflow tract
E5.11.1.8.2.0.44	Ductus duplex effluxionis ventriculi sinistri	Double outlet of left ventricle
E5.11.1.8.2.0.45	Ductus duplex effluxionis ventriculi dextri	Double outlet of right ventricle
E5.11.1.8.2.0.46	Hypoplasia ventriculi sinistri	Hypoplasia of left ventricle
E5.11.1.8.2.0.47	Hypoplasia ventriculi dextri	Hypoplasia of right ventricle
E5.11.1.8.2.0.48	Fibrosis endomyocardiaca congenita	Congenital endomyocardial fibrosis
	{vide infra etiam Anomaliae vasculorum}	{see also Vascular anomalies below}
E5.11.2.0.0.0.1	**Vasa**	**Vessels**
E5.11.2.0.0.0.2	Mesenchyma vasculare	Vascular mesenchyme
E5.11.2.0.0.0.3	Textus angioblasticus	Angioblastic tissue
E5.11.2.0.0.0.4	Insula sanguinea vesiculae umbilicalis; Insula sanguinea sacci vitellini	Blood island of umbilical vesicle; Blood island ofYolk sac §Pander§
E5.11.2.0.0.0.5	Endothelioblastus	Endothelioblast
E5.11.2.0.0.0.6	Haemocytoblastus {vide infra Structurae haematolymphoideae}	Haemocytoblast▲ {See Haematolymphoid complex below}
E5.11.2.0.0.1.1	**Vasculogenesis**[235]	**Vasculogenesis**
E5.11.2.0.0.1.2	Rete capillare primordiale	Primordial capillary network
E5.11.2.0.0.2.1	**Angiogenesis**[236]	**Angiogenesis**
E5.11.2.0.0.2.2	Angiogenesis ramificans	Branching angiogenesis
E5.11.2.0.0.2.3	Angiogenesis gemmascens	Sprouting angiogenesis
E5.11.2.0.0.2.4	Angiogenesis intussusceptiva	Intussusceptive angiogenesis; Splitting angiogenesis
E5.11.2.0.0.2.5	Angiogenesis non ramificans	Non-branching angiogenesis
E5.11.2.0.0.2.6	Reformatio vasis sanguinei	Blood vessel remodelling
E5.11.2.0.0.2.7	Circulatio embryonica	Embryonic circulation
E5.11.2.0.0.2.8	Rete vasculare	Vascular network
E5.11.2.0.0.2.9	Phasis symmetros	Symmetrical phase
E5.11.2.0.0.2.10	Phasis asymmetros	Asymmetrical phase
E5.11.2.1.0.0.1	**ARTERIAE**	**ARTERIES**
E5.11.2.1.0.0.2	Arteriogenesis	Arteriogenesis
E5.11.1.3.2.0.16	**Saccus aorticus**	**Aortic sac**
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E4.0.3.5.0.3.12	Septum aorticopulmonale	Aorticopulmonary septum
E5.11.2.1.1.0.1	Aorta ascendens et pars proximalis arcus aortae	Ascending aorta and proximal part of aortic arch
E5.11.1.4.0.0.4	Aa. coronariae	Coronary arteries
E5.11.2.1.1.0.2	Pars intermedia arcus aortae	Intermediate part of arch of aorta
E5.11.2.1.1.0.3	Truncus pulmonalis	Pulmonary trunk
E5.11.2.1.1.0.4	Gemma ventralis a sacco aortae	Ventral sprout from aortic sac
E5.11.2.1.1.0.5	Aa. pulmonales primordiales	Primordial pulmonary arteries
E5.11.2.1.1.0.6	Partes proximales arteriarum pulmonalium	Proximal parts of pulmonary arteries
E5.11.2.1.1.0.7	Cornu dextrum sacci aortici	Right horn of aortic sac

[234] E5.11.1.8.2.0.39 *Tetralogia cardiaca* Although described by Stenson in 1671 the *tetralogy* ascribed to Fallot (1888) consists of pulmonary stenosis, dextraposition of the aorta overriding an interventricular septal defect and right ventricular hypertrophy. An interatrial septal defect is often present making the *pentalogy*. The combination of pulmonary stenosis, interatrial septal defect and right ventricular hypertrophy constitutes the *trilogy*.

[235] E5.11.2.0.0.1.1 *Vasculogenesis* Formation of a primordial capillary network from cells that differentiatie locally: they may be invading angioblasts (Risau W, Flamme I. Vasculogenesis. Annu Rev Cell Dev Biol. 1995:11;79-91) or be endothelial progenitor cells (EPCs) which differentiate in splanchnopleuric mesenchyme or its derivatives.

[236] E5.11.2.0.0.2.1 *Angiogenesis* The formation of new vessels from existing ones (Risau W. Mechanisms of angiogenesis. Nature. 1997:386;671-4): it occurs in somatopleuric mesenchyme or its derivatives. For the different forms of angiogenesis see Charnock-Jones DS, Kaufmann P, Mayhew TM Aspects of human fetoplacental vasculogenesis and angiogenesis. I. Molecular regulation. Placenta 2004;25:103-13;

E5.11.2.1.1.0.8	Truncus brachiocephalicus	Brachiocephalic trunk
E5.11.2.1.1.0.9	A. carotis communis dextra	Right common carotid artery
E5.11.2.1.1.0.10	A. carotis externa	External carotid artery
E5.11.2.1.1.0.11	Cornu sinistrum sacci aortici	Left horn of aortic sac
E5.11.2.1.1.0.12	A. carotis communis sinistra	Left common carotid artery
E5.11.2.1.1.0.10	A. carotis externa	External carotid artery
E4.0.3.5.0.3.3	**Aa. arcuum pharyngeorum**[223]	**Pharyngeal arch arteries; Aortic arches**
E5.11.1.2.0.0.1	A. arcus primi pharyngei [1][223]	First pharyngeal arch artery [1]; First aortic arch [1]
E5.11.2.1.2.0.1	A. maxillaris	Maxillary artery
E5.11.2.1.2.0.2	A. arcus secundi pharyngei [2][223]	Second pharyngeal arch artery [2]; Second aortic arch [2]
E5.11.2.1.2.0.3	R. stapedius	Stapedial branch
E5.11.2.1.2.0.4	A. arcus tertii pharyngei [3][223]	Third pharyngeal arch artery [3]; Third aortic arch [3]
E5.11.2.1.2.0.5	Radix arteriae carotidis internae	Root of internal carotid artery
E5.11.2.1.2.0.6	Reliquum arteriae carotidis internae	Remainder of internal carotid artery
E5.11.2.1.2.0.7	Aa. cerebri anterior, media et posterior	Anterior, middle and posterior cerebral arteries
E5.11.2.1.2.0.8	A. quarti arcus pharyngei sinistri [4][223]	Left fourth pharyngeal arch artery [4]; Left fourth aortic arch [4]
E5.11.2.1.1.0.2	Pars intermedia arcus aortae	Intermediate part of arch of aorta
E5.11.2.1.2.0.9	A. quarti arcus pharyngei dextri [4][223]	Right fourth pharyngeal arch artery [4]; Right fourth aortic arch [4]
E5.11.2.1.2.0.10	Pars proxima arteriae subclaviae dextrae	Proximal part of right subclavian artery
E5.11.2.1.2.0.11	(A. quinti arcus pharyngei[5])[237]	(Fifth pharyngeal arch artery[5]; Fifth aortic arch [5])
E5.11.2.1.1.0.4	Gemma ventralis a sacco aortae	Ventral sprout from aortic sac
E5.11.2.1.2.0.12	Gemma dextra dorsalis a sacco aortae	Right dorsal sprout from dorsal aorta
E5.11.2.1.2.0.13	A. sexti arcus pharyngei [6]; Arcus pulmonalis[223]	Sixth pharyngeal arch artery [6]; Sixth aortic arch [6]; Pulmonary arch
E5.11.2.1.2.0.14	Bifurcatio trunci pulmonalis	Bifurcation of pulmonary trunk
E5.11.2.1.2.0.15	A. pulmonalis	Pulmonary artery
E5.11.2.1.2.0.16	Gemma sinistra dorsalis a sacco aortae	Left dorsal sprout from dorsal aorta
E5.11.2.1.2.0.17	Ductus arteriosus	Ductus arteriosus
E5.11.2.1.2.0.18	Lig. arteriosum	Ligamentum arteriosum §Botallo§
E5.11.2.1.3.0.1	**Aortae dorsales**	**Dorsal aortae**
E5.11.2.1.3.0.2	Aortae dorsales pares	Paired dorsal aortae
E5.11.2.1.3.0.3	Aortae dorsales non conjunctae	Unfused dorsal aortae
E5.11.2.1.3.0.4	Aortae dorsales conjunctae	Fused dorsal aortae
E5.11.2.1.3.0.3	**Aortae dorsales non conjunctae**	**Unfused dorsal aortae**
E5.11.2.1.3.1.1	Radix sinistra aortae dorsalis; Pars sinistra par aortae dorsalis	Left dorsal aortic root; Left paired part of dorsal aorta
E5.11.2.1.3.1.2	Pars distalis arcus aortae	Distal part of arch of aorta
E5.11.2.1.3.1.3	Pars proximalis aortae descendentis	Proximal descending aorta
E5.11.2.1.3.1.4	Radix dextra aortae dorsalis; Pars dextra par aortae dorsalis	Right dorsal aortic root; Right paired part of dorsal aorta
E5.11.2.1.3.1.5	Pars intermedia arteriae subclaviae dextrae	Intermediate part of right subclavian artery
E5.11.2.1.3.0.4	**Aortae dorsales conjunctae**	**Fused dorsal aortae**
E5.11.2.1.3.2.1	Pars impar aortae dorsalis	Unpaired part of dorsal aorta
E5.11.2.1.3.2.2	A. segmentalis ventralis	Ventral segmental artery
E5.11.2.1.3.2.3	A. omphalomesenterica; A. vitellina	Omphalomesenteric artery; Vitelline artery
E5.11.2.1.3.2.4	Truncus coeliacus	Coeliac trunk▲
E5.4.7.0.0.0.6	A. mesenterica superior	Superior mesenteric artery
E5.11.2.1.3.2.5	A. mesenterica inferior	Inferior mesenteric artery
E5.11.2.1.3.2.6	Truncus umbilicalis	Umbilical trunk
E5.11.2.1.3.2.7	A. iliaca communis	Common iliac artery
E5.11.2.1.3.2.8	A. iliaca interna	Internal iliac artery

[237] E5.11.2.1.2.0.11 *A. quinti arcus pharyngei* Only the first four pharyngeal arches, grooves and pouches are distinct structures. Nevertheless, arch arteries develop caudal to the fourth arch. The pulmonary arch caudal to the fourth arch artery is sometimes named a sixth arch artery because of its phylogeny, even when a fifth arch artery is not present (Congdon ED.Transformation of the aortic-arch system during the development of the human embryo. Contrib Embryol Carneg Instn 1922;14:47-110).

E5.11.2.1.3.2.9	A. umbilicalis[238]	Umbilical artery
E5.11.2.1.3.2.10	A. axialis membri inferioris; Rete arteriosum axiale membri inferioris	Axial artery of lower limb; Axial arterial plexus of lower limb
E5.11.2.1.3.2.11	A. nervi ischiadici	Artery of sciatic nerve
E5.11.2.1.3.2.12	Lig. umbilicale mediale	Medial umbilical ligament
E5.11.2.1.3.2.13	Aa. vesicales superiores	Superior vesical arteries
E5.11.2.1.3.2.14	A. segmentalis lateralis	Lateral segmental artery
E5.11.2.1.3.2.15	A. phrenica communis	Common phrenic artery
E5.11.2.1.3.2.16	A. suprarenalis media	Middle suprarenal artery
E5.11.2.1.3.2.17	A. renalis	Renal artery
E5.11.2.1.3.2.18	A. gonadalis	Gonadal artery
E5.11.2.1.3.2.19	Aa. intersegmentales dorsolaterales	Dorsolateral intersegmental arteries
E5.11.2.1.3.2.20	R. dorsalis	Dorsal branch
E5.11.2.1.3.2.21	Anastomosis dorsalis	Dorsal anastomosis
E5.11.2.1.3.2.22	A. vertebralis	Vertebral artery
E5.11.2.1.3.2.23	Anastomosis vertebralis	Vertebral anastomosis
E5.11.2.1.3.2.24	A. basilaris	Basilar artery
E5.11.2.1.3.2.25	Anastomosis ventralis	Ventral anastomosis
E5.11.2.1.3.2.26	Truncus thyrocervicalis	Thyrocervical trunk
E5.11.2.1.3.2.27	Truncus costocervicalis	Costocervical trunk
E5.11.2.1.3.2.28	R. ventrolateralis	Ventrolateral branch
E5.11.2.1.3.2.29	Pars dorsalis arteriae subclaviae dextrae	Distal part of right subclavian artery
E5.11.2.1.3.2.30	A. subclavia sinistra	Left subclavian artery
E5.11.2.1.3.2.31	A. axialis membri superioris; Rete arteriosum axiale membri superioris	Axial artery of upper limb; Axial arterial plexus of upper limb
E5.11.2.1.3.2.32	A. axillaris	Axillary artery
E5.11.2.1.3.2.33	A. brachialis	Brachial artery
E5.11.2.1.3.2.34	A. interossea anterior	Anterior interosseus artery
E5.11.2.1.3.2.35	(A. mediana)	(Median artery)
E5.11.2.1.3.2.36	A. intercostalis	Intercostal artery
E5.11.2.1.3.2.37	A. lumbalis	Lumbar artery
E5.11.2.1.3.2.38	A. sacralis mediana	Median sacral artery
E5.11.2.2.0.0.1	**VENAE**	**VEINS**
E5.11.2.2.0.0.2	Venogenesis	Venogenesis
E5.11.2.2.1.0.1	**Venae extraembryonicae**	**Extra-embryonic veins**
E5.11.2.2.1.0.2	V. omphalomesenterica extraembryonica; V. vitellina extraembryonica	Extra-embryonic omphalomesenteric vein
E5.11.2.2.1.0.3	V. allantoica	Allantoic vein
E5.11.2.2.1.0.4	V. umbilicalis	Umbilical vein
E5.11.2.2.2.0.1	**Venae intraembryonicae**	**Intra-embryonic veins**
E5.11.2.2.1.0.4	V. umbilicalis	Umbilical vein
E5.11.2.2.2.0.2	Lig. teres hepatis	Round ligament of liver
E5.11.2.2.2.0.3	Plexus venosus visceralis	Visceral venous plexus
E5.11.2.2.2.1.1	**Venae viscerales**	**Visceral veins**
E5.11.2.2.2.1.2	V. pulmonalis communis	Common pulmonary vein
E5.11.2.2.2.1.3	V. omphalomesenterica intraembryonica; V. vitellina intraembryonica	Intra-embryonic omphalomesenteric vein
E5.11.2.2.2.1.4	V. portae hepatis	Hepatic portal vein
E5.11.2.2.2.1.5	Vv. afferentes hepatis	Afferent hepatic veins
E5.4.12.0.0.3.7	Ductus venosus	Ductus venosus
E5.11.2.2.2.1.6	Lig. venosum	Ligamentum venosum
E5.11.2.2.2.1.7	Vv. efferentes hepatis	Efferent hepatic veins
E5.11.2.2.2.1.8	Vv. hepaticae	Hepatic veins
E5.11.2.2.2.1.9	Pars hepatica venae cavae inferioris	Hepatic part of inferior vena cava
E5.11.2.2.2.2.1	**Venae somaticae**	**Somatic veins**
E5.11.2.2.2.2.2	V. praecardinalis	Precardinal vein; Anterior cardinal vein
E5.11.2.2.2.2.3	V. capitis primaria	Primary head vein
E5.11.2.2.2.2.4	V. jugularis interna	Internal jugular vein
E5.11.2.2.2.2.5	V. jugularis externa	External jugular vein

[238] E5.11.2.1.3.2.9 *A. umbilicalis* The umbilical arteries develop precociously in the mesoderm of the connecting stalk in relation to the allantoic diverticulum, where they may be regarded as allantoic arteries. The vascularization of the placenta is thus said to be chorio-allantoic.

E5.11.2.2.2.2.6	Truncus brachiocephalicus dexter	Right brachiocephalic trunk
E5.11.2.2.2.2.7	Anastomosis praecardinalis	Precardinal anastomosis
E5.11.2.2.2.2.8	Truncus brachiocephalicus sinister	Left brachiocephalic trunk
E5.11.2.2.2.2.9	V. subclavia	Subclavian vein
E5.11.2.2.2.2.10	Pars superior venae cavae superioris	Superior part of superior vena cava
E5.11.2.2.2.2.11	V. cardinalis communis dextra	Right common cardinal vein
E5.11.2.2.2.2.12	Pars inferior venae cavae superioris	Inferior part of superior vena cava
E5.11.2.2.2.2.13	V. intercostalis superior dextra	Right superior intercostal vein
E5.11.2.2.2.2.14	Radix venae azygos	Root of azygos vein
E5.11.2.2.2.2.15	V. cardinalis communis sinistra	Left common cardinal vein
E5.11.2.2.2.2.16	Pars distalis sinus coronarii	Distal part of coronary sinus
E5.11.2.2.2.2.17	V. obliqua atrii sinistri	Oblique vein of left atrium
E5.11.2.2.2.2.18	Lig. venae cavae sinistrae	Ligament of left vena cava
E5.11.2.2.2.2.19	V. postcardinalis[239]	Postcardinal vein; Posterior cardinal vein
E5.11.2.2.2.2.20	V. azygos	Azygos vein
E5.11.2.2.2.2.21	V. azygos accessoria	Accessory azygos vein
E5.11.2.2.2.2.22	V. hemiazygos	Hemi-azygos vein
E5.11.2.2.2.2.23	V. hemiazygos accessoria	Accessory hemi-azygos vein
E5.11.2.2.2.2.24	V. gonadalis	Gonadal vein
E5.11.2.2.2.2.25	Anastomosis subcardinalis	Subcardinal anastomosis
E5.11.2.2.2.2.26	V. renalis sinistra	Left renal vein
E5.11.2.2.2.2.27	V. subcardinalis dextra	Right subcardinal vein
E5.11.2.2.2.2.28	Pars subcardinalis venae cavae inferioris	Subcardinal part of inferior vena cava
E5.11.2.2.2.2.29	Vv. intersegmentales	Intersegmental veins
E5.11.2.2.2.2.30	V. marginalis membri	Marginal limb vein
E5.11.2.2.2.2.31	V. postaxialis membri inferioris; Rete venosum postaxiale membri inferioris	Postaxial vein of lower limb; Postaxial venous plexus of lower limb
E5.11.2.2.2.2.32	V. saphena parva	Small saphenous vein
E5.11.2.2.2.2.33	V. praeaxialis membri inferioris; Rete venosum praeaxiale membri inferioris	Pre-axial vein of lower limb; Pre-axial venous plexus of lower limb
E5.11.2.2.2.2.34	V. saphena magna	Great saphenous vein
E5.11.2.2.2.2.35	V. axialis membri inferioris; Rete venosum axiale membri inferioris	Axial vein of lower limb; Axial venous plexus of lower limb
E5.11.2.2.2.2.36	V. comitans nervi ischiadici	Vena comitans of sciatic nerve
E5.11.2.2.2.2.37	V. postaxialis membri superioris; Rete venosum postaxiale membri superioris	Postaxial vein of upper limb; Postaxial venous plexus of upper limb
E5.11.2.2.2.2.38	V. basilica	Basilic vein
E5.11.2.2.2.2.39	V. praeaxialis membri superioris; Rete venosum praeaxiale membri superioris	Pre-axial vein of upper limb; Pre-axial venous plexus of upper limb
E5.11.2.2.2.2.40	V. cephalica	Cephalic vein
E5.11.2.2.2.2.41	V. axialis membri superioris; Rete venosum axiale membri superioris	Axial vein of upper limb; Axial venous plexus of upper limb
E5.11.2.2.2.2.42	Vv. brachiales	Brachial veins
E5.11.2.2.2.2.43	Vv. Interosseae anteriores	Anterior interosseus veins
E5.11.2.3.0.0.1	**VASA LYMPHATICA**	**LYMPH VESSELS**
E5.11.2.3.0.0.2	Lymphangiogenesis[240]	Lymphangiogenesis
E5.11.2.3.0.0.3	Reticulum mesenchymale	Mesenchymal reticulum
E5.11.2.3.0.0.4	Textus reticularis	Reticular tissue
E5.11.2.3.0.0.5	Cellula reticularis	Reticular cell
E5.11.2.3.0.0.6	Cellula erythropoietica	Erythropoietic cell
E5.11.2.3.0.0.7	Cellula granulopoietica	Granulopoietic cell
E5.11.2.3.0.0.8	Cellula lymphopoietica	Lymphopoietic cell
E5.11.2.3.0.0.9	Monocytus	Monocyte
E5.11.2.3.0.0.10	Macrophagocytus	Macrophage
E5.11.2.3.0.0.11	Vas sanguineum arteriale	Arterial blood vessel
E5.11.2.3.0.0.12	Sinus lymphaticus	Lymphatic sinus
E5.11.2.3.0.0.13	Sacci lymphatici	Lymph sacs

[239] E5.11.2.2.2.2.19 *V. postcardinalis* In the human embryo there are no supracardinal veins and the azygos system develops from the postcardinal veins (Lamers WH., unpublished observations; Hochstetter F. Entwickelung des Venensystems der Wirbeltiere. Ergeb Anat Entwicklungsgesch 1893;3:460-489).

[240] E5.11.2.3.0.0.2 *Lymphangiogenesis* The formation of lymphatics (Oliver G. Lymphatic vasculature development. Nature Rev Immunol. 2004:4;35-45).

E5.11.2.3.0.0.14	Saccus lymphaticus jugularis	Jugular lymph sac
E5.11.2.3.0.0.15	Saccus lymphaticus axillaris	Axillary lymph sac
E5.11.2.3.0.0.16	Saccus lymphaticus juguloaxillaris	Juguloaxillary lymph sac
E5.11.2.3.0.0.17	Ductus thoracicus duplex symmetricus	Double thoracic duct
E5.11.2.3.0.0.18	Ductus thoracicus simplex definitivus	Definitive thoracic duct
E5.11.2.3.0.0.19	Cysterna chyli	Cysterna chyli; Chyle cistern
E5.11.2.3.0.0.20	Junctio lymphaticovenosa	Lymphatic vein junction
E5.11.2.3.0.0.21	Saccus lymphaticus mesentericus	Mesenteric lymph sac
E5.11.2.3.0.0.22	Saccus lymphaticus lumbalis	Lumbar lymph sac
E5.11.2.3.0.0.23	Saccus lymphaticus ilioinguinalis	Ilioinguinal lymph sac
E5.11.2.3.0.0.24	Vas capillare lymphaticum	Lymphatic capillary
E5.11.2.3.1.0.1	**Anomaliae vasculorum**	**Vascular anomalies**
E5.11.2.3.1.0.2	Aneurysma congenitum	Congenital aneurysm
E5.11.2.3.1.0.3	A. coronaria unica	Single coronary artery
E5.11.2.3.1.0.4	Aneurysma congenitum arteriae coronariae	Congenital aneurysm of coronary artery
E5.11.2.3.1.0.5	Fistula arteriae coronariae	Fistula of coronary artery
E5.11.2.3.1.0.6	Origo pulmonalis arteriarum coronariarum	Pulmonary artery origin of coronary arteries
E5.11.2.3.1.0.7	Anulus vascularis arcus aortae	Double aortic arch; Aortic arch vascular ring
E5.11.2.3.1.0.8	Arcus aortae dexter	Right arch of aorta
E5.11.2.3.1.0.9	Arcus aortae interruptus	Interrupted arch of aorta
E5.11.2.3.1.0.10	Coarctatio aortae	Aortic coarctation
E5.11.2.3.1.0.11	A. subclavia lusoria	Retro-oesophageal right subclavian artery
E5.11.2.3.1.0.12	Ductus arteriosus patens	Patent ductus arteriosus §Botallo§
E5.11.2.3.1.0.13	Stenosis trunci pulmonalis	Pulmonary trunk stenosis
E5.11.2.3.1.0.14	Stenosis arteriae pulmonalis	Pulmonary artery stenosis
E5.11.2.3.1.0.15	Anomaliae connexionium venarum pulmonalium	Anomalous pulmonary venous connections
E5.11.2.3.1.0.16	V. cava inferior praeureterica	Pre-ureteric inferior vena cava
E5.11.2.3.1.0.17	V. cava inferior sinistra	Left inferior vena cava
E5.11.2.3.1.0.18	V. cava superior sinistra persistens	Persistent left superior vena cava
E5.11.2.3.1.0.19	V. cava superior duplex	Double superior vena cava
E5.11.2.3.1.0.20	Haemangioma	Haemangioma▲
E5.11.2.3.1.0.21	Lymphangioma	Lymphangioma
E5.11.2.3.1.0.22	Hygroma cystica	Cystic hygroma
E5.11.3.0.0.0.1	**Formatio haemocytorum**[241]	**Blood cell production**
E5.11.3.1.0.0.1	**TEXTUS HAEMANGIOGENICUS**	**HAEMANGIOGENIC TISSUE▲**
E5.11.3.1.1.0.2	**Textus haemangiogenicus extraembryonicus**	**Extra-embryonic haemangiogenic tissue▲**
E5.11.3.1.1.0.3	Chorion	Chorion
E5.11.3.1.1.0.4	Pedunculus connectans	Connecting stalk
E5.7.1.0.0.0.4	Vesicula umbilicalis; Saccus vitellinus[242]	Umbilical vesicle; Yolk sac
E5.11.3.1.1.0.5	Placenta	Placenta
E5.11.3.1.2.0.1	**Textus haemangiogenicus intraembryonicus**	**Intra-embryonic haemangiogenic tissue▲**
E5.11.3.1.2.0.2	Regio AorticoGonadoMesonephrica; AGM	Aortic-Gonadal-Mesonephric region; AGM
E5.11.3.1.3.0.1	**Acervatio cellularum haemangiogenicarum**	**Haemangiogenic cell cluster▲**
E5.11.2.0.0.0.4	Insula sanguinea vesiculae umbilicalis; Insula sanguinea sacci vitellini	Blood island of umbilical vesicle; Blood island of yolk sac
E5.11.3.1.3.0.2	Haemangioblastus	Haemangioblast▲
E5.11.3.1.3.0.3	Angioblastus	Angioblast
E5.11.2.0.0.0.5	Endothelioblastus	Endothelioblast
E5.4.12.0.0.5.1	Endotheliocytus	Endothelial cell
E5.11.3.1.3.0.4	Vas capillare primordiale	Primordial capillary
E5.11.3.1.3.0.5	Haemocytoblastus	Haemocytoblast▲
E5.11.3.1.3.0.6	Sanguis primordialis	Primordial blood
E4.0.0.1.2.0.11	Cellula haematopoietica praecursoria[243]	Haematopoietic stem cell▲

[241] E5.11.3.0.0.0.1 *Formatio haemocytorum* This section on *Blood cell production* complements the extensive section with the same name in Terminologia Histologica 2008 [H2.00.04.3.00001]: here it is restricted to the initiation of haemangiogenesis and the most distinctive features of embryonic and fetal blood.

[242] E5.7.1.0.0.0.4 *Vesicula umbilicalis; Saccus vitellinus* The *umbilical vesicle* orYolk sac accommodates primordial erythroblasts, together with a relatively very small population of macrophages which are the only other differentiated blood cells that it accommodates (Kelemen E, Calvo W, Fliedner TM. Atlas of Human Hemopoietic Development. Springer-Verlag, Berlin, Heidelberg, New York, 1979; Palis J.and Yoder MC, Yolk-sac hematopoiesis: The first blood cells of mouse and man. Exp Hemat 2001;29:927-936).

E5.11.3.1.3.0.7	Cellula haematopoietica progenetrix	Haematopoietic progenitor cell▲
E5.11.3.1.3.0.8	Macroblastus [244]	Macroblast
E5.11.3.1.3.0.9	Macrocytus	Macrocyte
E5.11.3.1.3.0.10	Erythroblastus [245]	Erythroblast
E5.11.3.1.3.0.11	Erythrocytus	Erythrocyte
E5.11.3.1.3.0.12	Haemoglobinum embryonicum [246]	Embryonic haemoglobin▲
E5.11.3.1.3.0.13	Haemoglobinum foetale; HbF	Fetal haemoglobin; HbF▲
E5.11.3.1.3.0.14	Haemoglobinum adultum; HbA	Adult haemoglobin; HbA▲
E5.11.3.1.4.0.1	**Acervatio cellularum angiogenicarum**	**Angiogenic cell cluster**
E5.11.3.1.3.0.3	Angioblastus	Angioblast
E5.11.2.0.0.0.5	Endothelioblastus	Endothelioblast
E5.4.12.0.0.5.1	Endotheliocytus	Endothelial cell
E5.11.3.1.3.0.4	Vas capillare primordiale	Primordial capillary
E5.11.3.1.5.0.1	**Haemangiogenesis**[247]	**Haemangiogenesis ▲**
E5.11.3.1.3.0.2	Haemangioblastus[247]	Haemangioblast▲
E5.11.2.0.0.2.1	**Angiogenesis**[236]	**Angiogenesis**
E5.11.3.1.7.0.1	**Textus haematopoieticus**	**Haematopoietic tissue▲**

---

[243] E4.0.0.1.2.0.11 *Cellula haematopoietica primordialis* *Haematopoietic stem cells* circulate in the blood throughout gestation and can be interchanged between dizygotic twins when their placental blood vessels are connected (Booth PB, Plaut G, James JD, Ikin EW, Moores P, Sanger R, Race RR. Blood chimerism in a pair of twins. BMJ 1957;I:1456-1458; Dunsford I, Bowley CC, Hutchison AM, Thompson JS, Sanger R, Race RR. A human blood group chimera. BMJ 1953;II: 81; Nicholas JW, Jenkins WJ, Marsh WL. Human blood chimeras: a study of surviving twins. (BMJ 1957;I:1458-1460) or isolated from blood remaining in the umbilical cord after the delivery of a baby and successfully transplanted thereafter (Gluckman E, Rocha V, Chevret S. Results of unrelated umbilical cord blood hematopoietic stem cell transplantation. Rev Clinical Exp Hemat 2001;5:87-99).

[244] E5.11.3.1.3.0.8 *Macroblastus* *Macroblasts* are large cells which contain pyknotic nuclei and a substantial amount of haemoglobin. These cells are similar in form to the macrocytes, which do not contain nuclei. Both populations are numerous in the early embryo but disappear before the end of the first trimester. Macroblasts are readily distinguished from megaloblasts, the cells which characterize megaloblastic anaemias.

[245] E5.11.3.1.3.0.10 *Erythroblastus* Fetal blood contains *erythroblasts* at all stages of maturation, together with corresponding progenitor cells and stem cells (Thomas DB, Yoffey JM. Human fetal haematopoiesis I. The cellular composition of fetal blood. Br J Haematol 1962;8:290-295; Thomas DB. The leuco-erythroblastic anaemia of the human foetus. Arch Dis Childhood 1963; 38: 95; Kelemen E, Calvo W, Fliedner TM. Atlas of Human Hemopoietic Development. Springer-Verlag, Berlin, Heidelberg, New York, 1979).

[246] E5.11.3.1.3.0.12 *Haemoglobinum embryonicum* Changes in haemoglobin molecules during the course of development reflect changes in their two dissimilar pairs of polypeptide chains (globin chains) :

Globin chains	*Predominate in*	*Haemoglobin*▲
Zeta + epsilon	early embryo	Gower 1
Zeta + gamma	early embryo	Portland 1
Zeta + beta	early embryo	Portland 2
Alpha + epsilon	early embryo	Gower 2
Alpha + gamma	fetus	Fetal (HbF)
Alpha + beta	postnatal life	Adult (HbA)
Alpha + delta	postnatal life	Adult (HbA2)

Embryonic haemoglobins invariably contain one or both of the distinctive globin chains that appear early in the first trimester (zeta and epsilon chains), which may be combined with alpha, beta or gamma chains. During the fifth week of gestation zeta chains and epsilon chains are already being synthesized by primitive erythroblasts in the umbilical vesicle. From the sixth week onwards these same cells also synthesize alpha, beta and gamma chains. Zeta chains and epsilon chains disappear before the end of the first trimester. During the fetal period alpha chains are combined with gamma chains in *fetal haemoglobin* (HbF) which is the predominant haemoglobin until early in the neonatal period. During the second half of gestation the bone marrow is established as the main site of haematopoiesis and *adult haemoglobin* (HbA), in which alpha chains are combined with beta chains, starts to replace fetal haemoglobin. Within a month or so of birth adult haemoglobin is the predominant haemoglobin but traces of fetal haemoglobin may persist for several months. In a minor adult haemoglobin (HbA2), alpha chains are combined with delta chains.

Polypeptide chains	Zeta	Alpha
Epsilon	Gower 1	
Gamma	Portland 1	
Beta	Portland 2	
Epsilon		Gower 2
Gamma		Fetal (HbF)
Beta		Adult, major (HbA)
Delta		Adult, minor (HbA2)

[247] E5.11.3.1.5.0.1/ E5.11.3.1.3.0.2 *Haemangiogenesis/Haemangioblast* It was suggested by Sabin in 1920, that the precursors of both blood cells and endothelial cells may be the progeny of a single population of cells, which were subsequently termed haemangioblasts by Murray in 1932. Haemangioblasts have now been characterised and isolated. Presumably haemangioblasts confer upon the endoderm-associated splanchnopleuric mesenchyme its capacity to sustain *haemangiogenesis*, the ability to give rise to both blood cells and endothelial cells, which is not shared by the ectoderm-associated somatopleuric mesoderm. Endothelial networks are established in somatopleuric mesodermal derivatives extrinsically, by ingrowth from pre-existing vessels of paraxial origin (*angiogenesis q.v.*); they are established in splanchnopleuric mesenchymal derivatives intrinsically, by haemangioblasts (*vasculogenesis q.v.*). Paraxial derivatives are barred from vascularizing visceral organs and from integrating into the floor of the aorta but those of splanchnopleuric origin enter the body wall, the kidney and the visceral organs. (Pardanaud L, Luton D. Prigent M, Bourcheit L-M, Catala M, Dieterlen-Lievre F. Two distinct endothelial lineages in ontogeny, one of them related to hemopoiesis, Development 1996;122:1363-1371, Bailey AS, Fleming WH. Converging roads: Evidence for an adult hemangioblast, Exp Hematol 2003;31:987-993).

E5.11.3.1.7.0.2	Textus haematopoieticus in hepate	Haematopoietic tissue in liver▲
E5.11.3.1.7.0.3	Textus haematopoieticus in pulpa rubra splenis [248]	Haematopoietic tissue in red pulp of spleen▲
E5.11.3.1.7.0.4	Textus haematopoieticus in medulla ossium	Haematopoietic tissue in bone marrow▲
E5.11.3.1.8.0.1	**Textus lymphoideus**	**Lymphoid tissue**
E5.11.3.1.8.0.2	Primordium thymi	Primordium of thymus
E5.11.3.1.8.0.3	Pulpa alba in primordio splenis	White pulp in splenic primordium
E5.11.3.1.8.0.4	Primordium nodi lymphoidei	Lymph node primordium
E5.12.0.0.0.0.1	**Systema lymphoideum**	**Lymphoid system**
E5.12.1.0.0.0.1	**Textus lymphoidei primarii**	**Primary lymphoid tissues**
E5.12.1.1.0.0.1	**MEDULLA OSSIUM RUBRA**	**RED BONE MARROW; HAEMATOPOIETIC BONE MARROW▲**
E5.12.1.1.0.0.2	Cellula stromalis medullae osseae	Bone marrow stromal cell
E4.0.0.1.2.0.11	Cellula haematopoietica praecursoria	Haematopoietic stem cell▲
E5.11.3.1.3.0.7	Cellula haematopoietica progenetrix	Haematopoietic progenitor cell▲
E5.12.1.1.0.0.3	Cellula thymocytopoietica progenetrix	Thymocytopoietic progenitor cell
E5.12.1.2.0.0.1	**THYMUS[249]**	**THYMUS**
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.4.2.0.0.1.10	Saccus pharyngeus tertius [3]	Third pharyngeal pouch [3]
E5.4.2.0.0.1.17	(Saccus pharyngeus quartus [4])[250]	(Fourth pharyngeal pouch [4])
E5.12.1.2.0.0.2	Epithelium ectodermale[251]	Ectodermal epithelium
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis[252]	Ectomesenchyme; Neural crest mesenchyme
E5.11.3.1.8.0.2	Primordium thymi	Primordium of thymus
E5.12.1.2.0.0.3	Gemma thymica pharyngealis	Pharyngeal thymic bud
E5.12.1.2.0.0.4	Gemma thymica mediastinalis	Mediastinal thymic bud
E5.12.1.2.0.0.5	Capsula	Capsule
E5.12.1.2.0.0.6	Septum corticale	Cortical septum
E5.12.1.2.0.0.7	Lobus thymicus	Thymic lobe
E5.12.1.2.0.0.8	Lobulus thymicus	Thymic lobule
E5.12.1.2.1.0.1	**Cortex thymi**	**Cortex of thymus**
E5.12.1.2.1.0.2	Cortex subcapsularis thymi	Subcapsular cortex
E5.12.1.2.1.0.3	Cortex juxtamedullaris thymi	Juxtamedullary cortex
E5.12.1.2.1.0.4	Junctio corticomedullaris thymi	Corticomedullary junction
E5.12.1.2.2.0.1	**Medulla thymi**	**Medulla of thymus**
E5.12.1.2.2.0.2	Medulla externa thymi	Outer medulla
E5.12.1.2.2.0.3	Medulla interna thymi	Inner medulla
E5.12.1.2.2.0.4	Cytoreticulum thymi	Cytoreticulum
E5.12.1.2.2.0.5	Cytoreticulum corticale thymicum	Cortical cytoreticulum of thymus
E5.12.1.2.2.0.6	Epitheliocytus reticularis typorum I-III	Types I-III epithelial reticular cells
E5.12.1.2.2.0.7	Cytoreticulum medullare thymicum	Medullary cytoreticulum of thymus
E5.12.1.2.2.0.8	Epitheliocyti reticulares typorum IV-VI	Types IV-VI epithelial reticular cells

[248] E5.11.3.1.7.0.3 *Textus haematopoieticus in pulpa rubra splenis* In the human fetus the spleen is not a preferential site of blood cell production between the fourth and seventh months of gestation but, like any other site, the spleen may accommodate intra-vascular blood cell precursors. (Thomas DB. Is the spleen a preferential site of blood cell production in the human fetus? Ital J Anat Embryol 1995;100(Supp 1):245-252).

[249] E5.12.1.2.0.0.1 *Thymus* Developmental phases: 1. Primordial; 2. Colonization of primordium by cells derived from the hepatic haematopoietic stem cell population of the liver; 3. Proliferation of T cell antecedents; 4. Generation of T cells; 5.Emigration of mature T cells (to secondary lymphoid tissues).

[250] E5.4.2.0.0.1.17 *Saccus pharyngeus quartus [4]* The ventral part of the fourth pharyngeal arch may contribute to the thymus in a proportion of human embryos (Van Dyke JH. On the origin of accessory thymus tissue, thymus IV: the occurrence in man. Anat Rec 1941;79:179-209.

[251] E5.12.1.2.0.0.2 *Epithelium ectodermale* Histological observations have suggested a contribution from the third pharyngeal groove but recent experimental studies suggest otherwise (Gordon J, Wilson VA, Blair NF, Sheridan J, Farley A, Wilson L, Manley NR, Blackburn CC. Functional evidence for a single endodermal origin for the thymic epithelium. Nat Immunol 2004;5:546-553)

.

[252] E4.0.4.1.0.0.5 *Ectomesenchyma; Mesenchyma cristae neuralis* *Ectomesenchymal cells* appear to be required to expand the number of thymic epithelial cells in early stages (Anderson G, Jenkinson WE, Jones T, Parnell SM, Kinsella FA, White AJ, Pongrac'z JE, Rossi JW, Jenkinson EJ. Establishment and functioning of intrathymic microenvironments. Immunol Rev 2006;209:10-27).

E5.12.1.2.2.0.9	Cellula dendritica thymi[253]	Dendritic reticular cell of thymus
E5.12.1.2.2.0.10	Corpusculum thymicum	Thymic corpuscle §Hassall§
E5.12.1.2.3.0.1	**Progenies cellularum T**[254]	**T cell lineage**
E4.0.0.1.2.0.11	Cellula haematopoietica praecursoria	Haematopoietic stem cell▲[Tmarker negative cell]
E5.12.1.2.3.0.2	Cellula thymocytopoietica progenetrix[254]	Thymocytopoietic progenitor cell [$Tdt^+CD34^+CD1^{-/+}CD3^-CD4^-CD8^-$cell; Triple negative cell]
E5.12.1.2.3.0.3	Prothymocytus[255]	Prothymocyte [$CD4^-CD8^-$cell; Double negative cell]
E5.12.1.2.3.0.4	Thymocytus corticalis[254]	Cortical thymocyte [$CD4^+CD8^+$cell; Double positive cell]
E5.12.1.2.3.0.5	Thymocytus medullaris[254]	Medullary thymocyte [$CD4^+$ or $CD8^+$ cell; Single positive cell]
E5.12.1.2.3.0.6	Cellula T maturus; Thymocytus; Lymphocytus T	Mature T cell; T Lymphocyte; Thymocyte
E5.12.1.2.3.0.7	Cellulae T regulatrices	Regulator T cells; $CD4^+$ T cells
E5.12.1.2.3.0.8	Cellula T adjuvans[256]	T helper cell
E5.12.1.2.3.0.9	Cellulae efficientes	Effector T cells
E5.12.1.2.3.0.10	Cellula T cytotoxica	T cytotoxic cell; Tc cell;$CD8^+$ cell
	Insignia alia	**Other aspects**
E5.12.1.2.4.0.1	Cellula necatoria anticorporibus non subjecta[257]	Antibody-independent natural killer cell; NK cell
E5.12.1.2.4.0.2	Cellula myoidea thymi[258]	Thymic myoid cell
E5.11.2.3.0.0.10	Macrophagocytus	Macrophage
E5.12.1.2.4.0.3	Mastocytus	Mast cell; Mastocyte
E5.12.1.2.4.0.4	Cellula apoptotica	Apoptotic cell
E5.12.1.2.4.0.5	Involutio thymi	Involution of thymus
E5.12.1.2.4.0.6	Claustrum haematothymicum	Blood-thymus barrier
E5.12.1.2.5.0.1	**Anomaliae thymi**	**Anomalies of thymus**
E5.12.1.2.5.0.2	Aplasia thymi	Aplasia of thymus
E5.4.2.0.1.0.11	Aplasia thymoparathyroidea	Thymoparathyroid aplasia §DiGeorge§
E5.12.1.2.5.0.3	Ectopia thymi	Ectopic thymus
E5.12.1.2.5.0.4	Hypoplasia thymi	Hypoplasia of thymus §Sprintzen§
E5.12.1.2.5.0.5	Textus thymicus accessorius	Accessory thymic tissue
E5.12.2.0.0.0.1	**Textus lymphoidei secundarii**[259]	**Secondary lymphoid tissues**
E5.12.2.0.0.0.2	Textus lymphoideus diffusus	Diffuse lymphoid tissue
E5.12.2.0.0.0.3	Textus lymphoideus circumscriptus	Circumscribed lymphoid tissue

253 E5.12.1.2.2.0.9 *Cellula dendritica thymi* *Dendritic cells* have been demonstrated in the human fetal thymus (Liu YJ. Uncover the mystery of plasmacytoid dendritic precursors or type 1 interferon producing cells by serendipity. Hum Immunol 2002;63:1067-1071).

254 E5.12.1.2.3.0.1 *Progenies cellularum T* *Thymocytic progenitor cells* reaching the thymic cortex express high levels of Cluster of Differentiation molecule 34 and CD45 and become CD1 positive but they remain negative for CD3, CD4 and CD8 (triple negative cells). In due course, prothymocytes which are CD3+, CD4-and CD8- (double negative cells) form in the cortex, move to the medulla and come to express both CD4 and CD8 (double positive cells), giving rise to both CD4+CD8- helper cells and CD4-CD8+ cytotoxic cells, which leave the thymus.

255 E5.12.1.2.3.0.3 *Prothymocytus* Prothymocytes are double negative cortical cells that are morphologically recognizable antecedents of T cells.

256 E5.12.1.2.3.0.8 *Cellula T adjuvans* B lymphocytes are numerous during the fifteenth week of gestation but plasma cells remain rare and serum immunoglobulins virtually absent until after birth. This may reflect functional immaturity of *T helper cells* in the fetus.

257 E5.12.1.2.4.0.1 *Cellula necatoria anticorporibus non subjecta* *Antibody-independent natural killer cells* are found in the thymus: they are the progeny of haematopoietic stem cells, derived initially from the liver and subsequently from the bone marrow.

258 E5.12.1.2.4.0.2 *Cellula myoidea thymi* *Thymic myoid cells* are demonstrable from the 10 week embryo onwards (Sato T, Tamaoki N. Acta Pathol Jpn 1989;39:509-519).They are more numerous in the fetus and contain myofilaments but poorly developed sarcomeres (Lambropoulou M, Tamiolakis D, Venizelos I, Alexiadis G, Limberis V, Galzios G, Tsikouras P, Karamanidid D, Koutsougeras G, Nikolaidou S, Petrakis G, Papadopoulos H, Papadopoulos N. A stromal myoid cell line provokes thymic T-cell immigration at the second and third gestational trimesters. Rev Med Chir Soc Med Nat Iasi 2007;11:710-716).

259 E5.12.2.0.0.0.1 *Textus lymphoideus secundarius* Lymphocytes, which are ultimately derived from the haematopoietic tissues, leave the primary or central lymphoid tissues to be distributed by the blood and lymph to the secondary or peripheral lymphoid tissues. The completion of secondary lymphoid tissue maturation coincides with the establishment of antibody production during the neonatal period.

E5.12.2.3.0.0.1	**NODULUS LYMPHOIDEUS**[260]	**LYMPHOID NODULE**
E5.12.2.3.0.0.2	Nodulus lymphoideus fugax	Transient lymphoid nodule
E5.12.2.3.0.0.3	Nodulus lymphoideus permanens	Persistent lymphoid nodule
E5.4.6.0.1.3.9	Nodulus lymphoideus solitarius	Solitary lymphoid nodule
E5.12.2.3.0.0.4	Nodulus lymphoideus multiplex	Multiple lymphoid nodule
E5.12.2.3.0.0.5	Nodulus lymphoideus confluens	Confluent lymphoid nodule
E5.12.2.3.0.0.6	Nodulus lymphoideus liber	Free lymphoid nodule
E5.12.2.3.0.0.7	Nodulus lymphoideus consociatus	Associated lymphoid nodule
E5.12.2.3.0.0.8	Nodulus lymphoideus incorporatus	Integrated lymphoid nodule
E5.12.2.3.0.0.9	Cellula dendritica nodularis	Nodular dendritic cell §Langerhans§
E5.12.2.3.0.0.10	Lymphocytus B	B lymphocyte
E5.12.2.3.0.0.11	Plasmocytus	Plasma cell; Plasmocyte; Plasmacyte
E5.12.2.3.1.0.1	**Nodulus lymphoideus primarius**	**Primary lymphoid nodule**
E5.12.2.3.2.0.1	**Nodulus lymphoideus secundarius; Nodulus lymphoideus strenuus**	**Secondary lymphoid nodule; Active lymphoid nodule**
E5.12.2.3.2.0.2	Centrum germinativum	Germinal centre▲
E5.12.2.3.2.0.3	Zona pallii	Mantle zone
E5.12.2.3.2.0.4	Zona densa	Dark zone
E5.12.2.3.2.0.5	Zona lucida basalis	Basal light zone
E5.12.2.3.2.0.6	Zona lucida apicalis	Apical light zone
E5.12.2.3.2.0.7	Centroblastus; Lymphocytus B dividens	Centroblast; Dividing B lymphocyte
E5.12.2.3.2.0.8	Centrocytus	Centrocyte
E5.12.2.3.3.0.1	**TEXTUS LYMPHOIDEUS ADJUNCTUS MUCOSAE**[261]	**MUCOSA-ASSOCIATED LYMPHOID TISSUE** [MALT]
E5.12.2.3.3.0.2	Textus lymphoideus adjunctus broncho	Bronchus-associated lymphoid tissue [BALT]
E5.12.2.3.3.0.3	Textus lymphoideus adjunctus intestino	Gut-associated lymphoid tissue [GALT]
E5.12.2.3.3.0.4	Textus lymphoideus adjunctus ureteri	Ureter-associated lymphoid tissue [UALT]
E5.12.2.3.4.0.1	**TEXTUS LYMPHOIDEUS ADJUNCTUS SUPERFICEI**	**SURFACE-ASSOCIATED LYMPHOID TISSUE**
E5.12.2.3.4.0.2	Textus lymphoideus adjunctus tunicae conjunctivae	Conjunctiva-associated lymphoid tissue [CALT]
E5.12.2.3.4.0.3	Textus lymphoideus adjunctus cuti	Skin-associated lymphoid tissue [SALT]
E5.12.2.3.5.0.1	**NODUS LYMPHOIDEUS; NODUS LYMPHATICUS; LYMPHONODUS**	**LYMPH NODE**
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E5.12.2.3.5.0.2	Capsula nodi lymphatici	Capsule of lymph node
E5.12.2.3.5.0.3	Vas lymphaticum afferens	Afferent lymphatic vessel
E5.12.2.3.5.0.4	Valva lymphatica	Lymphatic valve
E5.12.2.3.5.0.5	Spatium subcapsulare	Subcapsular space; Subcapsular lymphatic sinus
E5.12.2.3.6.0.1	**Cortex**	**Cortex**
E5.12.2.3.6.0.2	Sinus lymphaticus corticalis	Cortical lymphatic sinus

[260] E5.12.2.3.0.0.1 *Nodulus lymphoideus* Lymphoid nodules are units of B lymphocyte organization in the secondary lymphoid tissues. They are unencapsulated clones of activated B lymphocytes, which may be transient or persistent and solitary or multiple. Multiple lymphoid nodules may be separate or coalescent, free in mucosa-associated lymphoid tissues (MALT) or associated in encapsulated organs where interaction between B and T lymphocytes is facilitated, exposure to antigens is promoted and integration may occur with lymphatic vessels (in lymph nodes) or blood vessels (in the spleen). An active lymphoid nodule may contain a germinal centre, in which a mantle zone can be distinguished from a dark zone, a basal light zone and an apical light zone. The dark zone contains dividing B lymphocytes, termed centroblasts, which give rise to centrocytes that migrate into the basal light zone, where they give rise to plasma cells and memory cells that enter the apical light zone.

[261] E5.12.2.3.3.0.1 *Textus lymphoideus adjunctus mucosae* Persistent, multiple coalescent aggregates of lymphoid nodules occur: in the palatine, pharyngeal and lingual tonsils where they form an incomplete ring at the crossover point between the alimentary and respiratory tracts (pharyngeal lymphoid ring); in the small intestine, especially the ileum (aggregated lymphoid nodules) and in the appendix. Together with solitary nodules, these gut-associated lymphoid tissues (GALT), bronchus-associated lymphoid tissues (BALT) and ureter-associated lymphoid tissues (UALT) constitute a group of mucosa-associated lymphoid tissues (MALT) that serves as a common mucosal immune system in which unencapsulated lymphoid nodules, devoid of afferent lymphatic vessels, receive antigens that cross the lamina propria. The highly modified epithelial cells that facilitate this process have been termed membrane-like cells (M cells) or, mistakenly, follicle-associated epithelial cells (FAE cells).

E5.12.2.3.7.0.1	**Paracortex**[262]	**Paracortex**
E5.12.2.3.7.0.2	Zona thymodependens	Thymus-dependent zone
E5.12.1.2.3.0.6	Cellula T maturus; Thymocytus; Lymphocytus T	Mature T cell; T Lymphocyte; Thymocyte
E5.12.2.3.7.0.3	Venula altoendothelialis; Venula cum endothelio alto	High endothelial venule
E5.12.2.3.8.0.1	**Medulla**	**Medulla**
E5.12.2.3.8.0.2	Chorda medullaris	Medullary cord
E5.12.2.3.8.0.3	Sinus lymphaticus medullaris	Medullary lymphatic sinus
E5.12.2.3.8.0.4	Trabecula	Trabecula
E5.12.2.3.8.0.5	Hilum	Hilum
E5.12.2.3.8.0.6	Vas lymphaticum efferens	Efferent lymphatic vessel
E5.12.2.3.5.0.4	Valva lymphatica	Lymphatic valve
E5.12.2.3.0.0.1	Nodulus lymphoideus[260]	Lymphoid nodule
xxxxxxxxx		
E5.12.2.4.0.0.1	**SPLEN; LIEN**	**SPLEEN**
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.7.2.2.0.0.12	Tunica serosa	Serosa; Serous coat
E5.9.0.0.0.0.4	Mesogastrium dorsale	Dorsal mesogastrium
E5.12.2.4.0.0.2	Lig. splenorenale; Lig. lienorenale	Splenorenal ligament; Lienorenal ligament
E5.12.2.4.0.0.3	Lig. gastrosplenicum; Lig. gastrolienale	Gastrosplenic ligament
E5.12.2.4.0.0.4	Capsula; Tunica fibrosa	Fibrous capsule
E5.12.2.3.8.0.5	Hilum	Hilum
E5.12.2.3.8.0.6	Vas lymphaticum efferens	Efferent lymphatic vessel
E5.12.2.3.8.0.4	Trabecula	Trabecula
E5.12.2.4.0.0.5	A. trabecularis	Trabecular artery
E5.12.2.4.0.1.1	**Pulpa splenica**	**Splenic pulp**
E5.12.2.4.0.1.2	Pulpa alba	White pulp
E5.12.2.4.0.1.3	Cellula dendritica	Dendritic cell
E5.12.2.3.0.0.10	Lymphocytus B	B lymphocyte
E5.12.2.3.0.0.11	Plasmocytus	Plasma cell; Plasmocyte; Plasmacyte
E5.12.2.4.0.1.4	Zona marginalis	Marginal zone
E5.12.2.4.0.1.5	Arteriola vaginata pulpae albae[263]	Sheathed arteriole
E5.12.2.4.0.1.6	Vagina lymphoidea periarteriolis	Peri-arteriolar lymphoid sheath [PALS]
E5.12.1.2.3.0.6	Cellula T maturus; Thymocytus; Lymphocytus T	Mature T cell; T Lymphocyte; Thymocyte
E5.12.2.3.0.0.1	Nodulus lymphoideus[260]	Lymphoid nodule §Malpighi§
E5.12.2.4.0.1.7	Arteriola nodularis	Nodular arteriole
E5.12.2.4.0.1.8	Pulpa rubra	Red pulp
E5.12.2.4.0.1.9	A. penicillaris splenis	Penicillar artery of spleen
E5.12.2.4.0.1.10	Vas sinusoideum splenis	Sinusoid of spleen
E5.12.2.4.0.1.11	Spatium extrasinusoideum splenicum	Extrasinusoidal space of spleen
E5.12.2.4.0.1.12	Chorda splenica	Splenic cord; Red pulp cord §Billroth§
E5.12.2.4.0.1.13	Ellipsoid; Vagina periarteriolaris macrophagocytica splenis	Ellipsoid; Peri-arteriolar macrophage sheath of spleen §Schweigger-Seidel§
E5.11.2.3.0.0.10	Macrophagocytus	Macrophage
E5.12.2.4.1.0.1	**Anomaliae splenis**	**Anomalies of spleen**
E5.12.2.4.1.0.2	Asplenia	Asplenia
E5.12.2.4.1.0.3	Cystis splenis	Splenic cyst
E5.12.2.4.1.0.4	Conjunctio splenogonadalis	Splenogonadal fusion
E5.12.2.4.1.0.5	Conjunctio splenopancreatica	Splenopancreatic fusion
E5.12.2.4.1.0.6	Haemangioma cavernosa splenis	Cavernous haemangioma of spleen▲
E5.12.2.4.1.0.7	Hepatosplenomegalia	Hepatosplenomegaly
E5.12.2.4.1.0.8	Hyposplenia	Hyposplenia
E5.12.2.4.1.0.9	Lobulatio splenis	Lobulation of spleen
E5.12.2.4.1.0.10	Nodulus splenis accessorius	Accessory splenic nodule
E5.12.2.4.1.0.11	Polysplenia	Polysplenia
E5.12.2.4.1.0.12	Splen accessorius glandulae suprarenalis	Accessory spleen in suprarenal gland

[262] E5.12.2.3.7.0.1 *Paracortex* Differentiation of the paracortex occurs about 4 weeks earlier than that of the cortex.

[263] E5.12.2.4.0.1.5 *Arteriola vaginata pulpae albae* The walls of vessels within peri-arteriolar lymphoid sheaths are too thin to warrant their being called arteries.

E5.12.2.4.1.0.13	Splen accessorius pancreati	Accessory spleen in pancreas
E5.12.2.4.1.0.14	Splen accessorius gastre	Accessory spleen in stomach
E5.12.2.4.1.0.15	Splen accessorius intestino	Accessory spleen in intestine
E5.12.2.4.1.0.16	Splen migrans	Wandering spleen
E5.12.2.5.0.0.1	**TONSILLA PALATINA**	**PALATINE TONSIL**
E5.12.2.5.0.0.2	Endoderma sacci pharyngei secundi	Endoderm of second pharyngeal pouch
E5.12.2.5.0.0.3	Mesenchyma arcus pharyngei secundi	Mesenchyme of second pharyngeal arch
E5.12.2.5.0.0.4	Primordium tonsillae palatinae	Primordium of palatine tonsil
E5.12.2.5.0.0.5	Epithelium stratificatum squamosum non cornificatum	Stratified nonkeratinized squamous epithelium
E5.12.2.5.0.0.6	Blastema mesenchymale tonsillae palatinae	Mesenchymal blastema of palatine tonsil
E5.12.2.5.0.0.7	Lymphocytus	Lymphocyte
E5.12.2.5.0.0.8	Fossula tonsillae	Tonsillar pit
E5.4.2.0.0.1.9	Crypta tonsillae	Tonsillar crypt
E5.12.2.5.0.0.9	Crypta primaria tonsillae	Primary tonsillar crypt
E5.12.2.5.0.0.10	Crypta secondaria tonsillae	Secondary tonsillar crypt
E5.12.2.5.0.0.11	Epithelium cryptae	Epithelium of crypt
E5.12.2.3.0.0.1	Nodulus lymphoideus[260]	Lymphoid nodule
E5.12.2.5.1.0.1	**Anomaliae tonsillae palatinae**	**Anomalies of palatine tonsil**
E5.12.2.5.1.0.2	Aplasia tonsillae	Aplasia of tonsil
E5.12.2.5.1.0.3	Ectopia tonsillae	Ectopic tonsil
E5.12.2.5.1.0.4	Tonsilla palatina supernumeraria	Supernumerary palatine tonsil
E5.12.2.6.0.0.1	**TONSILLA PHARYNGEA**[264]	**PHARYNGEAL TONSIL**
E5.12.2.6.0.0.2	Endoderma parietis dorsalis pharyngis	Endoderm of dorsal pharyngeal wall
E5.12.2.6.0.0.3	Mesenchyma parietis dorsalis pharyngis	Mesenchyme of dorsal pharyngeal wall
E5.5.1.0.0.0.5	Tunica mucosa respiratoria	Respiratory mucosa
E5.12.2.6.0.0.4	Epithelium pseudostratificatum columnare ciliatum	Pseudostratified ciliated columnar epithelium
E5.12.2.5.0.0.5	Epithelium stratificatum squamosum non cornificatum	Stratified nonkeratinized squamous epithelium
E5.12.2.3.0.0.1	Nodulus lymphoideus[260]	Lymphoid nodule
E5.12.2.7.0.0.1	**TONSILLA LINGUALIS**[264]	**LINGUAL TONSIL**
E5.12.2.8.0.0.1	**TONSILLA TUBARIA**[264]	**TUBAL TONSIL**
E5.13.0.0.0.0.1	**Systema nervosum**	**Nervous system**
E3.0.0.6.1.0.90	**Neurulatio**[265]	**Neurulation**
E3.0.0.6.1.0.91	**Neurulatio primaria**[74]	**Primary neurulation**
E5.13.1.0.1.0.1	Lamina neuralis; Lamina medullaris	Neural plate; Medullary plate
E5.13.1.0.1.0.2	Plica neuralis	Neural fold
E5.13.1.0.1.0.3	Sulcus neuralis	Neural groove
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E5.13.1.0.1.0.4	Tubulatio neuralis	Neural tubulation
E5.13.1.0.1.0.5	Tubus neuralis primarius	Primary neural tube
E5.13.1.0.1.0.6	Crista neuralis primaria	Primary neural crest
E3.0.0.6.1.0.92	**Neurulatio secundaria**[75]	**Secondary neurulation**
E5.13.1.0.2.0.1	Eminentia caudalis; Gemma caudalis	Caudal eminence; Tail bud
E5.13.1.0.2.0.2	Mesenchyma densum axiale	Axial dense mesenchyme; Tail cord
E5.13.1.0.2.0.3	Corda medullaris; Corda neuralis	Medullary cord; Neural cord
E5.13.1.0.2.0.4	Canalisatio neuralis	Neural canalisation
E5.13.1.0.2.0.5	Tubus neuralis secundarius	Secondary neural tube

[264] E5.12.2.6.0.0.1/ E5.12.2.7.0.0.1/ E5.12.2.8.0.0.1 *Tonsilla pharyngea, Tonsilla lingualis, Tonsilla tubaria* The histogenesis of the pharyngeal, lingual and tubal tonsils is essentially similar to that of the palatine tonsil.

[265] E3.0.0.6.1.0.90 *Neurulatio* The process of *neurulation* occurs in two ways that differ in respect of time, method and place: when primitive streak activity ceases, primary neurulation (*tubulation*) is succeeded by secondary neurulation (*canalization*), which forms structures beyond the second sacral segment; nevertheless, the process is seamless and since the neural structures formed by the two processes are distinguishable only by their location, they can be considered as one thereafter.

E5.13.1.0.2.0.6	Crista neuralis secundaria	Secondary neural crest
E5.13.2.0.0.0.1	**Meninges**	**Meninges**
E5.0.2.1.0.0.2	Crista neuralis[266]	Neural crest
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.0.2.2.2.0.3	Somitus	Somite
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E5.13.2.0.0.0.2	Fibroblastus	Fibroblast
E5.13.2.0.0.0.3	Leptomeningoblastus	Leptomeningoblast
E5.13.2.0.0.0.4	Pioblastus	Pial blast cell
E5.13.2.0.0.0.5	Arachnoidoblastus	Arachnoid blast cell
E5.11.2.3.0.0.10	Macrophagocytus	Macrophage
E5.11.2.3.0.0.9	Monocytus	Monocyte
E5.0.2.1.1.0.5	**Meninx primordialis**	**Primordial meninx**
E5.13.2.0.0.1.1	Meninx skeletogenica	Skeletogenous layer
E5.0.2.1.1.0.6	**Ectomeninx**	**Ectomeninx**
E5.13.2.0.0.2.1	Lamina interna periostea	Internal periosteal layer
E5.13.2.0.0.2.2	Dura mater craniospinalis	Craniospinal dura mater
E5.13.2.0.0.2.3	Stratum durale limitans	Dural limiting layer
E5.0.2.1.1.0.7	**Endomeninx**	**Endomeninx**
E5.13.2.0.0.3.1	Arachnoidea mater craniospinalis	Craniospinal arachnoid mater
E5.13.2.0.0.3.2	Trabeculae arachnoideae	Arachnoid trabeculae
E5.13.2.0.0.3.3	Granulationes arachnoideae	Arachnoid granulations §Pacchioni§
E5.13.2.0.0.3.4	Villi arachnoidei	Arachnoid villi
E5.13.2.0.0.3.5	Spatium subarachnoideum; Spatium leptomeningeum	Subarachnoid space; Leptomeningeal space
E5.13.2.0.0.3.6	Pia mater craniospinalis	Craniospinal pia mater
	Insignia alia	**Other aspects**
E5.13.2.0.0.4.1	Manica radicis	Root sheath
E5.13.2.0.0.4.2	Manica radiculae	Rootlet sheath
E5.13.2.0.0.4.3	Flexus durae matris	Dural reflection
E5.13.2.0.0.4.4	Sinus durae matris	Dural sinus
E5.13.2.0.0.4.5	Tela choroidea	Tela choroidea
E5.13.2.0.0.4.6	Primordium fili terminalis	Primordial filum terminale; Primordial terminal filum
E5.13.2.0.0.4.7	Filum terminale	Filum terminale; Terminal filum
E5.13.2.0.0.4.8	Pars duralis	Dural part; Coccygeal ligament; Filum terminale externum
E5.13.2.0.0.4.9	Pars pialis	Pial part; Pial filament; Filum terminale internum
E5.13.2.0.1.0.1	**Anomaliae meningum**[267]	**Anomalies of meninges**
E5.13.2.0.1.0.2	Diastematomyelia	Diastematomyelia; Split cord formation
E5.13.2.0.1.0.3	Dermoideum spinale	Spinal dermoid
E5.13.2.0.1.0.4	Epidermoideum	Epidermoid
E5.13.2.0.1.0.5	Fovea cutaneosa	Cutaneous pit
E5.13.2.0.1.0.6	Hydromelia	Hydromelia
E5.1.1.0.4.1.4	Meningocoelia	Meningocoele▲
E5.13.2.0.1.0.7	Meningocoelia cranialis	Cranial meningocoele▲
E5.13.2.0.1.0.8	Meningocoelia spinalis	Spinal meningocoele▲
E5.13.2.0.1.0.9	Meningoencephalocoelia	Meningo-encephalocoele; Encephalomeningocoele▲

[266] E5.0.2.1.0.0.2 *Crista neuralis* Cells of the *primary neural crest* separate from the neurosomatic ectodermal junction to give rise to the *mesencephalic*, *rhombencephalic* and *spinal neural crest* down to S_1. Following secondary neurulation, cells delaminate from the surface of the secondary neural tube and give rise to *spinal neural crest* beyond S_1 (O'Rahilly R, Müller F. The development of the neural crest in the human. J Anat 2007;211:335-351). Neural crest is here divided according to the adjacent part of the brain: the term *circumpharyngeal neural crest* is not used as it describes a migration route to the pharyngeal region, the outflow tract of the heart and great vessels and much of the gut-associated crest derivatives; furthermore, it is said to be in the posterior rhombencephalic region but the crest for the first two pharyngeal arches is mainly associated with rhombomeres 2 and 4.

[267] E5.13.2.0.1.0.1 *Anomaliae meningum* *Anomalies of the meninges* are commonly associated with anomalies of the CNS and of those parts of the PNS that are associated with them.

E5.13.2.0.1.0.10	Meningohydroencephalocoelia; Hydroencephalomeningocoelia	Meningohydro-encephalocoele; Hydro-encephalomeningocoele▲
E5.13.2.0.1.0.11	Syringomyelia	Syringomyelia
E5.13.2.0.1.0.12	Taenia dorsalis fibrosa	Dorsal fibrous band
E5.13.2.0.1.0.13	Tractus sinusoideus spinodermalis	Spinal dermal fistula; Spinal dermal sinus tract
E5.14.0.0.0.0.1	**Pars centralis; Systema nervosum centrale**	**Central nervous system [CNS]**
E5.14.1.0.0.0.1	**Tubus neuralis**	**Neural tube**
E5.14.1.0.0.0.2	Canalis neuralis	Neural canal
E5.14.1.0.0.0.3	Canalis centralis	Central canal
E5.14.1.0.0.0.4	Cavitates encephali	Brain cavities
E5.14.1.0.0.0.5	Neuroporus	Neuropore
E5.14.1.0.0.0.6	Neuroporus rostralis[268]	Rostral neuropore
E5.14.1.0.0.0.7	Labium dorsale	Dorsal lip
E5.14.1.0.0.0.8	Labium terminale	Terminal lip
E5.14.1.0.0.0.9	Situs neuroporicus[269]	Location of neuropore
E5.14.1.0.0.0.10	Lamina terminalis primordialis	Primordial lamina terminalis
E5.14.1.0.0.0.11	Neuroporus caudalis	Caudal neuropore
E5.14.1.0.1.0.1	**Partes tubi neuralis**	**Parts of neural tube**
E5.14.1.0.1.0.2	Lamina dorsalis	Roof plate
E5.14.1.0.1.0.3	Epithelium plexus choroidei	Choroid plexus epithelium
E5.14.1.0.1.0.4	Lamina dorsolateralis[270]	Alar plate
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.1.0.1.0.6	Lamina ventrolateralis[270]	Basal plate
E5.14.1.0.1.0.7	Lamina ventralis	Floor plate
E5.14.1.0.2.0.1	**Derivativa tubi neuralis**	**Derivatives of neural tube**
E5.14.1.0.2.0.2	Medulla spinalis	Spinal cord
E5.14.1.0.2.0.3	Rhombencephalon	Rhombencephalon; Hindbrain
E5.14.1.0.2.0.4	Myelencephalon; Medulla oblongata; Bulbus	Myelencephalon; Medulla oblongata; Bulb
E5.14.1.0.2.0.5	Metencephalon	Metencephalon; Pons and cerebellum
E5.14.1.0.2.0.6	Pons	Pons
E5.14.1.0.2.0.7	Cerebellum	Cerebellum
E5.14.1.0.2.0.8	Isthmus rhombencephali	Rhombencephalic isthmus
E5.14.1.0.2.0.9	Mesencephalon	Mesencephalon; Midbrain
E5.14.1.0.2.0.10	Prosencephalon	Prosencephalon; Forebrain
E5.14.1.0.2.0.11	Diencephalon	Diencephalon
E5.14.1.0.2.0.12	Telencephalon	Telencephalon
E5.14.1.1.0.0.1	**DIFFERENTIATIO EPITHELII TUBI NEURALIS; DIFFERENTIATIO NEURECTODERMATIS**[271]	**DIFFERENTIATION OF NEURAL TUBE EPITHELIUM; DIFFERENTIATION OF NEURECTODERM**
E5.14.1.1.1.0.1	**Phasis zonae unae**	**One-zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.1.1.2	Neuroepithelium columnare[273]	Columnar neuro-epithelium
E5.14.1.1.1.1.3	Epitheliocytus prismaticus	Wedge-shaped epithelial cell
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane

[268] E5.14.1.0.0.0.6 *Neuroporus rostralis* The term *neuroporus anterior – anterior neuropore* is frequently used but is not recommended for the human embryo.

[269] E5.14.1.0.0.0.9 *Situs neuroporicus* The importance of the location of the closure of the rostral neuropore is that it is said to be the site of origin of the lamina terminalis.

[270] E5.14.1.0.1.0.4/ E5.14.1.0.1.0.6 *Lamina dorsolateralis/ Lamina ventrolateralis* There is a lack of agreement on what constitutes the alar and basal plates. Some restrict this designation to the ventricular zone; others include adjacent portions of the intermediate zone. Since progenitor cells of the ventricular zone give rise to postmitotic neurons of the intermediate zone, it is appropriate to include both in the areas described as alar and basal plates. To include only the ventricular zone would clearly imply that the alar and basal plates disappear as development progresses. However, they persist beyond that stage and have derivatives in the adult.

[271] E5.14.1.1.0.0.1 *Differentiatio epithelii tubi neuralis; Differentiatio neurectodermae* The development of the CNS is spatially and temporally three-dimensional; at the same time, there are features of the developing layers of the CNS that are generally associated with a particular region, be it spinal cord, brainstem, cerebellar cortex or cerebral cortex. The development of the zones and the phases and regions in which they appear are accommodated in this and succeeding sections.

[272] E5.14.1.1.1.1.1 *Zona ventricularis; Matrix germinalis* Cells located in the *ventricular zone* are the source of all neurons and glia of the CNS, except the microglia.

[273] E5.14.1.1.1.1.2 *Neuroepithelium columnare* The cells of the early neural tube that give rise to glial and ependymal cells were formerly known as *spongioblasts.*

E5.14.1.1.2.0.1	**Phasis zonarum duarum**	**Two-zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell
E5.14.1.1.2.0.3	Basis epitheliocyti prismatici	Base of wedge-shaped epithelial cell
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.1.1.3.0.1	**Phasis zonarum trium**	**Three-zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell
E5.14.1.1.2.0.3	Basis epitheliocyti prismatici	Base of wedge-shaped epithelial cell
E5.14.1.1.2.2.1	**Zona intermedia; Zona pallii**	**Intermediate zone; Mantle zone**
E5.14.1.1.2.2.2	Cellula migrans	Migrating cell
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.1.0.2.0.2	**Medulla spinalis**[274]	**Spinal cord**
E5.14.1.0.0.0.3	**Canalis centralis**	**Central canal**
E5.14.2.0.0.0.1	Recessus dorsalis; Recessus posterior	Dorsal recess; Posterior recess
E5.14.2.0.0.0.2	Recessus ventralis; Recessus anterior	Ventral recess; Anterior recess
E5.14.2.0.0.1.1	**Neuroepithelium**	**Neuro-epithelium**
E5.14.2.0.0.1.2	Neuroepithelium dorsale; Neuroepithelium posterius	Dorsal neuro-epithelium; Posterior neuro-epithelium
E5.14.2.0.0.1.3	Neuroepithelium intermedium	Intermediate neuro-epithelium
E5.14.2.0.0.1.4	Neuroepithelium ventrale; Neuroepithelium anterius	Ventral neuro-epithelium; Anterior neuro-epithelium
E5.14.2.0.0.1.5	Cornu dorsale; Cornu posterius	Dorsal horn; Posterior horn
E5.14.2.0.0.1.6	Substantia gelatinosa	Substantia gelatinosa
E5.14.2.0.0.1.7	Zona ingressus radicis dorsalis; Zona ingressus radicis posterioris	Dorsal root entry zone; Posterior root entry zone
E5.14.2.0.0.1.8	Zona ramificationis radicis dorsalis; Zona ramificationis radicis posterioris	Dorsal root branching zone; Posterior root branching zone
E5.14.2.0.0.1.9	Zona collateralisationis dorsalis; Zona collateralisationis posterioris	Dorsal collateralization zone; Posterior collateralization zone
E5.14.2.0.0.1.10	Zona intermedia	Intermediate zone
E5.14.2.0.0.1.11	Cornu ventrale; Cornu anterius	Anterior horn; Ventral horn
E5.14.2.0.0.1.12	Motoneuron; Neuron motorium	Motor neuron
E5.14.2.0.0.1.13	Interneuron	Interneuron
E5.14.2.0.0.1.14	Funiculus dorsalis primordialis; Fasciculus ovalis[275]	Primordial dorsal funiculus; Oval bundle
E5.14.2.0.0.1.15	Funiculus dorsalis; Funiculus posterior	Dorsal funiculus; Posterior funiculus
E5.14.2.0.0.1.16	Funiculus lateralis	Lateral funiculus
E5.14.2.0.0.1.17	Tractus dorsalis; Tractus posterolateralis	Dorsolateral tract; Posterolateral tract
E5.14.2.0.0.1.18	Neurofibra ascendens	Ascending nerve fibre▲
E5.14.2.0.0.1.19	Neurofibra descendens	Descending nerve fibre▲

[274] E5.14.1.0.2.0.2/ E5.15.8.0.0.0.1 *Medulla spinalis/Partes nervi peripherici* Usage in this and subsequent sections is not in accord with Terminologia Anatomica (1998): *dorsal* and *ventral* are more appropriate descriptors in the embryo and *dorsal* and *ventral* are now very commonly used for nerve roots. S*ensory* is not recommended, as there is evidence for motor autonomic outflow through dorsal roots.

[275] E5.14.2.0.0.1.14 *Funiculus dordalis primordialis; Fasciculus ovalis* A prominent feature of the cervical region of the spinal cord of an 8mm human embryo is the oval bundle, which is composed of fine fibres and loses its separate identity when it is joined by larger fibres from dorsal root ganglioblasts. It is the first part of the dorsal funiculus to appear and probably forms the basis for the dorsolateral tract (Hughes A.The development of the dorsal funiculus in the human spinal cord. J Anat 1976;122:169-175). It is not to be confused with any of the compact bundles of the adult dorsal funiculus, particularly not with the septomarginal fasciculus, formerly known as Flechsig's oval bundle.

E5.14.2.0.0.1.20	Funiculus ventralis; Funiculus anterior	Ventral funiculus; Anterior funiculus
E5.14.2.0.0.1.21	Commissura alba ventralis; Commissura alba anterior	Ventral white commissure; Anterior white commissure
E5.14.2.0.0.1.22	Septum medianum dorsale; Septum medianum posterius	Dorsal median septum; Posterior median septum
E5.14.2.0.0.1.23	Fissura mediana ventralis; Fissura mediana anterior	Ventral median fissure; Anterior median fissure
E5.14.2.0.0.1.24	Conus medullaris	Medullary cone
E5.14.2.0.0.1.25	Intumescentia lumbosacralis	Lumbosacral enlargement
E5.14.2.0.0.1.26	Intumescentia cervicalis	Cervical enlargement
E5.14.2.0.0.1.27	Flexura cervicalis	Cervical flexure
E5.14.2.0.1.0.1	**Anomaliae medullae spinalis**	**Anomalies of spinal cord**
E5.14.2.0.1.0.2	Amyelia	Amyelia
E5.14.2.0.1.0.3	Diplomyelia	Diplomyelia
E5.14.2.0.1.0.4	Rachischisis	Rachischisis
E5.14.2.0.1.0.5	Holorachischisis	Totalis; Holorachischisis
E5.14.2.0.1.0.6	Merorachischisis	Partialis; Merorachischisis
E5.14.2.0.1.0.7	Dysraphismus	Dysraphism
E5.14.2.0.1.0.8	Schistomyelia; Myeloschisis	Myeloschisis
E5.14.2.0.1.0.9	Iniencephalia	Iniencephaly
E5.14.2.0.1.0.10	Medulla spinalis catenata	Tethered cord
E5.13.2.0.1.0.2	Diastematomyelia	Diastematomyelia; Split cord formation
E5.13.2.0.1.0.3	Dermoideum spinale	Spinal dermoid
E5.13.2.0.1.0.4	Epidermoideum	Epidermoid
E5.13.2.0.1.0.11	Syringomyelia	Syringomyelia
E5.13.2.0.1.0.6	Hydromelia	Hydromelia
E5.13.2.0.1.0.13	Tractus sinusoideus spinodermalis	Spinal dermal fistula; Spinal dermal sinus tract
E5.14.2.1.0.0.1	**HISTOGENESIS MEDULLAE SPINALIS ET TRUNCI ENCEPHALI**	**HISTOGENESIS OF SPINAL CORD AND BRAINSTEM; HISTOGENY OF SPINAL CORD AND BRAINSTEM**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.2.1.0.1.1	Ependymoblastus	Ependymoblast
E5.14.2.1.0.1.2	Ependymocytus	Ependymal cell; Ventricular cell
E5.14.2.1.0.1.3	Neuroblastus	Neuroblast
E5.14.1.1.2.2.1	**Zona intermedia; Zona pallii**	**Intermediate zone; Mantle zone**
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.2.1.0.2.2	Gliocytus radialis	Radial glial cell
E5.14.2.1.0.2.3	Astroblastus	Astrocytoblast
E5.10.2.0.0.0.11	Astrocytus	Astrocyte
E5.14.2.1.0.2.4	Cellula oligodendrocytoprogenetrix	Oligodendrocyte progenitor cell
E5.14.2.1.0.2.5	Oligodendroblastus	Oligodendrocytoblast
E5.14.2.1.0.2.6	Oligodendrocytus	Oligodendrocyte
E5.14.2.1.0.2.7	Tanycytus	Tanycyte
E5.14.2.1.0.1.3	Neuroblastus	Neuroblast
E5.14.2.1.0.2.8	Neuron immaturum apolare[276]	Immature apolar neuron
E5.14.2.1.0.2.9	Formatio processuum	Formation of processes
E5.14.2.1.0.2.10	Axonogenesis	Axonogenesis
E5.14.2.1.0.2.11	Dendritogenesis	Dendrite formation; Dendrogenesis
E5.14.2.1.0.2.12	Conus incrementi	Growth cone
E5.14.2.1.0.2.13	Neuron immaturum unipolare[276]	Immature unipolar neuron
E5.14.2.1.0.2.14	Neuron immaturum bipolare[276]	Immature bipolar neuron
E5.14.2.1.0.2.15	Neuron bipolare	Bipolar neuron
E5.14.2.1.0.2.16	Neuron immaturum multipolare[276]	Immature multipolar neuron
E5.14.2.1.0.2.17	Neuron multipolare	Multipolar neuron
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**

[276] E5.14.2.1.0.2.8/ E5.14.2.1.0.2.13/ E5.14.2.1.0.2.14/ E5.14.2.1.0.2.16 *Neuron immaturum apolare/Neuron immaturum unipolare/Neuron immaturum bipolare/Neuron immaturum multipolare* The term neuroblast is commonly used for an immature neuron of the intermediate zone. However, because they are postmitotic and are capable of differentiation but not of further division, the term *immature neuron* is recommended for this and for similar stages elsewhere.

E5.14.2.1.0.3.1	Processus gliocyti	Glial process
E5.14.2.1.0.3.2	Axon[289]	Axon
E5.14.2.1.0.3.3	Dendritum	Dendrite
E5.11.2.3.0.0.9	Monocytus	Monocyte
E5.14.2.1.0.3.4	Microglia[277]	Microglia
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.3.0.0.0.1	**Encephalon**	**Brain**
E5.14.3.0.0.0.2	Vesicula encephalica	Brain vesicle
E5.14.3.0.0.0.3	Placodae	Placodes
E5.2.0.0.0.0.4	Placoda epipharyngea	Epipharyngeal placode
E5.14.3.0.0.0.4	Placoda dorsolateralis	Dorsolateral placode
E5.14.2.0.0.1.27	Flexura cervicalis	Cervical flexure
E5.14.1.0.2.0.3	**RHOMBENCEPHALON**	**RHOMBENCEPHALON; HINDBRAIN**
E5.14.3.1.0.0.1	Cavitas rhombencephalica	Rhombencephalic cavity
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.3.1.0.0.2	Ventriculus quartus	Fourth ventricle
E5.13.2.0.0.4.5	Tela choroidea	Tela choroidea
E5.14.3.1.0.0.3	Fissura choroidea	Choroid fissure
E5.14.3.1.0.0.4	Plexus choroideus	Choroid plexus
E5.14.3.1.0.0.5	Diverticulum medianum	Median diverticulum
E5.14.3.1.0.0.6	Apertura mediana	Median aperture
E5.14.3.1.0.0.7	Diverticulum laterale	Lateral diverticulum
E5.14.3.1.0.0.8	Apertura lateralis	Lateral aperture
E5.14.3.1.0.0.9	Canalis centralis medullae oblongatae	Central canal of medulla
E5.14.3.1.1.0.1	**Rhombomerus D**	**Rhombomere D**
E5.14.3.1.1.1.1	**Rhombomerus 8**	**Rhombomere 8**
E5.14.3.1.1.1.2	Nucleus nervi hypoglossi	Nucleus of hypoglossal nerve
E5.14.3.1.1.1.3	Chorda hypoglossa	Hypoglossal cord
E5.14.3.1.1.1.4	Nucleus nervi accessorii spinalis	Nucleus of spinal accessory nerve
E5.14.3.1.2.0.1	**Rhombomerus C**	**Rhombomere C**
E5.14.3.1.2.1.1	**Rhombomerus 7**	**Rhombomere 7**
E5.14.3.1.2.1.2	Motoneuron vagum	Vagus nerve motor neuron
E5.14.3.1.2.1.3	Nucleus ambiguus	Nucleus ambiguus
E5.14.3.1.2.2.1	**Rhombomerus 6**	**Rhombomere 6**
E5.14.3.1.2.2.2	Motoneuron glossopharyngeum	Glossopharyngeal nerve motor neuron
E5.14.3.1.2.2.3	Nucleus visceromotorius	Visceromotor nucleus
E5.14.3.1.2.3.1	**Rhombomerus 5**	**Rhombomere 5**
E5.14.3.1.2.3.2	Nucleus nervi abducentis	Nucleus of abducens nerve; Nucleus of abducent nerve
E5.14.3.1.3.0.1	**Rhombomerus B**	**Rhombomere B**
E5.14.3.1.3.1.1	**Rhombomerus 4**	**Rhombomere 4**
E5.14.3.1.3.1.2	Nucleus motorius nervi facialis	Motor nucleus of facial nerve
E5.14.3.1.2.2.3	Nucleus visceromotorius	Visceromotor nucleus
E5.14.3.1.4.0.1	**Rhombomerus A**	**Rhombomere A**
E5.14.3.1.4.1.1	**Rhombomerus 3**	**Rhombomere 3**
E5.14.3.1.4.2.1	**Rhombomerus 2**	**Rhombomere 2**
E5.14.3.1.4.2.2	Nuclei trigeminales	Trigeminal nuclei
E5.14.3.1.4.2.3	Nucleus motorius nervi trigemini	Motor nucleus of trigeminal nerve
E5.14.3.1.4.2.4	Nucleus principalis sensorius nervi trigemini	Principal sensory nucleus of trigeminal nerve
E5.14.3.1.4.2.5	Nucleus spinalis nervi trigemini[278]	Spinal nucleus of trigeminal nerve
E5.14.3.1.4.3.1	**Rhombomerus 1**	**Rhombomere 1**
E5.14.3.1.4.3.2	Locus caeruleus	Locus caeruleus▲
E5.14.1.0.2.0.7	Cerebellum	Cerebellum

[277] E5.14.2.1.0.3.4 *Microglia* *Microglial cells* do not appear in the CNS until after it is invaded by blood vessels and mononuclear cells, and are not derived from the ventricular zone.

[278] E5.14.3.1.4.2.5 *Nucleus spinalis nervi trigemini* Although listed with the other *trigeminal nuclei*, the *spinal nucleus of the trigeminal nerve* extends from the caudal end of the *principal sensory nucleus*, through the brain stem and into the upper reaches of the cervical spinal cord: it thus spans rhombomeres 3 to 8, inclusive.

E5.14.2.0.0.1.27	Flexura cervicalis	Cervical flexure
E5.14.1.0.2.0.4	**Myelencephalon; Medulla oblongata; Bulbus**	**Myelencephalon; Medulla oblongata; Bulb**
E5.14.3.1.5.0.1	Pyramis medullae oblongatae; Pyramis bulbi	Pyramid
E5.14.3.1.5.0.2	Nucleus gracilis	Gracile nucleus
E5.14.3.1.5.0.3	Nucleus cuneatus	Cuneate nucleus
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.3.1.1.1.2	Nucleus nervi hypoglossi	Nucleus of hypoglossal nerve
E5.14.3.1.5.0.4	Pedunculus cerebellaris inferior	Inferior cerebellar peduncle
E5.14.3.1.5.0.5	Nucleus arcuatus	Arcuate nucleus
E5.14.3.1.5.0.6	Decussatio lemniscorum medialium	Medial lemniscal decussation; Sensory decussation; Decussation of internal arcuate fibres▲
E5.14.3.1.5.0.7	Decussatio pyramidum	Pyramidal decussation; Motor decussation; Decussation of corticospinal fibres▲
E5.14.3.1.5.0.8	Complexus olivarius inferior	Inferior olivary complex
E5.14.3.1.5.0.9	Flexura pontina; Sulcus transversus rhombencephali	Pontine flexure; Transverse rhombo-encephalic sulcus
E5.14.1.0.2.0.5	**Metencephalon**	**Metencephalon; Pons and cerebellum**
E5.14.3.1.6.0.1	Lamina alaris myelencephali	Myencephalic alar lamina
E5.14.3.1.6.0.2	Extensio bulbopontina	Bulbopontine extension
E5.14.3.1.6.0.3	Complexus nuclearis olivaris	Olivary nuclear complex
E5.14.3.1.6.0.4	Pars basilaris pontis	Basilar part of pons
E5.14.3.1.6.0.5	Nuclei pontis	Pontine nuclei
E5.14.3.1.6.0.6	Lamina alaris metencephali	Metencephalic alar lamina
E5.14.1.0.2.0.7	Cerebellum	Cerebellum
E5.14.3.1.6.0.7	Primordia cerebelli	Cerebellar primordia
E5.14.3.1.6.0.8	Lamina cerebellaris	Cerebellar plate
E5.14.3.1.6.0.9	Cerebellum intraventriculare	Intraventricular part of cerebellum
E5.14.3.1.6.0.10	Cerebellum extraventriculare	Extraventricular part of cerebellum
E5.14.3.1.6.0.11	Coalescentia primordiorum cerebellarium	Coalescence of cerebellar primordia
E5.14.3.1.6.0.12	Eversio cerebelli	Eversion of cerebellum
E5.14.3.1.6.0.13	Vermis	Vermis
E5.14.3.1.6.0.14	Hemispherium cerebelli	Cerebellar hemisphere
E5.14.3.1.6.0.15	Fissuratio et lobulatio cerebelli	Fissuration and lobulation of cerebellum
E5.14.3.1.6.0.16	Fissura posterolateralis cerebelli; Fissura postnodularis	Posterolateral fissure of cerebellum; Postnodular fissure
E5.14.3.1.6.0.17	Lobus flocculonodularis	Flocculonodular lobe
E5.14.3.1.6.0.18	Corpus cerebelli	Corpus cerebelli; Body of cerebellum
E5.14.3.1.6.0.19	Fissura prima cerebelli	Primary fissure of cerebellum; Preclival fissure
E5.14.3.1.6.0.20	Fissura secunda cerebelli	Secondary fissure of cerebellum; Postpyramidal fissure
E5.14.3.1.6.0.21	Fissura horizontalis cerebelli	Horizontal fissure of cerebellum; Great horizontal fissure
E5.14.3.1.6.0.22	Foliatio cerebelli	Foliation of cerebellum
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.3.1.6.0.23	Lamina basalis metencephali	Metencephalic basal lamina
E5.14.3.1.6.0.24	Tegmentum pontis	Tegmentum of pons; Tegmental pons
E5.14.3.1.6.0.4	Pars basilaris pontis	Basilar part of pons
E5.14.3.1.6.0.5	Nuclei pontis	Pontine nuclei
E5.14.3.1.6.0.25	Pedunculus cerebellaris medius	Middle cerebellar peduncle
E5.14.1.0.2.0.8	**Isthmus rhombencephali**	**Rhombencephalic isthmus**
E5.14.3.1.7.1.1	**Neuromerus isthmicus**	**Isthmic neuromere**
E5.14.3.1.7.1.2	Velum medullare superius	Superior medullary velum
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.3.1.7.1.3	Nucleus nervi trochlearis	Nucleus of trochlear nerve
E5.14.3.1.7.1.4	Recessus isthmicus	Isthmic recess
E5.14.3.1.7.1.5	Sulcus isthmicus	Isthmic groove
E5.14.1.0.2.0.7	Cerebellum	Cerebellum
E5.14.3.1.7.1.6	Pedunculus cerebellaris superior	Superior cerebellar peduncle

E5.14.3.2.0.0.1	HISTOGENESIS CEREBELLI	HISTOGENESIS OF CEREBELLUM; HISTOGENY OF CEREBELLUM
E5.14.2.1.0.1.3	Neuroblastus	Neuroblast
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.3.1.6.0.23	Lamina basalis metencephali	Metencephalic basal lamina
E5.14.3.2.0.0.2	Stratum ventriculare cerebelli; Stratum germinale internum cerebelli[272]	Ventricular layer of cerebellum; Internal germinal layer of cerebellum
E5.14.3.2.0.0.3	Stratum pallii cerebelli[279]	Mantle layer of cerebellum
E5.14.3.2.0.0.4	Labium rhomboideum laminae dorsolateralis	Rhombic lip of alar plate
E5.14.3.2.0.0.5	Neuroepithelium rhombicum	Rhombic neuro-epithelium
E5.14.3.2.0.0.6	Stratum germinale externum cerebelli	External germinal layer of cerebellum
E5.14.3.2.1.0.1	**Phasis stratorum trium**	**Three strata phase**
E5.14.3.2.0.0.2	Stratum ventriculare cerebelli; Stratum germinale internum cerebelli[272]	Ventricular layer of cerebellum; Internal germinal layer of cerebellum
E5.14.3.2.1.0.2	Neuron immaturum purkinjense	Immature purkinje cell §Purkinje§
E5.14.3.2.1.0.3	Neuron immaturum nucleare cerebelli	Cerebellar nuclear immature neuron
E5.14.3.2.0.0.3	Stratum pallii cerebelli[279]	Mantle layer of cerebellum
E5.14.3.2.0.0.6	Stratum germinale externum cerebelli	External germinal layer of cerebellum
E5.14.3.2.1.0.4	Glioblastus radialis	Radial glioblast
E5.14.3.2.2.0.1	**Phasis prima stratorum sex**	**First six strata phase**
E5.14.3.2.0.0.2	Stratum ventriculare cerebelli; Stratum germinale internum cerebelli[272]	Ventricular layer of cerebellum; Internal germinal layer of cerebellum
E5.14.3.2.0.0.3	Stratum pallii cerebelli[279]	Mantle layer of cerebellum
E5.14.3.2.1.0.3	Neuron immaturum nucleare cerebelli	Cerebellar nuclear immature neuron
E5.14.3.2.2.0.2	Stratum intermedium cerebelli	Intermediate layer of cerebellum
E5.14.3.2.2.0.3	Stratum purkinjense embryonicum	Embryonic purkinje cell layer §Purkinje§
E5.14.3.2.1.0.2	Neuron immaturum purkinjense	Immature purkinje cell §Purkinje§
E5.14.3.2.2.0.4	Stratum moleculare cerebelli	Molecular layer of cerebellar cortex
E5.14.3.2.0.0.6	Stratum germinale externum cerebelli	External germinal layer of cerebellum
E5.14.3.2.2.0.5	Neuron immaturum stellatum magnum	Immature large stellate cell §Golgi§
E5.14.3.2.2.0.6	Neuron immaturum stellatum	Immature stellate cell
E5.14.3.2.2.0.7	Neuron immaturum corbiforme	Immature basket cell
E5.14.3.2.2.0.8	Neuron immaturum granulosum	Immature granule cell
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.3.2.3.0.1	**Phasis secunda stratorum sex**	**Second six strata phase**
E5.14.3.2.0.0.2	Stratum ventriculare cerebelli; Stratum germinale internum cerebelli[272]	Ventricular layer of cerebellum; Internal germinal layer of cerebellum
E5.14.3.2.3.0.2	Substantia alba cerebelli	Cerebellar white matter
E5.14.3.2.3.0.3	Nuclei cerebelli[280]	Cerebellar nuclei
E5.14.3.2.3.0.4	Stratum granulare corticis cerebelli	Granule cell layer of cerebellar cortex
E5.14.3.2.2.0.8	Neuron immaturum granulosum	Immature granule cell
E5.14.3.2.2.0.5	Neuron immaturum stellatum magnum	Immature large stellate cell §Golgi§
E5.14.3.2.2.0.6	Neuron immaturum stellatum	Immature stellate cell
E5.14.3.2.2.0.7	Neuron immaturum corbiforme	Immature basket cell
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.3.2.3.0.5	Stratum purkinjense	Definitive purkinje cell layer §Purkinje§
E5.14.3.2.2.0.4	Stratum moleculare cerebelli	Molecular layer of cerebellar cortex
E5.14.3.2.0.0.6	Stratum germinale externum cerebelli	External germinal layer of cerebellum
E5.14.3.2.4.0.1	**Phasis definitiva**	**Definitive phase**
E5.14.3.2.4.0.2	Ependyma cerebellare	Cerebellar ependyma
E5.14.3.2.3.0.2	Substantia alba cerebelli	Cerebellar white matter

[279] E5.14.3.2.0.0.3 *Stratum pallii cerebelli* In at least some mammals, three developing zones (dz1, dz2, dz3) appear outside the ventricular layer (Altman J, Bayer SA. Development of Cerebellar System in relation to its Evolution, Structure and Function. New York: CRC Press; 1997). Neuroblasts of dz1 migrate outwards and pause in dz2 before eventually migrating outwards to form cerebellar nuclei; neuroblasts of dz3 appear outside dz2 several days later and eventually migrate towards the cortex to form, successively, the embryonic and definitive Purkinje cell layer. However, this sequence has yet to be confirmed in human embryos.

[280] E5.14.3.2.3.0.3 *Nuclei cerebelli* The use of the adjective deep with *cerebellar nuclei* is redundant as there are no corresponding superficial *cerebellar nuclei* (Haines DE, Dietrichs E. Cerebellar terminology. The Cerebellum 2002;1:163-164. Haines DE, Olry R, Dietrichs E. NEUROwords 17: If there are "deep" cerebellar nuclei, where are the "superficial" ones? J Hist Neurosci 2003;12:203-205).

E5.14.3.2.3.0.3	Nuclei cerebelli[280]	Cerebellar nuclei
E5.14.3.2.3.0.4	Stratum granulare corticis cerebelli	Granule cell layer of cerebellar cortex
E5.14.3.2.2.0.8	Neuron immaturum granulosum	Immature granule cell
E5.14.3.2.2.0.5	Neuron immaturum stellatum magnum	Immature large stellate cell §Golgi§
E5.14.3.2.2.0.6	Neuron immaturum stellatum	Immature stellate cell
E5.14.3.2.2.0.7	Neuron immaturum corbiforme	Immature basket cell
E5.14.3.2.3.0.5	Stratum purkinjense	Definitive purkinje cell layer §Purkinje§
E5.14.3.2.2.0.4	Stratum moleculare cerebelli	Molecular layer of cerebellar cortex
E5.14.1.0.2.0.9	**MESENCEPHALON**	**MESENCEPHALON; MIDBRAIN**
E5.14.1.0.1.0.5	Sulcus limitans	Sulcus limitans
E5.14.3.3.0.0.1	Cavitas mesencephalica	Mesenecephalic cavity
E5.14.3.3.0.0.2	Aquaeductus cerebri; Aquaeductus mesencephali	Cerebral aqueduct; Aqueduct of midbrain §Sylvius§
E5.14.3.3.0.0.3	Flexura mesencephalica	Mesencephalic flexure; Cephalic flexure
E5.14.3.3.0.1.1	**Crista neuralis mesencephalica**	**Mesencephalic neural crest**
E5.14.3.3.0.1.2	Nucleus mesencephalicus nervi trigemini	Mesencephalic nucleus of trigeminal nerve
E5.14.3.3.1.0.1	**Neuromerus M**	**Neuromere M**
E5.14.3.3.1.1.1	**Neuromerus M2**	**Neuromere M2**
E5.14.3.3.1.1.2	Nucleus nervi oculomotorii	Nucleus of oculomotor nerve
E5.14.3.3.1.1.3	Nucleus visceromotorius	Visceral motor nucleus; Autonomic nucleus §Edinger-Westphal§
E5.14.3.3.1.2.1	**Neuromerus M1**	**Neuromere M1**
E5.14.3.3.1.2.2	Evaginatio mesencephalica	Mesencephalic evagination
E5.14.3.3.1.3.1	**Basis pedunculi**	**Basis pedunculi**
E5.14.3.3.1.3.2	Tegmentum mesencephali	Tegmentum of midbrain; Tegmental midbrain
E5.14.3.3.1.1.2	Nucleus nervi oculomotorii	Nucleus of oculomotor nerve
E5.14.3.3.1.1.3	Nucleus visceromotorius	Visceral motor nucleus; Autonomic nucleus §Edinger-Westphal§
E5.14.3.3.1.3.3	Nucleus ruber	Red nucleus
E5.14.3.3.1.3.4	Substantia nigra	Substantia nigra
E5.14.3.3.1.3.5	Decussatio pedunculorum cerebellarium superiorum	Decussation of superior cerebellar peduncles
E5.14.3.3.1.3.6	Crus cerebri	Crus cerebri; Cerebral crus
E5.14.3.3.1.4.1	**Tectum mesencephali**	**Tectum of midbrain; Tectal midbrain**
E5.14.3.3.1.4.2	Crista collicularis; Corpora bigemina	Corpora bigemina; Collicular ridge
E5.14.3.3.1.4.3	Lamina tecti; Lamina quadrigemina	Tectal plate; Quadrigeminal plate
E5.14.3.3.1.4.4	Colliculus superior	Superior colliculus
E5.14.3.3.1.4.5	Commissura colliculorum superiorum	Commissure of the superior colliculi; Superior collicular commissure
E5.14.3.3.1.4.6	Colliculus inferior	Inferior colliculus
E5.14.3.3.1.4.7	Commissura colliculorum inferiorum	Commissure of the inferior colliculi; Inferior collicular commissure
E5.14.1.0.2.0.10	**PROSENCEPHALON**	**PROSENCEPHALON; FOREBRAIN**
E5.14.3.4.0.0.1	Cavitas prosencephalica	Prosencephalic cavity
E5.14.1.0.2.0.11	**Diencephalon**	**Diencephalon**
E5.14.3.4.1.1.1	**Cavitas diencephalica**	**Diencephalic cavity**
E5.14.3.4.1.1.2	Ventriculus tertius	Third ventricle
E5.14.3.1.0.0.4	Plexus choroideus	Choroid plexus
E5.13.2.0.0.4.5	Tela choroidea	Tela choroidea
E5.14.3.4.1.1.3	Recessus	Recess
E5.14.3.4.1.1.4	Velum interpositum	Velum interpositum
E5.14.3.4.2.0.1	**Neuromerus P**	**Neuromere P**
E5.14.3.4.2.0.2	Regio thalamica	Thalamic region
E5.14.3.4.2.0.3	Zona diencephalica	Diencephalic zone
E5.14.3.4.2.1.1	**Neuromerus D2**	**Neuromere D2**
E5.14.3.4.2.1.2	Neuromerus synencephali	Synencephalon
E5.14.3.4.2.1.3	Tectum prerubralis	Prerubral tectum
E5.14.3.4.2.1.4	Neuromerus parencephali caudalis	Caudal parencephalon
E5.14.3.4.2.1.5	Epithalamus	Epithalamus
E5.10.2.0.0.0.2	Primordium glandulae pinealis	Primordium of pineal gland
E5.14.3.4.2.1.6	Commissura habenularum	Habenular commissure

E5.14.3.4.2.1.7	Commissura posterior	Posterior commissure
E5.14.3.4.2.1.8	Thalamus dorsalis	Dorsal thalamus
E5.14.3.4.2.1.9	Sulcus medius	Sulcus medius
E5.14.3.4.2.1.10	Zona limitans intrathalamica	Zona limitans intrathalamica
E5.14.3.4.2.1.11	Lamina medullaris lateralis	External medullary lamina
E5.14.3.4.2.1.12	Crista marginalis	Marginal ridge
E5.14.3.4.2.1.13	Neuromerus parencephali rostralis	Rostral parencephalon
E5.14.3.4.2.1.14	Thalamus ventralis	Ventral thalamus
E5.14.3.4.2.1.15	Sulcus hypothalamicus	Hypothalamic sulcus
E5.14.3.4.2.1.16	Hypothalamus	Hypothalamus
E5.10.1.2.0.0.4	Primordium neurohypophysis	Primordium of neurohypophysis
E5.14.3.4.2.1.17	Subthalamus	Subthalamus
E5.14.3.4.2.1.18	Globus pallidus medialis	Globus pallidus-medial segment
E5.14.3.4.2.1.19	Globus pallidus lateralis	Globus pallidus-lateral segment
E5.14.3.4.2.2.1	**Neuromerus D1**	**Neuromere D1**
E5.14.3.4.2.2.2	Regio optica	Optic region
E5.14.3.4.2.2.3	Sulcus opticus	Optic groove; Optic sulcus
E5.14.3.4.2.2.4	Vesicula optica	Optic vesicle
E5.14.3.4.2.2.5	Cavitas vesiculae opticae	Cavity of optic vesicle
E5.14.3.4.2.2.6	Pedunculus opticus	Optic stalk
E5.14.3.4.2.2.7	Cupula optica	Optic cup
E5.14.3.4.2.2.8	Cavitas cupulae opticae	Cavity of optic cup
E5.14.3.4.2.2.9	Tractus opticus	Optic tract
E5.14.3.4.2.2.10	Crista optica	Optic crest
E5.14.3.4.2.2.11	Primordium chiasmatis; Torus opticus	Chiasmatic plate
E5.14.3.4.2.2.12	Commissura supraoptica	Supraoptic commissure
E5.14.3.4.2.2.13	Chiasma opticum	Optic chiasm; Optic chiasma
E5.14.3.4.2.2.14	Discus nervi optici	Optic disc
E5.14.3.4.2.2.15	Fissura optica; Fissura retinae[281]	Retinal fissure; Optic fissure
E5.14.3.4.2.3.1	**Neuromerus telencephali medium** [vide infra]	**Neuromere telencephalon medium** [see below]
E5.14.3.4.2.4.1	**Recessus diencephalicus**	**Diencephalic recess**
E5.14.3.4.2.4.2	Recessus suprapinealis	Suprapineal recess
E5.10.2.0.0.0.14	Recessus pinealis	Pineal recess
E5.14.3.4.2.4.3	Recessus mammillaris	Mammillary recess
E5.14.3.4.2.4.4	Recessus supramammillaris	Supramammillary recess
E5.14.3.4.2.4.5	Recessus inframammillaris	Inframammillary recess
E5.14.3.4.2.4.6	Recessus praeopticus	Preoptic recess
E5.14.3.4.2.4.7	Recessus postopticus	Postoptic recess
E5.10.1.2.0.0.3	Recessus infundibularis	Infundibular recess
E5.14.3.4.2.4.8	Eminentia ventricularis medialis	Medial ventricular eminence
E5.14.3.4.2.4.9	Corpus amygdaloideum	Amygdaloid body; Amygdaloid complex
E5.14.3.4.2.4.10	Nucleus accumbens	Nucleus accumbens
E5.14.1.0.2.0.12	**Telencephalon**	**Telencephalon**
E5.14.3.4.3.0.1	Cavitas telencephalica	Telencephalic cavity
E5.14.3.4.3.0.2	Ventriculus lateralis	Lateral ventricle
E5.14.3.4.3.0.3	Foramen interventriculare	Interventricular foramen
E5.14.3.4.3.0.4	Stratum choroideum epitheliale	Choroid epithelial layer
E5.13.2.0.0.4.5	Tela choroidea	Tela choroidea
E5.14.3.1.0.0.3	Fissura choroidea	Choroid fissure
E5.14.3.1.0.0.4	Plexus choroideus	Choroid plexus
E5.14.3.4.3.0.5	Liquor cerebrospinalis	Cerebrospinal fluid
E5.14.3.4.3.0.6	Velum transversum	Velum transversum
E5.14.3.4.3.0.7	Paraphysis	Paraphysis
E5.14.3.4.3.0.8	Torus hemisphericus	Torus hemisphericus
E5.14.3.4.3.0.9	Sulcus diencephalicotelencephalicus	Diencephalic-telencephalic sulcus; Telediencephalic sulcus
E5.14.3.4.3.0.10	Diverticulum telencephalicum	Hemispheric stalk
E5.14.3.4.3.0.11	Lamina affixa	Lamina affixa

[281] E5.14.3.4.2.2.15 *Fissura optica; Fissura retinae* The *retinal fissure* is frequently, but inappropriately, called the choroid fissure.

E5.14.3.4.3.0.12	Sulcus terminalis	Terminal sulcus
E5.14.3.4.3.0.13	Fasciculus prosencephalicus lateralis	Lateral prosencephalic fasciculus
E5.14.3.4.3.1.1	**Neuromerus telencephali medium**	**Neuromere telencephalon medium**
E5.14.3.4.3.1.2	Telencephalon impar; Telencephalon medianum	Unpaired telencephalon; Median telencephalon
E5.14.3.4.3.1.3	Area praeoptica	Preoptic area
E5.14.3.4.3.1.4	Lamina terminalis	Lamina terminalis
E5.14.3.4.3.1.5	Lamina commissuralis	Commissural plate
E5.14.3.4.3.1.6	Lamina nasalis	Nasal plate
E5.14.3.4.3.1.7	Commissura anterior	Anterior commissure
E5.14.3.4.3.1.8	Corpus callosum	Corpus callosum
E5.14.3.4.3.1.9	Commissura hippocampalis	Hippocampal commissure
E5.14.3.4.3.1.10	Commissura neopallialis	Neopallial commissure
E5.14.3.4.3.1.11	Structurae olfactoriae	Olfactory structures
E5.14.3.4.3.1.12	Regio olfactoria	Olfactory region
E5.14.3.4.3.1.13	Bulbus olfactorius	Olfactory bulb
E5.14.3.4.3.1.14	Ventriculus olfactorius	Olfactory ventricle
E5.14.3.4.3.1.15	Sulcus olfactorius semicircularis	Olfactory semicircular sulcus
E5.14.3.4.3.1.16	Tuberculum olfactorium	Olfactory tubercle
E4.0.3.1.0.0.5	Epithelium olfactorium	Olfactory epithelium
E5.14.3.4.3.1.17	Cortex piriformis	Piriform cortex
E5.14.3.4.3.1.18	Fissura rhinalis	Rhinal fissure
E5.14.3.4.3.1.19	Area paraterminalis	Paraterminal area
E5.14.3.4.3.1.20	Septum prosencephalicum	Prosencephalic septum
E5.14.3.4.3.1.21	Nuclei septales mediales	Medial septal nuclei
E5.14.3.4.3.1.22	Nucleus striae diagonalis	Nucleus of diagonal band
E5.14.3.4.3.1.23	Nucleus basalis	Nucleus basalis
E5.14.3.4.2.4.10	Nucleus accumbens	Nucleus accumbens
E5.14.3.4.3.1.24	Hemispherium cerebri	Cerebral hemisphere
E5.14.3.4.3.1.25	Cortex trilaminaris primordialis	Primary three-layered cortex
E5.14.3.4.3.1.26	Stratum plexiforme primordiale	Primordial plexiform layer
E5.14.3.4.3.1.27	Lamina corticalis	Cortical plate
E5.14.3.4.3.1.28	Stratum subpiale	Subpial layer
E5.14.3.4.3.1.29	Sublamina	Subplate
E5.14.3.4.3.1.30	Pallium	Pallium
E5.14.3.4.3.1.31	Archipallium	Archipallium
E5.14.3.4.3.1.32	Archicortex	Archicortex
E5.14.3.4.3.1.33	Paleopallium	Paleopallium
E5.14.3.4.3.1.34	Paleocortex	Paleocortex
E5.14.3.4.3.1.35	Neopallium	Neopallium
E5.14.3.4.3.1.36	Neocortex	Neocortex
E5.14.3.4.3.1.37	Cortex stratificatus definitivus	Definitive stratified cortex
E5.14.3.4.3.1.38	Area lobi frontalis	Frontal lobe area
E5.14.3.4.3.1.39	Area lobi temporalis	Temporal lobe area
E5.14.3.4.3.1.40	Area lobi occipitalis	Occipital lobe area
E5.14.3.4.3.1.41	Area lobi parietalis	Parietal lobe area
E5.14.3.4.3.1.42	Insula	Insula §Reil§
E5.14.3.4.3.1.43	Eminentia ventriculi lateralis	Lateral ventricular eminence
E5.14.3.4.3.1.44	Nucleus caudatus	Caudate nucleus
E5.14.3.4.3.1.45	Putamen	Putamen
E5.14.3.4.3.1.46	Pars suprastriata hemispherii	Suprastriatal part of hemisphere
E5.14.3.4.3.1.47	Hippocampus primordialis	Primordial hippocampus
E5.14.3.4.3.1.48	Crista hippocampalis	Hippocampal ridge
E5.14.3.4.3.1.49	Fissura hippocampalis	Hippocampal fissure
E5.14.3.4.3.1.50	Gyrus dentatus	Dentate gyrus
E5.14.3.4.3.1.51	Hippocampus	Hippocampus
E5.14.3.4.3.1.52	Subiculum	Subiculum
E5.14.3.4.3.1.53	Praesubiculum	Presubiculum
E5.14.3.4.3.1.54	Area epithelialis	Epithelial area
E5.14.3.4.3.1.55	Vestigium hippocampi	Vestigial hippocampus
E5.14.3.4.3.1.56	Systema fornicale	Fornix system
E5.14.3.5.0.0.1	**HISTOGENESIS PROSENCEPHALI**	**HISTOGENESIS OF FOREBRAIN; HISTOGENY OF FOREBRAIN**

E5.14.3.5.1.0.1	**Phasis zonarum quatuor**	**Four zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell
E5.14.1.1.2.0.3	Basis epitheliocyti prismatici	Base of wedge-shaped epithelial cell
E5.14.1.1.2.2.1	**Zona intermedia; Zona pallii**	**Intermediate zone; Mantle zone**
E5.14.1.1.2.2.2	Cellula migrans	Migrating cell
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.14.3.4.3.1.27	**Lamina corticalis**[282]	**Cortical plate**
E5.14.1.1.2.2.2	Cellula migrans	Migrating cell
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**
E5.14.1.1.2.0.4	Processus epitheliocyti prismatici	Process of wedge-shaped epithelial cell
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.3.5.2.0.1	**Phasis zonarum quinque**	**Five zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell
E5.14.2.1.0.1.1	Ependymoblastus	Ependymoblast
E5.14.2.1.0.1.3	Neuroblastus	Neuroblast
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.2.1.0.2.2	Gliocytus radialis	Radial glial cell
E5.14.3.5.2.2.1	**Zona subventricularis**	**Subventricular zone**
E5.14.3.5.2.2.2	Cellula proliferativa; Cellula germinativa	Proliferative cell; Germinal cell
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.1.1.2.2.1	**Zona intermedia; Zona pallii**	**Intermediate zone; Mantle zone**
E5.14.1.1.2.2.2	Cellula migrans	Migrating cell
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.4.3.1.27	**Lamina corticalis**[282]	**Cortical plate**
E5.14.1.1.2.2.2	Cellula migrans	Migrating cell
E5.14.3.5.2.4.1	Neuron immaturum	Immature neuron
E5.14.2.1.0.2.8	Neuron immaturum apolare[276]	Immature apolar neuron
E5.14.2.1.0.2.9	Formatio processuum	Formation of processes
E5.14.2.1.0.2.10	Axonogenesis	Axonogenesis
E5.14.2.1.0.2.11	Dendritogenesis	Dendrite formation; Dendrogenesis
E5.14.2.1.0.2.12	Conus incrementi	Growth cone
E5.14.2.1.0.2.13	Neuron immaturum unipolare[276]	Immature unipolar neuron
E5.14.2.1.0.2.14	Neuron immaturum bipolare[276]	Immature bipolar neuron
E5.14.2.1.0.2.16	Neuron immaturum multipolare[276]	Immature multipolar neuron
E5.14.2.1.0.2.17	Neuron multipolare	Multipolar neuron
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**
E5.14.3.5.2.5.1	Processus neuronis immaturi	Process of immature neuron
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.3.5.3.0.1	**Phasis zonarum sex**[283]	**Six zone phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.1.1.1.1.1	**Zona ventricularis; Matrix germinalis**[272]	**Ventricular zone; Germinal matrix**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell

[282] E5.14.3.4.3.1.27 *Lamina corticalis* The *cortical plate* is formed by cells originating in the ventricular zone and taking up a position between the marginal zone and the intermediate zone. At stage 21 the subpial layer is external to the cortical plate and the subplate internal thereto (Boulder Committee. Embryonic vertebrate central nervous system: revised terminology. Anat Rec 1970;166:257-261).The cortical plate originates by cell movement from the intermediate zone.

[283] E5.14.3.5.3.0.1 *Phasis zonarum sex* The six zone phase is found in the 14 week fetus. Its *marginal zone* includes a *subpial granular layer*: the name reflects the first shift from the within outwards terminology of development to the without inwards terminology of proliferation (Bystrin I, Blakemore C, Rakic P. Development of the human cerebral cortex: Boulder Committee revisited. Nature Reviews Neuroscience 2008;9:110-122).

E5.14.2.1.0.1.1	Ependymoblastus	Ependymoblast
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.5.2.2.1	**Zona subventricularis**	**Subventricular zone**
E5.14.3.5.2.2.2	Cellula proliferativa; Cellula germinativa	Proliferative cell; Germinal cell
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.2.1.0.2.2	Gliocytus radialis	Radial glial cell
E5.14.1.1.2.2.1	**Zona intermedia; Zona pallii**	**Intermediate zone; Mantle zone**
E5.14.3.5.2.5.1	Processus neuronis immaturi	Process of immature neuron
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.5.3.4.1	**Zona sublaminaris**	**Subplate zone**
E5.14.3.5.2.4.1	Neuron immaturum	Immature neuron
E5.14.2.1.0.2.8	Neuron immaturum apolare[276]	Immature apolar neuron
E5.14.2.1.0.2.16	Neuron immaturum multipolare[276]	Immature multipolar neuron
E5.14.2.1.0.2.17	Neuron multipolare	Multipolar neuron
E5.14.3.4.3.1.27	**Lamina corticalis**[282]	**Cortical plate**
E5.14.3.5.2.4.1	Neuron immaturum	Immature neuron
E5.14.2.1.0.2.16	Neuron immaturum multipolare[276]	Immature multipolar neuron
E5.14.2.1.0.2.17	Neuron multipolare	Multipolar neuron
E5.12.2.4.0.1.4	**Zona marginalis**	**Marginal zone**
E5.14.3.5.2.5.1	Processus neuronis immaturi	Process of immature neuron
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.5.3.6.1	Stratum granulare subpiale	Subpial granular layer
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.3.5.4.0.1	**Phasis definitiva**[284]	**Definitive phase**
E5.14.1.1.1.0.2	Rete bacillorum terminalium; Membrana limitans interna	Internal limiting membrane; Terminal bar net
E5.14.3.5.4.1.1	**Stratum ependymale**	**Ependymal layer**
E5.14.2.1.0.1.1	Ependymoblastus	Ependymoblast
E5.14.2.1.0.1.2	Ependymocytus	Ependymal cell; Ventricular cell
E5.14.3.5.4.1.2	Ependymocytus choroideus	Choroid ependymal cell
E5.14.3.5.4.1.3	Cellula supraependymalis	Supra-ependymal cell
E5.14.2.1.0.2.7	Tanycytus	Tanycyte
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.5.2.2.1	**Zona subventricularis**	**Subventricular zone**
E5.14.1.1.2.0.2	Cellula mitotica	Mitotic cell
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.14.3.5.4.3.1	**Substantia alba**	**White matter; White substance**
E5.14.3.5.2.5.1	Processus neuronis immaturi	Process of immature neuron
E5.14.2.1.0.3.2	Axon[289]	Axon
E5.14.2.1.0.3.3	Dendritum	Dendrite
E5.14.2.1.0.2.1	Glioblastus	Glioblast
E5.14.2.1.0.3.1	Processus gliocyti	Glial process
E5.14.2.1.0.2.2	Gliocytus radialis	Radial glial cell
E5.14.2.1.0.2.3	Astroblastus	Astrocytoblast
E5.10.2.0.0.0.11	Astrocytus	Astrocyte
E5.14.2.1.0.2.4	Cellula oligodendrocytoprogenetrix	Oligodendrocyte progenitor cell
E5.14.2.1.0.2.5	Oligodendroblastus	Oligodendrocytoblast
E5.14.2.1.0.2.6	Oligodendrocytus	Oligodendrocyte
E5.14.3.5.4.4.1	**Laminae VI-II primordiales isocorticis**	**Primordial layers VI-II of isocortex**
E5.14.3.5.2.4.1	Neuron immaturum	Immature neuron
E5.14.2.1.0.2.8	Neuron immaturum apolare[276]	Immature apolar neuron
E5.14.2.1.0.2.9	Formatio processuum	Formation of processes
E5.14.2.1.0.2.11	Dendritogenesis	Dendrite formation; Dendrogenesis
E5.14.2.1.0.2.12	Conus incrementi	Growth cone
E5.14.2.1.0.2.13	Neuron immaturum unipolare[276]	Immature unipolar neuron
E5.14.2.1.0.2.14	Neuron immaturum bipolare[276]	Immature bipolar neuron

[284] E5.14.3.5.4.0.1 *Phasis definitiva* The *definitive phase* is reached in the 8 month fetus. For purposes of comparison with the previous zones of development, terms here are listed from within outwards. For the orientation of features in their usual way, from without inwards, including the layers of isocortex in order I-VI, see Terminologia Anatomica 1998 or Terminologia Histologica 2008. It has been suggested that the convention of describing developing layers and proliferative layers in these opposite ways should be explicitly adopted (Bystrin I, Blakemore C, Rakic P. Development of the human cerebral cortex: Boulder Committee revisited. Nature Reviews Neuroscience 2008;9:110-122).

E5.14.2.1.0.2.15	Neuron bipolare	Bipolar neuron
E5.14.2.1.0.2.16	Neuron immaturum multipolare[276]	Immature multipolar neuron
E5.14.2.1.0.2.17	Neuron multipolare	Multipolar neuron
E5.11.2.3.0.0.9	Monocytus	Monocyte
E5.14.2.1.0.3.4	Microglia[277]	Microglia
E5.14.3.5.4.5.1	**Zona marginalis attenuata; Lamina I primordialis isocorticis**	**Attenuated zona marginalis; Primordial lamina I of isocortex**
E5.14.1.1.1.1.4	Glia limitans; Membrana limitans glialis superficialis; Membrana limitans externa	Glia limitans; Limiting membrane of superficial glia; External limiting membrane
E5.14.3.5.5.0.1	**Anomaliae encephali**	**Anomalies of brain**
E5.14.3.5.5.0.2	Meroencephalia[285]	Mero-encephaly
E5.14.3.5.5.0.3	Exencephalia	Exencephaly
E5.1.1.0.2.6.26	Hydrocephalia	Hydrocephaly; Hydrocephalus; Hydrencephaly; Hydrencephalus
E5.14.3.5.5.0.4	Macrencephalia	Macro-encephaly
E5.14.3.5.5.0.5	Micrencephalia	Micro-encephaly
E5.14.3.5.5.0.6	Levencephalia; Agyria	Lissencephaly; Agyria
E5.14.3.5.5.0.7	Schizencephalia	Schizencephaly
E5.14.3.5.5.0.8	Microgyria	Microgyria
E5.14.3.5.5.0.9	Pachygyria	Pachygyria
E5.14.3.5.5.0.10	Polygyria	Polygyria
E5.14.3.5.5.0.11	Encephalocoelia	Encephalocoele▲
E5.14.3.5.5.0.12	Encephalocoelia frontalis	Frontal encephalocoele▲
E5.14.3.5.5.0.13	Encephalocoelia nasofrontalis	Nasofrontal encephalocoele▲
E5.14.3.5.5.0.14	Encephalocoelia parietalis	Parietal encephalocoele▲
E5.14.3.5.5.0.15	Encephalocoelia occipitalis	Occipital encephalocoele▲
E5.14.3.5.5.0.16	Encephalocoelia basalis	Basal encephalocoele▲
E5.14.3.5.5.0.17	Syringobulbia	Syringobulbia
E5.14.3.5.5.0.18	Holoprosencephalia	Holoprosencephaly
E5.14.3.5.5.0.19	Holoprosencephalia alobaris	Alobar holoprosencephaly
E5.14.3.5.5.0.20	Holoprosencephalia semilobaris	Semilobar holoprosencephaly
E5.14.3.5.5.0.21	Holoprosencephalia lobaris	Lobar holoprosencephaly
E5.14.3.5.5.0.22	Tractus sinusoideus craniodermalis	Cranial dermal sinus tract
E5.14.3.5.5.0.23	Tractus sinusoideus dermalis occipitalis	Occipital dermal fistula; Occipital dermal sinus tract
E5.14.3.5.5.0.24	Tractus sinusoideus dermalis parietalis	Parietal dermal sinus tract
E5.14.3.5.5.0.25	Tractus sinusoideus dermalis frontalis	Frontal dermal sinus tract
E5.14.3.5.5.0.26	Tractus sinusoideus dermalis nasalis	Nasal dermal sinus tract
E5.14.3.5.5.0.27	Dermoideum cranii	Cranial dermoid
E5.14.3.5.5.0.28	Agenesis corporis callosi	Agenesis of corpus callosum
E5.14.3.5.5.0.29	Hypoplasia corporis callosi	Hypoplasia of corpus callosum
E5.14.3.5.5.0.30	Agenesis cerebelli	Agenesis of cerebellum
E5.14.3.5.5.0.31	Hypoplasia cerebelli[286]	Hypoplasia of cerebellum
E5.14.3.5.5.0.32	Heterotopia	Heterotopia
E5.14.3.5.5.0.33	Heterotopia neuronalis	Neuronal heterotopia
E5.14.3.5.5.0.34	Heterotopia glialis	Glial heterotopia
E5.15.0.0.0.0.1	**Pars peripherica; Systema nervosum periphericum**	**Peripheral nervous system [PNS]**
E5.0.2.1.0.0.2	**Crista neuralis**[91]	**Neural crest**
E5.15.1.0.0.0.1	Epithelium tubi neuralis; Neurectoderma	Neural tube epithelium; Neurectoderm; Neural ectoderm
E5.13.1.0.1.0.5	Tubus neuralis primarius	Primary neural tube
E5.13.1.0.1.0.6	Crista neuralis primaria	Primary neural crest
E5.15.1.0.0.0.2	Cellula cristae neuralis	Neural crest cell
E5.13.1.0.2.0.5	Tubus neuralis secundarius	Secondary neural tube
E5.13.1.0.2.0.6	Crista neuralis secundaria	Secondary neural crest

[285] E5.14.3.5.5.0.2 *Meroencephalia* The preferred term *mero-encephaly*, recognizes that the anomaly entails drastic effects on some brain areas and lesser or no effects on others, which is not indicated by the term a*nencephaly*.

[286] E5.14.3.5.5.0.31 *Hypoplasia cerebelli* MRI may reveal a small or rudimentary cerebellar structure in cases described as agenesis of the cerebellum.

E5.15.1.0.0.0.2	Cellula cristae neuralis	Neural crest cell
E5.14.3.4.2.2.4	Vesicula optica	Optic vesicle
E5.15.1.0.0.0.3	Cellula neuralocristiformis[287]	Neural crest-like cell
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E5.15.1.0.0.0.3	Cellula neuralocristiformis	Neural crest-like cell
E5.15.1.0.0.0.4	Vesicula otica	Otic vesicle; Otocyst
E5.15.1.0.0.0.3	Cellula neuralocristiformis	Neural crest-like cell
E5.2.0.0.0.0.4	Placoda epipharyngea	Epipharyngeal placode
E5.14.3.0.0.0.4	Placoda dorsolateralis	Dorsolateral placode
E5.15.1.0.0.0.3	Cellula neuralocristiformis	Neural crest-like cell
E5.15.1.0.1.0.1	**Epithelium cristae neuralis**	**Neural crest epithelium**
E5.10.5.2.0.0.1	Textus cristae neuralis	Neural crest tissue
E5.15.1.0.0.0.2	Cellula cristae neuralis	Neural crest cell
E5.15.1.0.2.0.1	**Crista neuralis cranialis**	**Cranial neural crest**
E4.0.3.1.0.0.1	Complexus cristae neuralis nasalis[92]	Nasal neural crest complex
E5.15.1.0.2.0.2	Complexus cristae neuralis olfactoriae	Olfactory neural crest complex
E5.15.1.0.2.0.3	Complexus cristae neuralis terminalis	Terminal neural crest complex
E5.15.1.0.2.0.4	Complexus cristae neuralis vomeronasalis	Vomeronasal neural crest complex
E4.0.3.2.0.0.1	Complexus cristae neuralis opticae[93]	Optic neural crest complex
E4.0.3.3.0.0.1	Crista neuralis praeotica	Pre-otic neural crest
E4.0.3.3.1.0.1	Complexus cristae neuralis mesencephalicae[95]	Mesencephalic neural crest complex
E4.0.3.3.2.0.1	Crista neuralis isthmica[96]	Isthmic neural crest
E4.0.3.3.3.0.1	Crista neuralis rhombencephalica	Rhombencephalic neural crest
E4.0.3.3.3.1.1	Complexus cristae neuralis trigeminalis[97]	Trigeminal neural crest complex
E4.0.3.3.3.2.1	Complexus cristae neuralis facialis[98]	Facial neural crest complex
E4.0.3.4.0.0.1	Complexus cristae neuralis oticae[99]	Otic neural crest complex
E5.15.1.0.2.0.5	Complexus cristae neuralis faciovestibulocochlearis[288]	Faciovestibulocochlear neural crest complex
E5.15.1.0.2.0.6	Complexus cristae neuralis vestibulocochlearis	Vestibulocochlear neural crest complex
E5.15.1.0.2.0.7	Complexus cristae neuralis vestibularis	Vestibular neural crest complex
E5.15.1.0.2.0.8	Complexus cristae neuralis cochlearis	Cochlear neural crest complex
E4.0.3.5.0.0.1	Crista neuralis postotica	Post-otic neural crest
E4.0.3.5.0.1.1	Complexus cristae neuralis glossopharyngealis[100]	Glossopharyngeal neural crest complex
E4.0.3.5.0.2.1	Complexus cristae neuralis vagalis[100]	Vagal neural crest complex
E4.0.3.5.0.3.1	Complexus cristae neuralis cardiacus[101]	Cardiac neural crest complex
E4.0.3.5.0.4.1	Crista neuralis nervi accessorii[102]	Neural crest of accessory nerve
E4.0.3.5.0.5.1	Crista neuralis hypoglossalis; Crista neuralis occipitalis[103]	Hypoglossal neural crest; Occipital neural crest
E4.0.3.5.1.0.1	**Crista neuralis spinalis**[104]	**Spinal neural crest**
E5.15.1.0.3.0.1	Crista neuralis truncalis	Truncal neural crest
E5.15.1.0.3.0.2	Crista neuralis lumbosacralis	Lumbosacral neural crest
E5.15.1.0.4.0.1	**Cellulae textus neuralis**	**Neural tissue cells**
E5.15.1.0.4.0.2	Neuroblastus ganglionicus	Ganglionic neuroblast
E5.15.1.0.4.0.3	Neuron ganglionicum immaturum	Immature ganglionic neuron
E5.15.1.0.4.0.4	Gliocytus ganglionicus primordialis	Primordial ganglionic satellite cell
E5.15.1.0.4.0.5	Schwannoblastus; Schwannocytus primordialis	Schwannoblast; Primordial schwann cell
E5.15.2.0.0.0.1	**Placodae neurogenicae**	**Neurogenic placodes**

[287] E5.15.1.0.0.0.3 *Cellula neuralocristiformis* Cells that behave in a similar manner to *neural crest cells* but arise from other sources are here referred to as *neural crest-like cells*. However, they meld seamlessly with *neural crest cells* into *complexes* and are then no longer morphologically distinguishable (O'Rahilly R, Müller F. The development of the neural crest in the human. J Anat 2007;211:335-351). The term *neural crest* is here restricted to temporary aggregations of cells derived from the neural folds or tube and the term *neural crest complex* is used when neural crest-like cell are involved.

[288] E5.15.1.0.2.0.5 *Complexus cristae neuralis faciovestibulocochlearis* At Stage 11 some cells from the otic vesicle, representing the primordial vestibular ganglion, attach to the facial neural crest; at Stage 14 afferent fibres to the geniculate ganglion and efferent fibres from the vestibular ganglion distinguish between the two parts; at Stage 15 the smaller primordial cochlear ganglion cells appear and fibres are present at Stage 16.

E5.2.0.0.0.0.4	Placoda epipharyngea	Epipharyngeal placode
E5.14.3.0.0.0.4	Placoda dorsolateralis	Dorsolateral placode
E5.15.2.0.0.0.2	Placoda intermedia	Intermediate placode
E5.15.2.0.0.0.3	Placoda ventrolateralis	Ventrolateral placode
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E5.15.2.0.0.0.4	Placoda otica	Otic placode; Otic disc
E5.15.2.0.0.0.5	Fovea otica	Otic pit
E5.15.1.0.0.0.4	Vesicula otica	Otic vesicle; Otocyst
E5.15.2.0.0.0.6	Placoda trigeminalis	Trigeminal placode
E5.15.2.0.0.0.7	Placoda profunda	Placoda profunda
E5.15.2.0.0.0.8	Placoda facialis	Facial placode
E5.15.3.0.0.0.1	**Nn. olfactorius et vomeronasalis**	**Olfactory and vomeronasal nerves**
E5.15.3.0.0.0.2	Crista neuralis olfactoria	Olfactory neural crest
E4.0.0.1.2.0.17	Cellula olfactoria praecursoria	Olfactory stem cell
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E4.0.3.1.0.0.5	Epithelium olfactorium	Olfactory epithelium
E4.0.3.1.0.0.6	Neuroblastus olfactorius	Olfactory neuroblast
E4.0.3.1.0.0.7	Neuron olfactorium immaturum	Immature olfactory neuron
E4.0.3.1.0.0.8	Epitheliocytus sustenans olfactorius	Olfactory supporting epithelial cell
E5.15.3.0.0.0.3	Glioblastus olfactorius implicans	Olfactory ensheathing glioblast
E4.0.3.1.0.0.9	Cellula olfactoria implicans; Gliocytus olfactorius implicans	Olfactory ensheathing cell [OEC]; Olfactory ensheathing glial cell
E5.15.3.0.0.0.4	Fila olfactoria	Olfactory nerves
E5.15.3.0.0.0.5	Epithelium vomeronasale	Vomeronasal epithelium
E4.0.3.1.0.0.11	Neuroblastus vomeronasalis	Vomeronasal neuroblast
E4.0.3.1.0.0.12	Neuron immaturum vomeronasale	Immature vomeronasal neuron
E5.15.3.0.0.0.6	Cellula vomeronasalis sustinens	Vomeronasal supporting cell
E5.15.3.0.0.0.7	Glioblastus vomeronasalis implicans	Vomeronasal ensheathing glioblast
E5.15.3.0.0.0.8	Cellula vomeronasalis implicans	Vomeronasal ensheathing cell
E5.15.3.0.0.0.9	N. vomeronasalis	Vomeronasal nerve
E4.0.3.1.0.0.15	Neuroblastus nervi terminalis	Neuroblast of nervus terminalis
E4.0.3.1.0.0.16	Neuron immaturum nervi terminalis	Immature neuron of nervus terminalis
E4.0.3.1.0.0.18	Cellula nervi terminalis implicans; Gliocytus nervi terminalis implicans	Ensheathing cell of terminal nerve; Ensheathing glial cell of terminal nerve
E5.15.3.0.0.0.10	N. terminalis	Terminal nerve
E5.15.4.0.0.0.1	**Ganglia sensoria**	**Sensory ganglia**
E5.15.4.0.0.0.2	Ganglioblastus cranialis	Cranial ganglioblast
E5.15.4.0.0.0.3	Primordia gangliorum craniospinalium sensoriorum	Primordia of craniospinal sensory ganglia
E5.15.4.0.0.0.4	Primordia gangliorum sensoriorum nervorum cranialium	Primordia of cranial sensory ganglia
E5.15.4.0.0.0.5	Primordium ganglii trigeminalis	Primordium of trigeminal ganglion
E5.15.4.0.0.0.6	Ganglioblastus trigeminalis	Trigeminal ganglioblast
E5.15.4.0.0.0.7	Primordium ganglii geniculi; Primordium ganglii geniculati	Primordium of geniculate ganglion
E5.15.4.0.0.0.8	Ganglioblastus facialis	Facial ganglioblast
E5.15.4.0.0.0.9	Primordium ganglii cochleae; Primordium ganglii spiralis cochleae	Primordium of cochlear ganglion; Primordium of spiral ganglion
E5.15.4.0.0.0.10	Ganglioblastus cochlearis	Cochlear ganglioblast
E5.15.4.0.0.0.11	Primordium ganglii vestibularis	Primordium of vestibular ganglion
E5.15.4.0.0.0.12	Ganglioblastus vestibularis	Vestibular ganglioblast
E5.15.4.0.0.0.13	Primordium ganglii superioris nervi glossopharyngei	Primordium of superior glossopharyngeal ganglion
E5.15.4.0.0.0.14	Primordium ganglii inferioris nervi glossopharyngei	Primordium of inferior glossopharyngeal ganglion
E5.15.4.0.0.0.15	Ganglioblastus glossopharyngeus	Glossopharyngeal ganglioblast
E5.15.4.0.0.0.16	Primordium ganglii superioris nervi vagi	Primordium of superior vagal ganglion
E5.15.4.0.0.0.17	Primordium ganglii inferioris nervi vagi	Primordium of inferior vagal ganglion
E5.15.4.0.0.0.18	Ganglioblastus vagalis	Vagal ganglioblast
E5.15.4.0.0.0.19	Primordia gangliorum sensoriorum nervorum spinalium	Primordia of spinal ganglia; Primordia of dorsal root ganglia

E5.15.4.0.0.0.20	Ganglioblastus spinalis	Spinal ganglioblast
E5.15.4.0.0.0.21	Primordia gangliorum cervicalium	Primordia of cervical ganglia
E5.15.4.0.0.0.22	Primordia gangliorum thoracicorum	Primordia of thoracic ganglia
E5.15.4.0.0.0.23	Primordia gangliorum lumbalium	Primordia of lumbar ganglia
E5.15.4.0.0.0.24	Primordia gangliorum sacralium	Primordia of sacral ganglia
E5.15.4.0.0.0.25	Primordia gangliorum coccygeorum	Primordia of coccygeal ganglia
E5.15.4.0.0.0.26	Neuron immaturum sensorium	Immature sensory neuron
E5.15.4.0.0.0.27	Neuron immaturum bipolare peripheric um	Immature peripheral bipolar neuron
E5.14.2.1.0.2.13	Neuron immaturum unipolare	Immature unipolar neuron
E5.15.4.0.0.0.28	Neuron afferens	Afferent neuron
E5.15.4.0.0.0.29	Neuron unipolare; Neuron pseudounipolare	Unipolar neuron; Pseudounipolar neuron
E5.15.4.0.0.0.30	Processus centralis	Central process
E5.15.4.0.0.0.31	Processus peripheric us	Peripheral process
E5.15.4.0.0.0.32	Neuron immaturum craniale	Immature cranial neuron
E5.15.4.0.0.0.33	Neuron immaturum afferens somaticum speciale	Immature special somatic afferent neuron
E5.15.4.0.0.0.34	Neuron immaturum afferens somaticum communis	Immature general somatic afferent neuron
E5.15.4.0.0.0.35	Neuron immaturum afferens pharyngeum	Immature pharyngeal afferent neuron; Immature special visceral afferent neuroblast
E5.15.4.0.0.0.36	Neuron immaturum afferens viscerale commune	Immature general visceral afferent neuron
E5.15.4.0.0.0.37	Neuron immaturum sensorium nervi oculomotorii	Immature sensory neuron of oculomotor nerve
E5.15.4.0.0.0.38	Neuron immaturum sensorium nervi trochlearis	Immature sensory neuron of trochlear nerve
E5.15.4.0.0.0.39	Neuron immaturum sensorium nervi abducentis	Immature sensory neuron of abducens nerve
E5.15.4.0.0.0.40	Neuron immaturum sensorium nervi hypoglossi	Immature sensory neuron of hypoglossal nerve §Froriep§
E5.15.4.0.0.0.41	Neuron immaturum sensorium nervi accessorii spinalis	Immature sensory neuron of spinal accessory nerve
E5.15.4.0.0.0.42	Neuron immaturum spinalis	Immature spinal neuron
E5.15.4.0.0.0.43	Neuron immaturum radicis posterioris; Neuron immaturum sensorium; Neuron immaturum radicis dorsalis	Immature posterior root neuron; Immature sensory root neuron; Immature dorsal root neuron
E5.15.4.0.0.0.44	Neuron immaturum afferens somaticum	Immature somatic afferent neuron
E5.15.4.0.0.0.45	Neuron immaturum afferens viscerale	Immature visceral afferent neuron
E5.15.4.0.0.0.46	Neuron sensorium	Sensory neuron
E5.15.4.0.0.0.47	Terminatio neuralis sensoria	Sensory nerve ending
E5.15.4.0.0.0.48	Terminatio neuralis libera	Free nerve ending
E5.15.4.0.0.0.49	Neuron afferens chemodifferentiatum	Chemodifferentiated afferent neuron
E5.15.4.0.0.0.50	Glioblastus ganglionaris spinalis implicans	Spinal ganglion ensheathing blast cell
E5.14.2.0.0.1.12	Motoneuron; Neuron motorium	**Motor neuron**
E5.15.5.0.0.0.1	Neuron immaturum efferens somaticum	Immature somatic efferent neuron
E5.15.5.0.0.0.2	Neuron motorium non maturum	Immature motor neuron
E5.15.5.0.0.0.3	Neuron efferens	Efferent neuron
E5.14.2.0.0.1.12	Motoneuron; Neuron motorium	Motor neuron
E5.15.5.0.0.0.4	Motoneuron α ; Neuron efferens α	α motoneuron; α efferent neuron
E5.15.5.0.0.0.5	Motoneuron γ; Neuron efferens γ	γ motoneuron ; γ efferent neuron
E5.15.5.0.0.0.6	Junctio neuromuscularis; Synapsis neuromuscularis	Neuromuscular junction; Neuromuscular synapse; Motor end plate
E5.15.5.0.0.0.7	Neuron immaturum efferens viscerale commune	Immature general visceral efferent neuron
E5.15.5.0.0.0.8	Neuron immaturum efferens pharyngeale	Immature special visceral efferent neuron
E5.15.5.0.0.0.9	Neuron immaturum efferens somaticum commune	Immature general somatic efferent neuron
E5.14.2.1.0.3.2	**Axon**[289]	**Axon**

[289] E5.14.2.1.0.3.2/ E5.15.7.0.0.0.1 *Axon/Neurofibra* *Axon* refers to the axonal process only. *Fibre* or *neurofibre* refers to the combination of axon and Schwann cell. Thus, the terms myelinated fibre, nonmyelinated fibre and premyelin or promyelin fibre include both axon(s) and Schwann cell(s).

E5.15.6.0.0.0.1	Axon ramificatum	Branched axon
E5.15.6.0.0.0.2	Telodendron	Terminal arborization
E5.15.6.0.0.0.3	Axon explorans	Pathfinder axon
E5.15.6.0.0.0.4	Axon bifurcatum; Bifurcatio axonalis	Bifurcated axon
E5.15.6.0.0.0.5	Conus crescentiae axonis	Axon growth cone
E5.15.6.0.0.0.6	Fasciculus axonium	Axon bundle
E5.15.7.0.0.0.1	**Neurofibra**[289]	**Nerve fibre**▲
E5.15.7.0.0.0.2	Neurofibra peripherica	Peripheral nerve fibre▲
E5.15.7.0.0.0.3	Neurofibra afferens	Afferent nerve fibre; Sensory nerve fibre▲
E5.15.7.0.0.0.4	Neurofibra efferens	Efferent nerve fibre; Motor nerve fibre▲
E5.15.7.0.0.0.5	Fasciculus neurofibrarum	Nerve fibre bundle▲
E5.15.8.0.0.0.1	**Partes nervi peripherici**[274]	**Elements of peripheral nerve**
E5.15.8.0.0.0.2	N. periphericus	Peripheral nerve
E5.15.8.0.0.0.3	N. cranialis	Cranial nerve
E5.15.8.0.0.0.4	Radicula motoria	Motor rootlet
E5.15.8.0.0.0.5	Radicula sensoria	Sensory rootlet
E5.15.8.0.0.0.6	Radix motoria	Motor root
E5.15.8.0.0.0.7	Radix sensoria	Sensory root
E5.15.8.0.0.0.8	N. spinalis segmentalis	Segmental spinal nerve
E5.15.8.0.0.0.9	Radicula ventralis; Radicula motoria; Radicula anterior	Ventral rootlet; Motor rootlet; Anterior rootlet
E5.15.8.0.0.0.10	Radicula dorsalis; Radicula posterior	Dorsal rootlet; Posterior rootlet
E5.15.8.0.0.0.11	Radix ventralis; Radix motoria; Radix anterior	Ventral root; Motor root; Anterior root
E5.15.8.0.0.0.12	Radix dorsalis; Radix posterior	Dorsal root; Posterior root
E5.15.8.0.0.0.13	Cauda equina	Cauda equina
E5.15.8.0.0.0.14	R. nervosus motorius; N. motorius; R. muscularis	Motor branch; Motor nerve; Muscular branch
E5.15.8.0.0.0.15	R. nervosus sensorius; N. sensorius	Sensory branch; Sensory nerve
E5.15.8.0.0.0.16	R. nervosus mixtus	Mixed branch
E5.15.8.0.0.0.17	Truncus nervi spinalis	Trunk of spinal nerve
E5.15.8.0.0.0.18	Rr. nervi spinalis	Spinal nerve branches
E5.15.8.0.0.0.19	R. dorsalis; R. posterior	Dorsal ramus; Posterior ramus
E5.15.8.0.0.0.20	R. ventralis; R. anterior	Ventral ramus; Anterior ramus
E5.15.8.0.0.0.21	Plexus nervorum spinalium	Spinal nerve plexus
E5.15.8.0.0.0.22	Plexus cervicalis	Cervical plexus
E5.15.8.0.0.0.23	Plexus brachialis	Brachial plexus
E5.15.8.0.0.0.24	Plexus lumbosacralis	Lumbosacral plexus
E5.15.8.0.0.0.25	Plexus lumbalis	Lumbar plexus
E5.15.8.0.0.0.26	Plexus sacralis	Sacral plexus
E5.15.8.0.0.0.27	Plexus coccygeus	Coccygeal plexus
E5.15.8.0.0.0.28	Plexus dorsalis	Dorsal plexus
E5.15.9.0.0.0.1	**Locus transitionis inter systema nervosum centrale et systema nervosum periphericum**	**CNS – PNS transitional zone [TZ]**
E5.15.9.0.0.0.2	Glia limitans praesumptiva	Presumptive glia limitans; Presumptive external limiting membrane
E5.15.9.0.0.0.3	Projectus textus centralis	Central tissue projection
E5.15.9.0.0.0.4	Locus ingressionis radicis dorsalis; Locus ingressionis radicis posterioris	Dorsal root entry zone [DREZ]; Posterior root entry zone
E5.15.9.0.0.0.5	Taenia conexa radiculae dorsalis; Taenia conexa radiculae posterioris	Dorsal rootlet attachment zone; Posterior rootlet attachment zone
E5.15.9.0.0.0.6	Locus transitionis radicis ventralis; Locus transitionis radicis motoriae; Locus transitionis radicis anterioris	Ventral root transitional zone; Motor root transitional zone; Anterior root transitional zone
E5.15.9.0.0.0.7	Punctum egressus ventralis; Punctum egressus motorium; Punctum egressus anterior	Ventral rootlet exit point; Motor rootlet exit point ; Anterior rootlet exit point

E5.15.9.0.0.0.8	Taenia egressus radiculae ventralis; Taenia egressus radiculae motoriae; Taenia egressus radiculae anterioris	Ventral rootlet exit zone; Motor rootlet exit zone; Anterior rootlet exit zone
E5.15.9.0.0.0.9	Acervatio cellularum ad radiculam ventralem; Acervatio cellularum ad radiculam motoriam; Acervatio cellularum ad radiculam anteriorem[290]	Ventral rootlet cell cluster; Motor rootlet cell cluster; Anterior rootlet cell cluster
E5.15.9.0.0.0.10	Cellula pilleoli liminis	Boundary cap cell
E5.15.10.0.0.0.1	**Gliocyti peripherici**[291]	**Peripheral glial cells**
E5.15.10.0.0.0.2	Linea generationis schwannocytorum	Schwann cell lineage
E5.15.1.0.4.0.5	Schwannoblastus; Schwannocytus primordialis	Schwannoblast; Primordial Schwann cell
E5.15.10.0.0.0.3	Schwannocytus non maturus	Immature Schwann cell
E5.15.10.0.0.0.4	Schwannocytus perifascicularis epithelioidalis[292]	Perifascicular epithelioid Schwann cell
E5.15.10.0.0.0.5	Schwannocytus segregans[291]	Segregating Schwann cell
E5.15.10.0.0.0.6	Schwannocytus involvens[291]	Ensheathing schwann cell
E5.15.10.0.0.0.7	Schwannocytus maturus[291]	Mature Schwann cell
E5.15.10.0.0.0.8	Lamina basalis schwannocyti; Lamina basalis strati endoneurialis	Schwann cell basal lamina; Endoneurial layer basal lamina
E5.15.10.0.0.0.9	Schwannocytus non myelinopoieticus[291]	Nonmyelinating Schwann cell
E5.15.10.0.0.0.10	Schwannocytus myelinopoieticus[291]	Myelinating Schwann cell
E5.15.10.0.0.0.11	Schwannocytus praemyelinatus; Schwannocytus promyelinatus[291]	Premyelinating Schwann cell; Promyelinating Schwann cell
E5.15.10.0.0.0.12	Schwannocytus isolatus[291]	Isolated Schwann cell
E5.15.10.0.0.0.13	Schwannocytus terminalis; Cellula teloglialis[291]	Terminal Schwann cell; Terminal glial cell
E5.15.4.0.0.0.50	Glioblastus ganglionaris spinalis implicans; Glioblastus ganglionaris radicis dorsalis implicans	Dorsal root ganglion ensheathing blast cell: Spinal ganglion ensheathing blast cell
E5.15.11.0.0.0.1	**Myelinisatio**	**Myelination**
E5.15.11.0.0.0.2	Schwannocytus uniaxonalis[293]	Uniaxonal Schwann cell
E5.15.11.0.0.0.3	Segmentum axonis	Axon segment
E5.15.11.0.0.0.4	Neurofibra non myelinata[289]	Nonmyelinated fibre▲
E5.15.11.0.0.0.5	Neurofibra praemyelinata; Neurofibra promyelinata[289]	Premyelinated fibre; Promyelinated fibre▲
E5.15.11.0.0.0.6	Mesaxon	Mesaxon
E5.15.11.0.0.0.7	Extensio mesaxonis	Mesaxonal elongation
E5.15.11.0.0.0.8	Spiralisatio mesaxonis	Spiralisation of mesaxon
E5.15.11.0.0.0.9	Inceptio myelinopoiesis	Onset of myelination
E3.0.0.4.0.0.1	Compactio	Compaction
E5.15.11.0.0.0.10	Extrusum cytoplasmatis schwannocyti	Extrusion of Schwann cell cytoplasm
E5.15.11.0.0.0.11	Myelinum condensum; Myelinum compactum	Compact myelin
E5.15.11.0.0.0.12	Neurofibra myelinata; Neurofibra myelinata peripherica	Myelinated fibre; Peripheral myelinated fibre▲
E5.15.11.0.0.0.13	Mesaxon externum	External mesaxon
E5.15.11.0.0.0.14	Mesaxon internum	Internal mesaxon
E5.15.11.0.0.0.15	Lamella myelini; Stratum myelini	Myelin lamella; myelin layer
E5.15.11.0.0.0.16	Linea densa major	Major dense line
E5.15.11.0.0.0.17	Linea densa minor	Minor dense line

290 E5.15.9.0.0.0.9 *Acervatio cellularum ad radiculam ventraliam; Acervatio cellularum ad radiculam motoriam; Acervatio cellularum ad radiculam anteriorem* Ventral rootlet cell clusters are clusters of cells that differentiate into Schwann cells that ensheath and eventually myelinate the axons of the ventral rootlet.

291 E5.15.10.0.0.0.1 *Gliocyti peripherici* The term *Schwann cell* is now almost universally ascribed to the PNS ensheathing cell. Terms including the stem *neurolemm-* are now rarely used. The term *endoneurial sheath* applies to the basal lamina of the Schwann cell and the collagenous sheath surrounding it. Inside that is the *nerve fibre*, defined as the axon(s) and the surrounding Schwann cell(s).

292 E5.15.10.0.0.0.4 *Schwannocytus perifascicularis epithelioidalis* Schwann cell precursors initially form a cellular sheath around axon bundles (*perifascicular epithelioid Schwann cells*). They then invade and partition the axon bundles (*segregating Schwann cells*). Segregation is completed when a Schwann cell has completely surrounded the presumptively myelinated axon or the presumptively n onmyelinated axon bundle (*ensheathing Schwann cells*).

293: E5.15.11.0.0.0.2 *Schwannocytus uniaxonalis* As a prerequisite for myelination each Schwann cell enfolds only one axon segment.

E5.15.11.0.0.0.18	Segmentum internodale	Internode; internodal segment
E5.15.11.0.0.0.19	Incrementum manicae myelini	Myelin sheath growth
E5.15.11.0.0.0.20	Formatio nodi; Formatio nodi interruptionis myelini	Node development §Ranvier§
E5.15.11.0.0.0.21	Segregatio canalium ionicorum[294]	Ion channel segregation
E5.15.11.0.0.0.22	Fissura nodalis	Node gap
E5.15.11.0.0.0.23	Substantia fissurae nodalis	Node gap substance
E5.15.11.0.0.0.24	Paranodus	Paranode; paranodal region
E5.15.11.0.0.0.25	Heminodus	Heminode
E5.15.11.0.0.0.26	Pes terminalis; Infundibulum paranodale	End-foot; paranodal pocket
E5.15.11.0.0.0.27	Segmentum juxtanodale	Juxtanodal segment
E5.15.11.0.0.0.28	Microvilli schwannocyti	Schwann cell microvilli
E5.15.11.0.0.0.29	Attenuatio axonis	Axon attenuation
E5.15.11.0.0.0.30	Densitas subaxolemmalis	Subaxolemmal density
E5.15.12.0.0.0.1	**Formatio unitatis motoriae**	**Motor unit development**
E5.15.12.0.0.0.2	Axon appositum ad scopum; Axon appositum ad musculum	Axon-target contact; axon–muscle contact
E5.15.12.0.0.0.3	Synaptogenesis	Synaptogenesis
E5.15.12.0.0.0.4	Eliminatio synapsium superfluarum [295]	Elimination of superfluous synapses
E5.15.12.0.0.0.5	Competitio synaptica	Synaptic competition
E5.15.12.0.0.0.6	Synapsis neuromuscularis; Junctio neuromuscularis	Neuromuscular junction; Neuromuscular synapse
E5.15.13.0.0.0.1	**Pars autonomica systematis nervosi peripherici**	**Autonomic part of peripheral nervous system**
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E5.15.4.0.0.0.36	Neuron immaturum afferens viscerale commune	Immature general visceral afferent neuron
E5.15.13.0.1.0.1	**Pars visceromotoria systematis nervosi peripherici**	**Visceromotor system**
E4.0.3.5.1.3.2	Linea generationis cellularum sympathicosuprarenalium	Sympathosuprarenal cell lineage; Sympatho-adrenal cell lineage
E5.15.13.0.1.0.2	Ganglion autonomicum	Autonomic ganglion
E5.15.13.0.2.0.1	**Primordia gangliorum autonomicorum**	**Primordia of autonomic ganglia**
E5.15.13.0.2.0.2	Ganglioblastus autonomicus	Autonomic ganglioblast
E5.15.13.0.2.0.3	Ganglion sympathicum	Sympathetic ganglion
E5.15.13.0.3.0.1	**Primordia gangliorum sympathicorum**	**Primordia of sympathetic ganglia**
E5.15.13.0.3.0.2	Primordia gangliorum trunci sympathici	Primordia of sympathetic trunk ganglia
E5.15.13.0.3.0.3	Primordium ganglii cervicalis superioris	Primordium of superior cervical ganglion
E5.15.13.0.3.0.4	Primordium ganglii cervicalis medii	Primordium of middle cervical ganglion
E5.15.13.0.3.0.5	Primordium ganglii cervicalis inferioris	Primordium of inferior cervical ganglion
E5.15.13.0.3.0.6	Primordium ganglii cervicothoracici; Primordium ganglii stellati	Primordium of cervicothoracic ganglion; Primordium of stellate ganglion
E5.15.4.0.0.0.22	Primordia gangliorum thoracicorum	Primordia of thoracic ganglia
E5.15.4.0.0.0.23	Primordia gangliorum lumbalium	Primordia of lumbar ganglia
E5.15.4.0.0.0.24	Primordia gangliorum sacralium	Primordia of sacral ganglia
E5.15.13.0.3.0.7	Primordium ganglii imparis	Primordium of ganglion impar
E5.15.13.0.3.0.8	Primordia gangliorum sympathicorum visceralium	Primordia of sympathetic visceral ganglia
E4.0.3.5.1.3.7	Ganglion parasympathicum	Parasympathetic ganglion
E5.15.13.0.4.0.1	**Primordia gangliorum parasympathicorum**	**Primordia of parasympathetic ganglia**

[294] E5.15.11.0.0.0.21 *Segregatio canalium ionicorum* Sodium and potassium channels are segregated into complementary membrane domains in the earliest stages of formation of nodes of Ranvier (Waxman SG, Ritchie JM. Organisation of ion channels in the myelinated nerve fiber. Science 1985;228:1502-1507).

[295] E5.15.12.0.0.0.4 *Eliminatio synapsium superfluarum* In developing mammalian skeletal muscle several axons innervate a single motor end-plate. This polyneuronal innervation is lost in early postnatal life as inactive motor neurons degenerate (Jordan C L. Ciliary neurotrophic factor may act in target musculature to regulate developmental synapse elimination. Dev Neurosci 1996;18:185-198; Favero M, Lorenzetto E, Bidoia C, Buffelli M, Busetto G, Cangiano A. Synapse formation and elimination: role of activity studied in different models of adult muscle reinnervation.J Neurosci Res 2007 Sep;85(12):2610-9.

E5.15.13.0.4.0.2	Primordium ganglii terminalis	Primordium of terminal ganglion
E5.15.13.0.4.0.3	Primordium ganglii ciliaris	Primordium of ciliary ganglion
E5.15.13.0.4.0.4	Primordia gangliorum episcleralium	Primordia of episcleral ganglia
E5.15.13.0.4.0.5	Primordium ganglii pterygopalatini	Primordium of pterygopalatine ganglion
E5.15.13.0.4.0.6	Primordium ganglii submandibularis	Primordium of submandibular ganglion
E5.15.13.0.4.0.7	Primordium ganglii sublingualis	Primordium of sublingual ganglion
E5.15.13.0.4.0.8	Primordium ganglii otici	Primordium of otic ganglion
E5.15.13.0.4.0.9	Primordia gangliorum pelvicorum	Primordia of pelvic ganglia
E5.15.13.0.4.0.10	Primordia gangliorum visceralium	Primordia of visceral ganglia
E5.15.13.0.4.0.11	Neuron autonomicum	Autonomic neuron
E5.15.13.0.5.0.1	**Blasti autonomici**	**Autonomic blast cells**
E5.15.13.0.2.0.2	Ganglioblastus autonomicus	Autonomic ganglioblast
E5.15.13.0.5.0.2	Ganglioblastus sympathicus	Sympathetic ganglioblast
E5.15.13.0.5.0.3	Neuron immaturum sympathicum praeganglionare	Preganglionic sympathetic neuron
E5.15.13.0.5.0.4	Neuron immaturum sympathicum postganglionare; Sympathoblastus	Postganglionic sympathetic neuron; Sympathoblast
E5.15.13.0.5.0.5	Sympathoblastus parvus	Small sympathoblast
E5.15.13.0.5.0.6	Sympathoblastus intermedius	Intermediate sympathoblast
E5.15.13.0.5.0.7	Sympathoblastus magnus	Large sympathoblast
E5.14.2.0.0.1.13	Interneuron	Interneuron
E5.15.13.0.5.0.8	Neuron immaturum parasympathicum praeganglionare; Parasympathoblastus	Preganglionic parasympathetic neuron
E5.15.13.0.5.0.9	Ganglioblastus parasympathicus	Parasympathetic ganglioblast
E5.15.13.0.5.0.10	Neuron immaturum parasympathicum postganglionare; Parasympathoblastus	Postganglionic parasympathetic neuron; Parasympathoblast
E5.15.13.0.5.0.11	Glioblastus ganglionaris autonomicus	Autonomic ganglion-ensheathing blast cell
E5.15.13.0.5.0.12	Capsula ganglii	Ganglionic capsule
E5.15.13.0.5.0.13	Stroma ganglii	Stroma of ganglion
E5.10.5.2.0.0.2	Primordium medullae glandulae suprarenalis	Primordium of medulla of suprarenal gland
E5.15.13.0.5.0.14	Medulloblastus suprarenalis	Suprarenal medulloblast
E5.15.13.0.5.0.15	Paraganglion	Paraganglion
E5.15.13.0.5.0.16	Phaeochromocytoblastus	Phaeochromocytoblast
E5.15.13.0.5.0.17	Blastus cellulae sympathochromaffinae	Sympathochromaffin blast cell
E5.15.13.0.5.0.18	Neuron autonomicum chemodifferentiatum	Chemodifferentiated autonomic neuron
E5.15.13.0.6.0.1	**Axona et fasciculi autonomici**	**Autonomic axons and fasciculi**
E5.15.13.0.6.0.2	Truncus sympathicus	Sympathetic trunk
E5.15.13.0.6.0.3	R. interganglionicus	Interganglionic branch
E5.15.13.0.6.0.4	Primordium trunci sympathici	Primordium of sympathetic trunk
E5.15.13.0.6.0.5	Axon praeganglionicum	Preganglionic axon
E5.15.13.0.6.0.6	Neurofibra praeganglionica	Preganglionic nerve fibre▲
E5.15.13.0.6.0.7	R. communicans albus	White ramus communicans
E5.15.13.0.6.0.8	Axon postganglionicum	Postganglionic axon
E5.15.13.0.6.0.9	Neurofibra postganglionica	Postganglionic nerve fibre▲
E5.15.13.0.6.0.10	Neurofibra autonomica	Autonomic nerve fibre▲
E5.15.13.0.6.0.11	R. communicans griseus	Grey ramus communicans▲
E5.15.13.0.6.0.12	Plexus sympathicus	Sympathetic plexus
E5.15.13.0.6.0.13	Plexus autonomicus	Autonomic plexus
E5.15.13.0.1.0.2	Ganglion autonomicum	Autonomic ganglion
E5.15.14.0.0.0.1	**Systema nervosum entericum**	**Enteric nervous system**
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E5.15.14.0.0.0.2	Ganglioblastus entericus	Enteric ganglioblast
E5.15.14.0.0.0.3	Neuron immaturum entericum	Immature enteric neuron
E4.0.3.5.0.2.11	Plexus entericus ganglionaris	Ganglionic enteric plexus; Enteric nerve plexus
E4.0.3.5.0.2.12	Plexus nervosus myentericus	Myenteric plexus §Auerbach§
E4.0.3.5.0.2.13	Plexus nervosus submucosus externus	Outer submucous plexus §Schabadasch§
E4.0.3.5.0.2.14	Plexus nervosus submucosus internus	Inner submucous plexus §Meissner§
E5.15.14.0.0.0.4	Glioblastus entericus; Cellula implicans enterica	Enteric glioblast; Enteric ensheathing cell

E5.15.14.0.0.0.5	Glia enterica	Enteric glia
E4.0.3.5.0.2.16	Gliocytus entericus	Enteric glial cell
E4.0.3.5.0.2.10	Ganglion entericum	Enteric ganglion
E4.0.3.5.0.2.15	Plexus entericus aganglionaris	Aganglionic enteric plexus
E5.15.15.0.0.0.1	**Textus connectivus nervi peripherici**	**Connective tissue of peripheral nerve**
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E5.15.15.0.0.0.2	Mesenchyma dermatomyotomiale	Dermatomyotomal mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.2.0.3.2.0.2	Ectoderma embryonicum anuli umbilicalis[134]	Embryonic ectoderm of umbilical ring
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E5.15.15.0.0.0.3	Endoneurium	Endoneurium
E5.15.15.0.0.0.4	Epineurium	Epineurium
E5.15.15.0.0.0.5	Perineurium	Perineurium
E5.13.2.0.0.0.2	Fibroblastus	Fibroblast
E5.15.15.0.0.0.6	Fibroblastus endoneurialis[296]	Endoneurial fibroblast
E5.15.15.0.0.0.7	Fibroblastus epineurialis[296]	Epineurial fibroblast
E5.15.15.0.0.0.8	Fibroblastus perineurialis[296]	Perineurial fibroblast
E5.15.15.0.0.0.9	Vagina endoneurialis	Endoneurial sheath
E5.15.15.0.0.0.10	Lamina basalis vaginae endoneurialis	Endoneurial sheath basal lamina
E5.15.15.0.0.0.11	Perineurioblastus	Perineurial blast cell
E5.15.15.0.0.0.12	Perineuriocytus	Perineurial cell
E5.11.2.3.0.0.10	Macrophagocytus[297]	Macrophage
E5.15.15.0.1.0.1	**Anomaliae systematis nervosi peripherici**	**Anomalies of peripheral nervous system**
E5.15.15.0.1.0.2	Hypomyelinisatio congenita[298]	Congenital hypomyelination
E5.15.15.0.1.0.3	Polyneuropathia congenita hypomyelinisatione	Congenital hypomyelinating polyneuropathy §Déjérine-Sottas§
E5.15.15.0.1.0.4	Dysmyelinisatio	Dysmyelination
E5.15.15.0.1.0.5	Neuropathia peripherica congenita	Hereditary peripheral neuropathy
E5.15.15.0.1.0.6	Neuropathiae motoriae et sensoriae congenitae	Hereditary motor and sensory neuropathies §Charcot-Marie-Tooth§
E5.3.0.0.2.1.6	Paralysis congenita abducentofacialis	Congenital abducens-facial paralysis §Möbius§
E5.15.15.0.1.0.7	Atrophia neuroni motorii congeniti	Congenital motor neuron atrophy
E5.15.15.0.1.0.8	Neuronopathia motoria hereditaria	Hereditary motor neuronopathy §Werdnig-Hoffmann§
E5.15.15.0.1.0.9	Atrophia infantilis spinalis musculorum acuta	Acute infantile spinal muscular atrophy §Werdnig-Hoffmann§
E5.15.15.0.1.0.10	Agenesis nervi peripherici	Agenesis of peripheral nerve
E5.15.15.0.1.0.11	Agenesis nervi cranialis	Cranial nerve agenesis
E5.15.15.0.1.0.12	Agenesis nervi spinalis	Spinal nerve agenesis
E5.15.15.0.1.0.13	Hypoplasia nervi peripherici	Hypoplasia of peripheral nerve
E5.15.15.0.1.0.14	Hypoplasia nervi cranialis	Cranial nerve hypoplasia
E5.1.1.0.4.1.9	Hypoplasia nervi spinalis	Spinal nerve hypoplasia
E5.1.1.0.2.6.1	**Anomaliae crescentiae**	**Growth anomalies**
E5.15.15.0.1.1.1	N. peripherici duplicatus	Duplicated peripheral nerve
E5.15.15.0.1.1.2	N. peripherici triplicatus	Triplicated peripheral nerve
E5.15.15.0.1.1.3	N. peripherici plexiformis	Plexiform peripheral nerve

[296] E5.15.15.0.0.0.6/ E5.15.15.0.0.0.7/ E5.15.15.0.0.0.8 *Fibroblastus endoneurialis/ Fibroblastus epineurialis/ Fibroblastus perineurialis* Only *endoneurial fibroblasts* are now believed to be derived solely from *neural crest cells*: *epineurial* and *perineural fibroblasts* may be of mixed lineage (Joseph NM, Mukouyama YS, Mosher JT, Jaegle M, Crone SA, Dormand EL, Lee KF, Meijer D, Anderson DJ, Morrison SJ. Neural crest cells undergo multilineage differentiation in developing peripheral nerves to generate endoneurial fibroblasts in addition to Schwann cells. Development 2004;131:5599-5612).

[297] E5.11.2.3.0.0.10 *Macrophagocytus* The macrophages of peripheral nerve connective tissue are not derived from the neural crest.

[298] E5.15.15.0.1.0.2 *Hypomyelinisatio congenita* In *congenital hypomyelination* there is impairment of elements of the myelination process, including segregation, ensheathment and myelin formation.

E5.15.15.0.1.1.4	Conexus abnormalis inter nervos periphericos	Anomalous connection between peripheral nerves
E5.15.15.0.1.1.5	Distributio abnormalis fascis neurofibrarum spinalium segmentalium	Anomalous spinal segmental fibre bundle distribution
E5.15.15.0.1.1.6	Cursus abnormalis nervi peripherici	Anomalous peripheral nerve course
E5.15.15.0.1.1.7	Dislocatio congenita nervi peripherici	Congenital peripheral nerve displacement
E5.15.15.0.1.1.8	Dislocatio plexus	Plexus displacement
E5.15.15.0.1.1.9	Praefixatio plexus brachialis	Brachial plexus prefixation
E5.15.15.0.1.1.10	Postfixatio plexus brachialis	Brachial plexus postfixation
E5.15.15.0.1.1.11	Praefixatio plexus lumbosacralis	Lumbosacral plexus prefixation
E5.15.15.0.1.1.12	Postfixatio plexus lumbosacralis	Lumbosacral plexus postfixation
E5.15.15.0.2.0.1	**Anomaliae systematis nervosi enterici**	**Enteric nervous system anomalies**
E5.15.15.0.2.0.2	Dysautonomia familiaris[299]	Familial dysautonomia §Riley Day§
E5.15.15.0.2.0.3	Dysplasia neuronalis intestinalis	Intestinal neuronal dysplasia
E5.4.8.0.1.0.20	Absentia systematis nervosi enterici post duodenalis	Absence of postduodenal enteric nervous system
E5.4.9.0.4.0.2	Aganglionosis coli	Colonic aganglionosis
E5.4.9.0.4.0.3	Aganglionosis coli completa	Total colonic aganglionosis
E5.4.9.0.4.0.4	Aganglionosis coli partialis	Partial colonic aganglionosis
E5.4.9.0.4.0.5	Megacolon congenitum	Congenital megacolon
E5.4.9.0.4.0.7	Dysplasia neuralis coli	Colonic neuronal dysplasia
E5.4.9.0.4.0.8	Hypoganglionosis coli	Colonic hypoganglionosis; Colonic hypogangliosis
E5.16.0.0.0.0.1	**Organa sensuum**	**Sense organs**
E5.16.1.0.0.0.1	**Organum olfactorium; Organum olfactus**	**Olfactory organ**
E5.16.1.0.0.0.2	Ectoderma capitis	Ectoderm of head
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E4.0.3.1.0.0.1	Complexus cristae neuralis nasalis[92]	Nasal neural crest complex
E4.0.3.1.0.0.5	Epithelium olfactorium	Olfactory epithelium
E4.0.0.1.2.0.17	Cellula olfactoria praecursoria	Olfactory stem cell
E4.0.3.1.0.0.6	Neuroblastus olfactorius	Olfactory neuroblast
E4.0.3.1.0.0.7	Neuron olfactorium immaturum	Immature olfactory neuron
E5.16.1.0.0.0.3	Cellula progenetrix interneuronis bulbi olfactorii	Olfactory bulb interneuron progenitor cell
E5.16.1.0.0.0.4	Interneuron bulbi olfactorii	Olfactory bulb interneuron
E4.0.3.1.0.0.8	Epitheliocytus sustenans olfactorius	Olfactory supporting epithelial cell
E4.0.3.1.0.0.10	Epitheliocytus basalis olfactorius	Olfactory basal epithelial cell
E5.15.3.0.0.0.3	Glioblastus olfactorius implicans	Olfactory ensheathing glioblast
E4.0.3.1.0.0.9	Cellula olfactoria implicans; Gliocytus olfactorius implicans	Olfactory ensheathing cell [OEC]; Olfactory ensheathing glial cell
E5.15.3.0.0.0.4	Fila olfactoria	Olfactory nerves
E5.3.0.0.0.0.9	Fovea nasalis	Nasal pit
E5.5.1.0.0.0.2	Saccus nasalis	Nasal sac
E5.3.0.0.0.0.10	Pinna nasalis	Nasal fin
E5.5.1.0.0.0.9	Membrana oronasalis	Oronasal membrane
E5.16.1.0.0.0.5	Obturamentum nasale	Nasal plug
E5.16.1.0.0.0.6	Pulvillus conchalis	Conchal cushion
E5.16.1.0.0.0.7	Diverticulum paranasale	Paranasal diverticulum
E5.16.1.0.0.0.8	Primordium olfactorium	Olfactory primordium
E5.16.1.0.1.0.1	**Anomaliae organi olfactorii**	**Olfactory organ anomalies**
E5.16.1.0.1.0.2	Defectus nervi olfactorii	Olfactory nerve deficiency
E5.16.1.0.1.0.3	Absentia bulbi olfactorii	Olfactory bulb absence
E5.16.1.0.1.0.4	Hypoplasia bulbi olfactorii	Olfactory bulb hypoplasia
E5.16.1.0.1.0.5	Absentia tractus olfactorii	Olfactory tract absence
E5.16.1.0.1.0.6	Hypoplasia tractus olfactorii	Olfactory tract hypoplasia

[299] E5.15.15.0.2.0.2 *Dysautonomia familiaris* *Familial dysautonomia* is characterized by dysfunction of the autonomic nervous system, sensory disturbances, neurological disorders, psychical anomalies and ophthalmological symptoms such as dry eyes, corneal anaesthesia, keratinized conjunctiva and cornea: a smooth tongue is accompanied by absence of fungiform papillae and taste buds.

E5.16.1.1.0.0.1	**ORGANUM VOMERONASALE**	**VOMERONASAL ORGAN**
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E5.15.1.0.2.0.4	Complexus cristae neuralis vomeronasalis	Vomeronasal neural crest complex
E5.16.1.1.0.0.2	Primordium organi vomeronasalis	Primordium of vomeronasal organ
E5.5.1.0.0.0.14	Sulcus vomeronasalis	Vomeronasal groove
E5.16.1.1.0.0.3	Cupula vomeronasalis	Vomeronasal cup
E5.16.1.1.0.0.4	Organum vomeronasale tubulare	Tubular vomeronasal organ
E5.16.1.1.0.0.5	Ductus organi vomeronasalis	Vomeronasal duct
E5.15.3.0.0.0.5	Epithelium vomeronasale	Vomeronasal epithelium
E4.0.3.1.0.0.11	Neuroblastus vomeronasalis	Vomeronasal neuroblast
E4.0.3.1.0.0.12	Neuron immaturum vomeronasale	Immature vomeronasal neuron
E5.15.3.0.0.0.7	Glioblastus vomeronasalis implicans	Vomeronasal ensheathing glioblast
E5.15.3.0.0.0.8	Cellula vomeronasalis implicans	Vomeronasal ensheathing cell
E5.15.3.0.0.0.9	N. vomeronasalis	Vomeronasal nerve
E4.0.3.1.0.0.15	Neuroblastus nervi terminalis	Neuroblast of nervus terminalis
E4.0.3.1.0.0.16	Neuron immaturum nervi terminalis	Immature neuron of nervus terminalis
E4.0.3.1.0.0.18	Cellula nervi terminalis implicans; Gliocytus nervi terminalis implicans	Ensheathing cell of terminal nerve; Ensheathing glial cell of terminal nerve
E5.15.3.0.0.0.10	N. terminalis	Terminal nerve
E5.16.2.0.0.0.1	**Organum gustatorium; Organum gustus**	**Gustatory organ**
E5.4.1.2.0.0.18	**Gemma gustatoria; Caliculus gustatorius**	**Taste bud**
E5.16.2.0.1.0.1	Epithelium oropharyngeum	Oropharyngeal epithelium
E5.16.2.0.1.0.2	Primordium gemmae gustatoriae	Primordium of taste bud
E5.16.2.0.1.0.3	Neurofibra perigemmalis	Perigemmal nerve fibre▲
E5.16.2.0.1.0.4	Neurofibra intragemmalis	Intragemmal nerve fibre▲
E5.16.2.0.1.0.5	Cellula perigemmalis	Perigemmal cell
E5.16.2.0.1.0.6	Porus gustatorius primordialis	Primordial taste pore
E5.16.2.0.1.0.7	Epitheliocytus extensus non differentiatus	Elongated nondifferentiated cell
E5.16.2.0.1.0.8	Epitheliocytus gustatorius typi I	Type I gustatory epithelial cell
E5.16.2.0.1.0.9	Epitheliocytus sensorius gustatorius typi II	Type II gustatory sensory epithelial cell
E5.16.2.0.1.0.10	Epitheliocytus sensorius gustatorius typi III	Type III gustatory sensory epithelial cell
E5.16.2.0.1.0.11	Epitheliocytus gustatorius typi IV; Epitheliocytus basalis	Type IV gustatory epithelial cell; Basal epithelial cell
E5.16.2.0.1.0.12	Epitheliocytus gustatorius typi V; Epitheliocytus marginalis	Type V gustatory epithelial cell; Marginal epithelial cell
E5.16.2.0.1.0.13	Porus gustatorius	Taste pore
E5.16.3.0.0.0.1	**Oculus et structurae pertinentes**	**Eye and related structures**
E5.16.3.1.0.0.1	**BULBUS OCULI**	**EYEBALL**
E5.15.1.0.0.0.1	Epithelium tubi neuralis; Neurectoderma	Neural tube epithelium; Neurectoderm; Neural ectoderm
E5.16.3.1.0.0.2	Primordium opticum	Optic primordium
E5.14.3.4.2.2.3	Sulcus opticus	Optic groove; Optic sulcus
E5.14.3.4.2.2.4	Vesicula optica	Optic vesicle
E5.14.3.4.2.2.5	Cavitas vesiculae opticae	Cavity of optic vesicle
E5.16.3.1.0.0.3	Spatium intraretinale[300]	Intraretinal space; Intraretinal cleft
E5.16.3.1.0.0.4	Discus retinalis	Retinal disc
E5.14.3.4.2.2.6	Pedunculus opticus	Optic stalk
E5.16.3.1.0.0.5	N. opticus	Optic nerve
E5.14.3.4.2.2.14	Discus nervi optici	Optic disc
E5.14.3.4.2.2.7	Cupula optica	Optic cup
E5.16.3.1.0.0.6	Labrum cupulae opticae	Optic cup lip
E5.16.3.1.0.0.7	Lamina externa cupulae	External cup layer
E5.14.3.4.2.2.8	Cavitas cupulae opticae	Cavity of optic cup
E5.16.3.1.0.0.8	Camera postrema; Camera vitrea	Postremal chamber; Vitreous chamber
E5.16.3.1.0.0.9	Lamina interna cupulae	Internal cup layer
E5.14.3.4.2.2.15	Fissura optica; Fissura retinae[281]	Retinal fissure; Optic fissure
E5.16.1.0.0.0.2	Ectoderma capitis	Ectoderm of head

[300] E5.16.3.1.0.0.3 *Spatium intraretinale* Although the cavity of the optic vesicle disappears, there remains a potential cleft, the site of so-called retinal detachment.

E5.16.3.1.0.0.10	Epithelium anterius corneae	Corneal epithelium
E5.16.3.1.0.0.11	Epithelium simplex cuboideum	Simple cuboidal epithelium
E5.4.4.0.0.5.2	Epithelium stratificatum squamosum non cornificatum	Nonkeratinized stratified squamous epithelium
E5.16.3.1.0.0.12	Lamina limitans anterior	Anterior limiting lamina §Bowman§
E4.0.0.1.2.0.3	Cellula cornealis praecursoria[94]	Corneal stem cell
E5.16.3.1.0.0.13	Placoda lentis; Discus lentis	Lens placode; Lens disc
E5.16.3.1.0.0.14	Fovea lentis	Lens pit
E5.16.3.1.0.0.15	Vesicula lentis	Lens vesicle
E5.16.3.1.0.0.16	Cavitas lentis	Lens cavity
E5.16.3.1.0.0.17	Cavitas lentis figurata D	D-shaped lens cavity
E5.16.3.1.0.0.18	Cavitas crescentiformis lentis	Crescent-shaped lens cavity
E5.16.3.1.0.0.19	Cavitas lentis clausa	Closed lens cavity
E5.16.3.1.0.0.20	Epithelium superficiale lentis	Superficial lens epithelium
E5.16.3.1.0.0.21	Epithelium profundum lentis	Deep lens epithelium
E5.16.3.1.0.0.22	Fibra lentis primaria	Primary lens fibre▲
E5.16.3.1.0.0.23	Epithelium aequatoriale lentis	Equatorial lens epithelium
E5.16.3.1.0.0.24	Fibra lentis secundaria	Secondary lens fibre▲
E5.16.3.1.0.0.25	Sutura fibrae lentis secundariae	Suture of secondary lens fibre▲
E5.16.3.1.0.0.26	Capsula lentis	Lens capsule
E5.16.3.1.0.0.27	Tunica vasculosa lentis	Vascular lens tunic
E5.16.3.1.0.0.28	Arcus nucleorum	Nuclear bow
E5.16.3.1.1.0.1	**Retina**	**Retina**
E5.15.1.0.0.0.1	**Epithelium tubi neuralis; Neurectoderma**	**Neural tube epithelium; Neurectoderm; Neural ectoderm**
E5.16.3.1.0.0.7	Lamina externa cupulae	External cup layer
E5.16.3.1.1.1.1	Epithelium pseudostratificatum	Pseudostratified epithelium
E5.16.3.1.1.1.2	Stratum pigmentosum	Pigmented layer
E5.16.3.1.1.1.3	Pigmentocytus	Pigment cell
E5.16.3.1.0.0.3	Spatium intraretinale[300]	Intraretinal space; Intraretinal cleft
E5.16.3.1.0.0.9	Lamina interna cupulae	Internal cup layer
E5.16.3.1.1.1.4	Pars optica retinae	Pars optica retinae
E5.16.3.1.1.1.5	Stratum ventriculare cupulae opticae	Ventricular zone; Photosensitive layer
E5.16.3.1.1.1.6	Neuroepithelium pseudostratificatum	Pseudostratified neuro-epithelium
E5.16.3.1.1.1.7	Stratum nucleare	Nuclear layer
E4.0.4.4.5.0.4	Zona proliferationis	Proliferation zone
E5.16.3.1.1.1.8	Stratum marginale initiale	Initial marginal layer
E5.16.3.1.1.1.9	Lamina basalis	Lamina basalis
E5.14.3.5.2.5.1	Processus neuronis immaturi	Process of immature neuron
E5.16.3.1.1.1.10	Stratum neuronum immaturorum externum	Outer immature neuron layer
E5.14.3.5.2.4.1	Neuron immaturum	Immature neuron
E5.14.3.2.1.0.4	Glioblastus radialis	Radial glioblast
E5.14.3.5.2.2.3	Processus gliocyti radialis	Process of radial glial cell
E5.16.3.1.1.1.11	Neuron horizontale	Horizontal cell
E5.16.3.1.1.1.12	Proneuron bacilliferum; Neuron immaturum bacilliferum	Rod cell proneuron; Immature rod cell
E5.16.3.1.1.1.13	Neuron bacilliferum	Rod cell
E5.16.3.1.1.1.14	Bacillum retinae	Rod
E5.16.3.1.1.1.15	Segmentum externum neuronis bacilliferi	Outer segment of rod
E5.16.3.1.1.1.16	Discus membranaceus neuronis bacilliferi	Membranous disc of rod
E5.16.3.1.1.1.17	Segmentum internum neuronis bacilliferi	Inner segment of rod
E5.16.3.1.1.1.18	Proneuron coniferum; Neuron immaturum coniferum	Cone cell proneuron; Immature cone cell
E5.16.3.1.1.1.19	Neuron coniferum	Cone cell
E5.16.3.1.1.1.20	Conus retinae	Cone
E5.16.3.1.1.1.21	Segmentum externum neuronis coniferi	Outer segment of cone
E5.16.3.1.1.1.22	Discus membranaceus neuronis coniferi	Membranous disc of cone
E5.16.3.1.1.1.23	Segmentum internum neuronis coniferi	Inner segment of cone

E5.16.3.1.1.1.24	Stratum segmentorum externorum et internorum	Layer of outer and inner segments
E5.16.3.1.1.1.25	Stratum limitans externum	Outer limiting layer
E5.16.3.1.1.1.26	Stratum nucleorum externum	Outer nuclear layer
E5.16.3.1.1.1.27	Stratum plexiforme externum	Outer plexiform layer
E5.16.3.1.1.1.28	Processus axonalis neuronis bacilliferi	Axonal process of rod
E5.16.3.1.1.1.29	Spherula terminalis bacilli	Rod spherule
E5.16.3.1.1.1.30	Processus axonalis neuronis coniferi	Axonal process of cone
E5.16.3.1.1.1.31	Pes terminalis coni	Cone pedicle
E5.16.3.1.1.1.32	Neuropilus	Neuropil
E5.16.3.1.1.1.33	Stratum anucleare fugax	Transient anuclear layer §Chievitz§
E5.16.3.1.1.1.34	Stratum neuronum immaturorum internum; Stratum intermedium; Stratum pallii	Inner immature neuron layer; Mantle layer
E5.14.3.2.1.0.4	Glioblastus radialis	Radial glioblast
E5.14.2.1.0.2.2	Gliocytus radialis	Radial glial cell §Müller§
E5.16.3.1.1.1.35	Processus radialis gliocyti	Radial process of glial cell
E5.16.3.1.1.1.36	Neuron immaturum retinae; Proneuron	Immature retinal neuron; Proneuron
E5.16.3.1.1.1.37	Neuron amacrinum	Amacrine cell
E5.16.3.1.1.1.38	Neuron interplexiforme	Interplexiform cell
E5.14.2.1.0.2.15	Neuron bipolare	Bipolar neuron
E5.16.3.1.1.1.39	Cellula immatura ganglionica; Proneuron ganglionare	Immature ganglion cell; Ganglion cell proneuron
E5.16.3.1.1.1.40	Translatio introrsum[301]	Apparent migration inwards
E5.16.3.1.1.1.41	Stratum nucleare internum	Inner nuclear layer
E5.16.3.1.1.1.42	Stratum marginale residuale	Residual marginal layer
E5.16.3.1.1.1.43	Stratum plexiforme internum	Inner plexiform layer
E5.16.3.1.1.1.32	Neuropilus	Neuropil
E5.16.3.1.1.1.44	Stratum ganglionare multipolare	Ganglionic layer
E5.16.3.1.1.1.45	Neuron ganglionare multipolare retinae	Retinal ganglion cell
E5.16.3.1.1.1.46	Stratum neurofibrarum	Layer of nerve fibres▲
E5.16.3.1.1.1.47	Ora serrata	Ora serrata
E5.16.3.1.1.1.48	Stratum limitans internum	Inner limiting layer
E5.16.3.1.1.2.1	**Pars caeca retinae**	**Nonvisual retina**
E5.16.3.1.1.2.2	Pars ciliaris retinae	Ciliary part of retina
E5.16.3.1.1.2.3	Epithelium ciliare	Ciliary epithelium
E5.16.3.1.1.2.4	Pars iridica retinae	Iridial part of retina
E5.16.3.1.1.2.5	Epithelium iridicum	Iris epithelium
E5.16.3.1.1.2.6	Primordium musculi sphincteris pupillae	Primordium of sphincter pupillae
E5.16.3.1.1.2.7	Primordium musculi dilatatoris pupillae	Primordium of dilator pupillae
E4.0.3.2.0.0.3	**Tunica fibrosa bulbi**[302]	**Fibrous layer of eyeball**
E5.16.3.1.2.0.1	Sclera	Sclera
E5.16.3.1.2.0.2	Cornea	Cornea
E4.0.3.2.0.0.5	**Tunica vasculosa bulbi; Uvea**[303]	**Vascular layer of eyeball; Uvea**
E5.16.3.1.3.0.1	Choroidea	Choroid
E5.16.3.1.3.0.2	Corpus ciliare	Ciliary body
E5.16.3.1.3.0.3	Iris non retinalis	Nonretinal iris
E5.16.3.1.4.0.1	**Mesenchyma oculi**	**Optic mesenchyme**
E5.14.3.3.0.1.1	Crista neuralis mesencephalica	Mesencephalic neural crest
E5.16.3.1.4.0.2	Crista neuralis optica	Optic neural crest
E5.16.3.1.0.0.27	Tunica vasculosa lentis	Vascular lens tunic
E5.16.3.1.4.0.3	Mesenchyma camerae vitreae	Vitreous chamber mesenchyme
E5.16.3.1.4.0.4	A. lentis	Lens artery

[301] E5.16.3.1.1.1.40 *Translatio introrsum* Ganglion cell proneurons separate as the retina increases in thickness.

[302] E4.0.3.2.0.0.3 *Tunica fibrosa bulbi* The parts of the fibrous layer of the eyeball are derived from both head ectoderm and the ectomesenchyme surrounding the optic cup: their component parts are listed either under *Eye and related structures* or under *Optic mesenchyme.*

[303] E4.0.3.2.0.0.5 *Tunica vasculosa bulbi; Uvea* The parts of the vascular layer of the eyeball are derived from both the optic cup and the surrounding ectomesenchyme: their component parts are listed either under *Retina* or under *Optic mesenchyme.*

E5.16.3.1.0.0.27	Tunica vasculosa lentis	Vascular lens tunic
E5.16.3.1.4.0.5	A. hyaloidea	Hyaloid artery
E5.16.3.1.4.0.6	Corpus vitreum primarium	Primary vitreous body
E5.16.3.1.4.0.7	Corpus vitreum secundarium	Secondary vitreous body
E5.16.3.1.4.0.8	Corpus vitreum tertiarium	Tertiary vitreous body
E5.16.3.1.4.0.9	Canalis hyaloideus	Hyaloid canal
E5.16.3.1.4.0.20	Membrana vitrea	Vitreous membrane
E5.16.3.1.4.0.21	Mesenchyma camerae anterioris	Anterior chamber mesenchyme
E5.16.3.1.4.0.22	Epithelium camerae anterioris	Anterior chamber epithelium
E5.16.3.1.4.0.23	Humor aquosus	Aqueous humor
E5.16.3.1.4.0.24	Camera anterior	Anterior chamber
E5.16.3.1.4.0.25	Camera posterior	Posterior chamber
E5.16.3.1.4.0.26	Mesenchyma capsulae	Capsule mesenchyme
E4.0.3.2.0.0.3	Tunica fibrosa bulbi[302]	Fibrous layer of eyeball
E5.16.3.1.4.0.27	Substantia propria sclerae	Substantia propria of sclera
E5.16.3.1.4.0.28	Vv. intrasclerales.	Intrascleral veins
E5.16.3.1.4.0.29	Sinus venosus sclerae	Scleral venous sinus §Schlemm§
E5.16.3.1.0.0.12	Lamina limitans anterior	Anterior limiting lamina §Bowman§
E5.16.3.1.4.0.30	Substantia propria corneae	Substantia propria of cornea
E4.0.3.3.1.0.8	Epithelium posterius corneae[304]	Endothelium of anterior chamber
E5.16.3.1.0.0.11	Epithelium simplex cuboideum	Simple cuboidal epithelium
E5.16.3.1.4.0.31	Epithelium simplex squamosum	Simple squamous epithelium
E4.0.3.3.1.0.6	Keratocytus	Keratocyte
E5.16.3.1.4.0.32	Lamina limitans posterior	Posterior limiting lamina §Descemet§
E5.16.3.1.4.0.33	Pars laminata striataque	Banded, striated part
E5.16.3.1.4.0.34	Pars non laminata et non striata[305]	Nonbanded, nonstriated part
E4.0.3.2.0.0.5	Tunica vasculosa bulbi; Uvea[303]	Vascular layer of eyeball; Uvea
E5.16.3.1.4.0.35	Lamina vasculosa	Vascular layer
E5.16.3.1.4.0.36	Lamina choroidocapillaris	Choroidocapillary layer
E5.16.3.1.4.0.37	Stroma ciliare	Ciliary stroma
E5.16.3.1.4.0.38	M. ciliaris	Ciliary muscle
E4.0.3.3.1.0.9	Stroma iridis	Stroma of iris
E4.0.3.3.1.0.10	Membrana pupillaris[306]	Pupillary membrane; Iridopupillary membrane
E5.16.3.1.4.0.39	Defectio membranae pupillaris	Regression of pupillary membrane
E5.16.3.2.0.0.1	**STRUCTURAE OCULI ACCESSORIAE**	**ACCESSORY OCULAR STRUCTURES**
E5.16.3.2.0.0.2	Plica palpebralis	Palpebral fold
E5.16.3.2.0.0.3	Palpebra	Eyelid
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.3.0.0.0.0.2	Epidermis	Epidermis
E5.16.3.2.0.0.4	Cilium	Eyelash
E5.16.3.2.0.0.5	Epithelium conjunctivale	Conjunctival epithelium
E5.16.3.2.0.0.6	Gemma glandulae tarsalis	Tarsal gland bud
E5.16.3.2.0.0.7	Gemmae glandulae lacrimalis	Lacrimal gland buds
E5.16.3.2.0.0.8	Blastema glandulae lacrimalis	Blastema of lacrimal gland
E5.16.3.2.0.0.9	Ductuli excretorii lacrimales	Lacrimal excretory ducts
E5.3.0.0.0.0.20	Sulcus nasolacrimalis; Sulcus lacrimalis[307]	Nasolacrimal groove; Lacrimal groove
E5.16.3.2.0.0.10	Lamina lacrimalis[308]	Lacrimal lamina

[304] E4.0.3.3.1.0.8 *Epithelium posterius corneae* This epithelium may be ectomesenchymal in origin.

[305] E5.16.3.1.4.0.34 *Pars non laminate et non striata* The *nonbanded, nonstriated part* of the posterior limiting lamina is formed postnatally by the endothelium of the anterior chamber.

[306] E4.0.3.3.1.0.10 *Membrana pupillaris* The pupillary membrane develops from the mesenchymal tissue posterior to the cornea in continuity with the mesenchymal tissue developing into the sclera (Wai SM, Li WY, Chai WY, Sha O, Yew DT. The iridopupillary membrane (or pupillary membrane) in human development. Neuroembryology 2002, 1: 44-46).

[307] E5.3.0.0.0.0.20 *Sulcus nasolacrimalis; Sulcus lacrimalis* The *nasolacrimal groove* is said to appear approximately along, but independently of, the line where the maxillary and frontonasal prominences merge and is thus not to be synonymous with the nasomaxillary groove [O'Rahilly R and Müller F. Human Embryology & Teratology. 3rd ed. New York: Wiley-Liss; 2001].

[308] E5.16.3.2.0.0.10 *Lamina lacrimalis* The *lacrimal lamina* is a thickening of the epithelium at the bottom of the lacrimal groove: its tip bifurcates to form primordial canaliculi before it canalises and connects conjunctival and inferior meatal epithelia (de la Cuadra-Blanco C, Peces-Peña MD, Jáñez-Escalada L, Mérida-Velasco JR. Morphogenesis of the human excretory lacrimal system. J Anat 2006;209:127-135).

E5.16.3.2.0.0.11	Chorda lacrimalis	Lacrimal cord
E5.16.3.2.0.0.12	Canaliculus lacrimalis	Lacrimal canaliculus
E5.16.3.2.0.0.13	Saccus lacrimalis	Lacrimal sac
E5.16.3.2.0.0.14	Ductus nasolacrimalis	Nasolacrimal duct
E5.16.3.2.0.0.15	Mesenchyma palpebrale	Palpebral mesenchyme
E5.16.3.2.0.0.16	Palpebrae conjunctae	Fused eyelids
E5.16.3.2.0.0.17	Rima palpebrarum	Palpebral fissure
E5.16.3.2.0.0.18	Palpebrae apertae	Open eyelids
E5.16.3.2.1.0.1	**Anomaliae structurarum oculi**	**Anomalies of ocular structures**
E5.16.3.2.1.0.2	Anophthalmia	Anophthalmia
E5.16.3.2.1.0.3	Cryptophthalmia	Cryptophthalmia
E5.1.1.0.2.4.2	Cyclopia	Cyclopia
E5.16.3.2.1.0.4	Synophthalmia	Synophthalmia
E5.16.3.2.1.0.5	Macrophthalmia	Macrophthalmia
E5.16.3.2.1.0.6	Microphthalmia	Microphthalmia
E5.16.3.2.1.0.7	Hypotelorismus oculorum	Ocular hypotelorism
E5.16.3.2.1.0.8	Hypertelorismus oculorum	Ocular hypertelorism
E5.16.3.2.1.0.9	Cornea conica	Conical cornea
E5.16.3.2.1.0.10	Cornea ovoidea	Ovoid cornea
E5.16.3.2.1.0.11	Cornea plana	Flat cornea
E5.16.3.2.1.0.12	Cornea perforata congenita	Congenital perforated cornea
E5.16.3.2.1.0.13	Cornea guttata	Hereditary corneal epithelial dystrophy
E5.16.3.2.1.0.14	Megalocornea	Megalocornea
E5.16.3.2.1.0.15	Microcornea	Microcornea
E5.16.3.2.1.0.16	Opacitas corneae congenita	Congenital corneal opacity
E5.16.3.2.1.0.17	Sclerocornea	Sclerocornea
E5.16.3.2.1.0.18	Absentia laminae limitantis posterioris	Absent posterior limiting membrane
E5.16.3.2.1.0.19	Persistentia foveae lentis	Persistent lens fovea
E5.16.3.2.1.0.20	Aniridia	Aniridia
E5.16.3.2.1.0.21	Coloboma congenita[309]	Coloboma
E5.16.3.2.1.0.22	Polycoria	Polycoria
E5.16.3.2.1.0.23	Polycoria vera	True polycoria
E5.16.3.2.1.0.24	Polycoria spuria	Polycoria spuria
E5.16.3.2.1.0.25	Persistentia membranae pupillaris	Persistent pupillary membrane
E5.16.3.2.1.0.26	Glaucoma congenitum	Congenital glaucoma
E5.16.3.2.1.0.27	Buphthalmia	Buphthalmia
E5.16.3.2.1.0.28	Aplasia lentis; Aphakia	Lens aplasia; Aphakia
E5.16.3.2.1.0.29	Cataracta congenita	Congenital cataract
E5.16.3.2.1.0.30	Duplicatio lentis	Duplication of lens
E5.16.3.2.1.0.31	Ectopia lentis	Ectopic lens
E5.16.3.2.1.0.32	Persistentia arteriae hyaloideae	Persistent hyaloid artery
E5.16.3.2.1.0.33	Persistentia tunicae vasculosae lentis	Persistent tunica vasculosa lentis
E5.16.3.2.1.0.34	Cystis retinae	Retinal cyst
E5.16.3.2.1.0.35	Persistentia corporis vitrei primarii hyperplastici	Persistent hyperplastic primary vitreous body
E5.16.3.2.1.0.36	Ablatio retinae	Congenital retinal detachment
E5.16.3.2.1.0.37	Albinismus choroideus	Albinism of choroid
E5.16.3.2.1.0.38	Albinismus oculocutaneus	Oculocutaneous albinism
E5.16.3.2.1.0.39	Aplasia glandulae lacrimalis	Aplasia of lacrimal gland
E5.16.3.2.1.0.40	Ectopia glandulae lacrimalis	Ectopic lacrimal gland
E5.16.3.2.1.0.41	Hypolacrimia congenita	Congenital hypolacrimia
E5.16.3.2.1.0.42	Aplasia punctorum lacrimalium	Aplasia of lacrimal puncta
E5.16.3.2.1.0.43	Punctum lacrimale rimatum	Slit-like lacrimal punctum
E5.16.3.2.1.0.44	Ectopia puncti lacrimalis	Ectopic lacrimal punctum
E5.16.3.2.1.0.45	Punctum lacrimalis duplex	Double lacrimal punctum
E5.16.3.2.1.0.46	Punctum lacrimalis supernumerarium	Supernumerary lacrimal punctum
E5.16.3.2.1.0.47	Atresia canaliculi lacrimalis	Atresia of lacrimal canaliculus
E5.16.3.2.1.0.48	Diverticulum sacci lacrimalis	Diverticulum of lacrimal sac
E5.16.3.2.1.0.49	Fistula sacci lacrimalis congenita	Congenital fistula of lacrimal sac
E5.16.3.2.1.0.50	Absentia plicae lacrimalis	Absence of lacrimal fold

[309] E5.16.3.2.1.0.21 *Coloboma congenita* A defect, usually in ocular tissue, due to incomplete closure of the retinal fissure: the optic nerve, macula, vitreous body, lens, cornea, choroid and/or iris may be affected.

E5.16.3.2.1.0.51	Aplasia ductus nasolacrimalis	Aplasia of nasolacrimal duct
E5.16.3.2.1.0.52	Dacryostenosis congenita	Congenital stenosis of nasolacrimal duct
E5.16.3.2.1.0.53	Fistula externa nasolacrimalis	External nasolacrimal fistula
E5.16.3.2.1.0.54	Syndroma cryptophthalmiae	Cryptophthalmia syndrome §Fraser§
E5.16.3.2.1.0.55	Syndroma dysgenesis iridocornealis mesenchymalis	Iridocorneal mesenchymal dysgenesis syndrome §Rieger§
E5.16.3.2.1.0.56	Syndroma fissurae camerae anterioris	Anterior chamber cleavage syndrome §Peters§
E5.16.3.2.1.0.57	Syndroma lacrimoauriculodentodigitale	Lacrimo-auriculo-dento-digital syndrome [LADD]
E5.16.3.2.1.0.58	Anomaliae palpebrae {vide paginam **XX**}	Anomalies of eyelids {see page **XX** E5.3.0.0.2.0.1}
E5.16.4.0.0.0.1	**Auris**	**Ear**
E5.16.4.0.1.0.1	**Auris externa**	**External ear**
E5.16.4.0.1.0.2	Sulcus pharyngeus primus [1]	First pharyngeal groove [1]
E5.16.4.0.1.0.3	Meatus acusticus externus	External acoustic meatus
E5.4.2.0.0.0.4	Membrana pharyngea [1]	Pharyngeal membrane [1]
E5.16.4.0.1.0.4	Membrana tympanica	Tympanic membrane
E5.16.4.0.1.0.5	Arcus pharyngei primus et secundus [1,2]	First and second pharyngeal arches [1,2]
E5.16.4.0.1.0.6	Colliculus auricularis	Auricular hillock
E5.16.4.0.1.0.7	Auricula	Auricle; Pinna
E5.16.4.0.2.0.1	**Auris media**	**Middle ear**
E5.4.2.0.0.1.2	Saccus pharyngeus primus [1]	First pharyngeal pouch [1]
E5.4.2.0.0.1.3	Recessus tubotympanicus	Tubotympanic recess
E5.16.4.0.2.0.2	Apex recessus tubotympanici	Tip of tubotympanic recess
E5.4.2.0.0.1.4	Tuba auditiva; Tuba auditoria	Pharyngotympanic tube; Auditory tube §Eustachius§
E5.4.2.0.0.1.5	Cavitas tympani	Tympanic cavity
E5.16.4.0.2.0.3	Cellulae tympanicae	Tympanic cells
E5.4.2.0.0.1.6	Antrum mastoideum	Mastoid antrum
E5.16.4.0.2.0.4	Cellulae mastoideae	Mastoid cells
E5.0.2.1.5.0.1	Arcus pharyngeus primus [1]	First pharyngeal arch [1]
E5.16.4.0.2.0.5	Mesenchyma arcus pharyngei primi	Mesenchyme of first pharyngeal arch
E5.16.4.0.2.0.6	Pars dorsalis cartilaginis arcus pharyngei primi	Dorsal part of first pharyngeal arch cartilage
E5.16.4.0.2.0.7	Crus breve incudis	Short limb of incus
E5.16.4.0.2.0.8	Corpus incudis	Body of incus
E5.16.4.0.2.0.9	Caput mallei	Head of malleus
E5.16.4.0.2.0.10	Lig. mallei anterius[310]	Anterior ligament of malleus
E5.16.4.0.2.0.11	M. tensor tympani	Tensor tympani
E5.16.4.0.2.0.12	Arcus pharyngeus secundus [2]	Second pharyngeal arch [2]
E5.12.2.5.0.0.3	Mesenchyma arcus pharyngei secundi	Mesenchyme of second pharyngeal arch
E4.0.3.3.3.2.3	Cartilago arcus pharyngei secundi	Second pharyngeal arch cartilage
E5.16.4.0.2.0.13	Processus mallei	Mallear process
E5.16.4.0.2.0.14	Manubrium mallei	Handle of malleus
E5.16.4.0.2.0.15	Crus longum incudis	Long limb of incus
E5.16.4.0.2.0.16	Stapes	Stapes
E5.2.0.2.0.1.3	Blastema musculi stapedii	Blastema of stapedius
E5.16.4.0.2.0.17	M. stapedius	Stapedius
E5.16.4.0.2.0.18	Anulus stapedis	Stapedial ring
E5.16.4.0.2.0.19	Chorda tympani	Chorda tympani
E5.16.4.0.2.0.20	R. stapedius nervi facialis	Stapedial branch of facial nerve
E5.16.4.0.3.0.1	**Auris interna**	**Internal ear**
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.15.2.0.0.0.4	Placoda otica	Otic placode; Otic disc
E5.15.2.0.0.0.5	Fovea otica	Otic pit
E5.15.1.0.0.0.4	Vesicula otica	Otic vesicle; Otocyst

[310] E5.16.4.0.2.0.10 *Lig. mallei anterius* It is usually considered that the *anterior ligament* is derived from the first pharyngeal arch because of its continuity, via the sphenomandibular ligament, with the mandible. However, it has also been suggested that the *anterior ligament* is derived from the second pharyngeal arch (Hanson JR, Anson BJ, Strickland EM. Branchial sources of the auditory ossicles in man. Arch Otolaryngol 1962;76:200-215).

E5.16.4.0.3.0.2	Maculae densae epithelii	Thickened patches of epithelium
E5.16.4.0.3.0.3	Primordium labyrinthi membranacei; Saccus vestibularis	Primordial membranous labyrinth; Vestibular sac
E5.16.4.0.3.0.4	Appendix endolymphatica	Endolymphatic appendage
E5.16.4.0.3.0.5	Ductus endolymphaticus	Endolymphatic duct
E5.16.4.0.3.0.6	Camera utriculosaccularis	Utriculosaccular chamber
E5.16.4.0.3.0.7	Primordium utriculi	Primordial utricle
E5.16.4.0.3.0.8	Lamina semicircularis	Semicircular plate
E5.16.4.0.3.0.9	Coalescentia centralis	Central coalescence
E5.16.4.0.3.0.10	Ductus semicircularis	Semicircular duct
E5.16.4.0.3.0.11	Primordium sacculi	Primordial saccule
E5.16.4.0.3.0.12	Primordium ductus cochlearis; Diverticulum endolymphaticum	Primordial cochlear duct; Endolymphatic diverticulum
E5.16.4.0.3.0.13	Crescentia spiraliformis	Spiral growth
E5.16.4.0.3.0.14	Ductus reuniens	Ductus reuniens
E4.0.3.3.2.0.3	Mesenchyma capitis	Head mesenchyme
E5.0.2.1.4.1.4	Capsula otica	Otic capsule
E5.16.4.0.3.0.15	Cartilago otica	Otic cartilage
E5.16.4.0.3.0.16	Labyrinthus cartilagineus	Cartilaginous labyrinth
E5.16.4.0.3.0.17	Labyrinthus osseus	Bony labyrinth
E5.16.4.0.3.0.18	Mesenchyma	Mesenchyme
E5.16.4.0.3.0.19	Spatium perilymphaticum	Perilymphatic space
E5.16.4.0.3.0.20	Cisterna periotica	Periotic cistern
E5.16.4.0.3.0.21	Primordium scalae tympani	Primordium of scala tympani
E5.16.4.0.3.0.22	Primordium scalae vestibuli	Primordiium of scala vestibuli
E5.16.4.0.3.0.23	Helicotrema	Helicotrema
E5.16.4.0.3.0.24	Scala media	Scala media
E5.16.4.0.3.0.19	Spatium perilymphaticum	Perilymphatic space
E5.16.4.0.3.0.18	Mesenchyma	Mesenchyme
E5.16.4.0.3.0.25	Modiolus cochleae	Modiolus
E5.16.4.0.3.0.26	Lamina spiralis ossea	Osseous spiral lamina
E5.15.2.0.0.0.4	Placoda otica	Otic placode; Otic disc
E5.16.4.0.3.0.27	Area neuroepithelialis vesiculae oticae	Neuro-epithelial area of otic vesicle
E5.16.4.0.3.0.28	Vestibuloblastus	Vestibuloblast
E5.16.4.0.3.0.29	Vestibulocytus; Cellula sensoria pilosa	Vestibular hair cell; Vestibular sensory cell
E5.16.4.0.3.0.30	Vestibulocytus I; Vestibulocytus piriformis[311]	Type 1 vestibular hair cell; Type 1 vestibular sensory cell
E5.16.4.0.3.0.31	Vestibulocytus II; Vestibulocytus columnaris	Type 2 vestibular hair cell; Type 2 vestibular sensory cell
E5.16.4.0.3.0.32	Cochleoblastus	Cochleoblast
E5.16.4.0.3.0.33	Cochleocytus	Cochlear hair cell
E5.16.4.0.3.0.34	Cochleocytus internus[312]	Inner hair cell
E5.16.4.0.3.0.35	Cochleocytus externus	Outer hair cell
E5.16.4.0.3.0.36	Vestibulocytus sustenans	Vestibular supporting cell
E5.16.4.0.3.0.37	Epithelium striae vascularis	Epithelium of stria vascularis
E5.16.4.0.3.0.38	Epithelium sacci endolymphatici	Epithelium of endolymphatic sac
E5.16.4.0.3.0.39	Epithelium labyrinthi membranosi	Lining of membranous labyrinth
E5.16.4.0.3.0.40	Ganglion vestibulocochleare	Vestibulocochlear ganglion
E5.16.4.0.3.0.41	Ganglion spirale cochleae	Spiral ganglion §Corti§
E5.16.4.0.3.0.42	Vestibulocytus internus	Inner vestibular hair cell
E5.16.4.0.3.0.43	Vestibulocytus externus	Outer vestibular hair cell
E5.16.4.0.3.0.36	Vestibulocytus sustenans	Vestibular supporting cell
E5.16.4.0.3.0.44	Canalis spiralis cochleae	Spiral canal of cochlea §Corti; Rosenthal§

[311] E5.16.4.0.3.0.30 *Vestibulocytus I; Vestibulocytus piriformis Type I vestibular hair cells* are demonstrable in the 8 week embryo and they have synaptic vesicles at 9 weeks (Dechesne CJ, Sans A. Development of vestibular receptor surfaces in human fetuses. Am J Otolaryngol 1985;6:378-387).

[312] E5.16.4.0.3.0.34/ E5.16.4.0.3.0.35 *Cochleocytus internus/ Cochleocytus externus Inner* and *outer hair cells of the cochlea* can be found in the 10 and 11 week embryo, respectively (Pujol R, Lavigne-Rebillard M. Early stages of innervations and sensory cell differentiation in the human organ of Corti. Acta Otolaryngol Suppl. 1985;423:43-50). Ciliogenesis starts one week later in each cell type (Lavigne-Rebillard M, Pujol R. Development of the auditory hair cell surface in human fetuses. A scanning electron microscope study. Anat Embryol (Berl) 1986:174:369-377).

E5.16.4.0.3.0.45	Textum cristae neuralis oticae[99]	Otic neural crest tissue
E4.0.3.4.0.0.5	Neuron sensorium ganglionare vestibulare	Vestibular ganglion cell
E4.0.3.4.0.0.6	Neuron sensorium ganglionare cochleare	Cochlear ganglion cell
E5.15.4.0.0.0.50	Glioblastus ganglionaris spinalis implicans; Glioblastus ganglionaris radicis dorsalis implicans	Dorsal root ganglion ensheathing blast cell: Spinal ganglion ensheathing blast cell
E4.0.3.3.3.1.8	Gliocytus ganglionicus	Ganglionic satellite cell
E5.15.1.0.4.0.5	Schwannoblastus; Schwannocytus primordialis	Schwannoblast; Primordial Schwann cell
E4.0.3.3.3.1.9	Schwannocytus	Schwann cell
E5.16.4.0.4.0.1	**Anomaliae auris**	**Ear anomalies**
E5.16.4.0.4.1.1	**Anomaliae auris externae** {vide paginam **XX**}	**Anomalies of external ear** {see page **XX** E5.3.0.0.2.0.1}
E5.16.4.0.4.2.1	**Anomaliae auris mediae**	**Anomalies of middle ear**
E5.16.4.0.4.2.2	Atresia cavitatis tympanicae	Atresia of tympanic cavity
E5.16.4.0.4.2.3	Dysplasia cavitatis tympanicae	Dysplasia of tympanic cavity
E5.16.4.0.4.2.4	Hypoplasia cavitatis tympanicae	Hypoplasia of tympanic cavity
E5.16.4.0.4.2.5	Aplasia fenestrae cochleae	Aplasia of round window
E5.16.4.0.4.2.6	Ectopia fenestrae cochleae	Ectopia of round window
E5.16.4.0.4.2.7	Aplasia fenestrae vestibuli	Aplasia of oval window
E5.16.4.0.4.2.8	Ankylotia; Otosclerosis	Ankylotia; Otosclerosis
E5.16.4.0.4.2.9	Aplasia ossiculorum auditus	Aplasia of auditory ossicles
E5.16.4.0.4.2.10	Dysplasia ossiculorum auditus	Dysplasia of auditory ossicles
E5.16.4.0.4.2.11	Hyoplasia ossiculorum auditus	Hypoplasia of auditory ossicles
E5.16.4.0.4.2.12	Hyperplasia ossiculorum auditus	Hyperplasia of auditory ossicles
E5.16.4.0.4.2.13	M. tensor tympani absens	Absent tensor trympani
E5.16.4.0.4.2.14	M. stapedius absens	Absent stapedius
E5.16.4.0.4.2.15	Aplasia tubae auditivae	Aplasia of pharyngotympanic tube
E5.16.4.0.4.2.16	Stenosis tubae auditivae	Stenosis of pharyngotympanic tube
E5.16.4.0.4.2.17	Canalis nervi facialis dehiscens	Facial canal dehiscence
E5.16.4.0.4.2.18	Persistentia arteriae stapediae	Persistent stapedial artery
E5.16.4.0.4.3.1	**Anomaliae auris internae**	**Anomalies of internal ear**
E5.16.4.0.4.3.2	Aplasia labyrinthi	Labyrinthine aplasia
E5.16.4.0.4.3.3	Hypoplasia labyrinthi	Labyrinthine hypoplasia
E5.16.4.0.4.3.4	Heteroplasia labyrinthi	Labyrinthine heteroplasia
E5.16.4.0.4.3.5	Ectopia labyrinthi	Ectopic labyrinth
E5.16.4.0.4.3.6	Absentia melanocytorum	Melanocyte absence
E5.16.4.0.4.3.7	Defectus melanocytorum	Melanocyte deficiency
E5.16.4.0.4.3.8	Aplasia meatus acustici interni	Aplasia of internal acoustic meatus
E5.16.4.0.4.3.9	Ectopia meatus acustici interni	Ectopia of internal acoustic meatus
E5.16.4.0.4.3.10	Hypoplasia meatus acustici interni	Hypoplasia of internal acoustic meatus
E5.16.4.0.4.3.11	Hyperplasia meatus acustici interni	Hyperplasia of internal acoustic meatus
E5.16.4.0.4.3.12	Aplasia fossae subarcuatae	Aplasia of subarcuate fossa
E5.16.4.0.4.3.13	Hypoplasia fossae subarcuatae	Hypoplasia of subarcuate fossa
E5.16.4.0.4.3.14	Ectopia fossae subarcuatae	Ectopia of subarcuate fossa
E5.16.4.0.4.3.15	Hyperplasia fossae subarcuatae	Hyperplasia of subarcuate fossa
E5.17.0.0.0.0.1	**Integumentum commune**	**The integument**
E5.17.1.0.0.0.1	**Cutis**	**Skin**
E5.3.0.0.0.0.2	**Epidermis**	**Epidermis**
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.17.1.0.1.0.1	Epidermis intitialis	Initial epidermis
E5.3.0.0.0.0.3	Periderma	Periderm
E5.17.1.0.1.0.2	Stratum basale	Basal layer
E5.17.1.0.1.0.3	Stratum intermedium	Intermediate layer
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.15.4.0.0.0.48	Terminatio neuralis libera	Free nerve ending
E5.17.1.0.1.0.4	Corpusculum sensorium non capsulatum	Nonencapsulated sensory corpuscle
E5.17.1.0.1.0.5	Epitheliocytus tactilis	Sensory epithelial cell §Merkel§
E5.17.1.0.1.0.6	Meniscus tactilis; Meniscus dendriticus	Tactile meniscus; Terminal meniscus
E4.0.3.2.0.0.4	Melanocytus	Melanocyte

E5.12.1.1.0.0.1	Medulla ossium rubra	Red bone marrow; Haematopoietic bone marrow▲
E5.17.1.0.1.0.7	Dendrocytus	Dendritic cell §Langerhans§
E5.17.1.0.1.0.8	Epidermis definitiva	Definitive epidermis
E5.17.1.0.1.0.9	Gemma glandularis epidermis	Epidermal glandular downgrowth
E5.17.1.0.1.0.10	Glandula sudorifera	Sweat gland
E5.17.1.0.2.0.1	**Dermis; Corium**	**Dermis**
E5.16.4.0.3.0.18	Mesenchyma[359]	Mesenchyme
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E5.17.1.0.2.0.2	Mesenchyma dermatomiale	Dermatomal mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E5.2.0.3.2.0.2	Ectoderma embryonicum anuli umbilicalis[134]	Embryonic ectoderm of umbilical ring
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.17.1.0.2.0.3	Plexus neuralis subepidermalis	Subepidermal nerve plexus
E5.17.1.0.2.0.4	Plexus neuralis dermalis	Dermal nerve plexus
E5.15.4.0.0.0.48	Terminatio neuralis libera	Free nerve ending
E5.17.1.0.2.0.5	Corpusculum sensorium capsulatum	Encapsulated sensory corpuscle
E5.17.1.0.2.0.6	Corpusculum nervosum lanceolatum	Lanceolate nerve corpuscle
E5.17.1.0.2.0.7	Terminatio lanceolata	Palisade ending
E5.17.1.0.2.0.8	Schwannocytus cuneiformis	Wedge-shaped Schwann cell
E5.17.1.0.2.0.9	Corpusculum ovoideum; Corpusculum tactile	Tactile corpuscle §Meissner§ §Wagner-Meissner§
E5.17.1.0.2.0.10	Terminatio spiralis	Spiral ending
E5.17.1.0.2.0.8	Schwannocytus cuneiformis	Wedge-shaped Schwann cell
E5.17.1.0.2.0.11	Corpusculum lamellosum	Lamellar corpuscle §Pacini§ §Vater-Pacini§
E5.17.1.0.2.0.12	Terminatio centralis	Central ending
E5.17.1.0.2.0.13	Cellula lamellosa	Lamellar cell
E5.17.1.0.2.0.14	Capsula perineuralis; Bulbus externus	External bulb; Outer core; Perineurial capsule
E5.17.1.0.2.0.15	Corpusculum sensorium fusiforme	Bulbous corpuscle §Ruffini§
E5.17.1.0.2.0.16	Fibra collageni centralis	Central collagen fibre▲
E5.17.1.0.2.0.17	Terminatio ramosa	Branching ending
E5.17.1.0.2.0.18	Capsula perineuralis	Perineurial capsule
E5.17.1.0.3.0.1	**Pilus**	**Hair**
E5.17.1.0.3.0.2	Gemma pili	Hair bud
E5.17.1.0.3.0.3	Folliculus epithelialis pili	Epithelial hair follicle
E5.17.1.0.3.0.4	Stipes pili; Scapus	Hair shaft
E5.17.1.0.3.0.5	Lanugo	Lanugo
E5.17.1.0.3.0.6	Glandula sebacea	Sebaceous gland
E5.17.1.0.3.0.7	Vernix caseosa	Vernix caseosa
E5.17.1.0.4.0.1	**Unguis**	**Nail**
E5.17.1.0.4.0.2	Campus unguis	Nail field
E5.17.1.0.4.0.3	Plica unguis	Nail fold
E5.17.1.0.4.0.4	Matrix unguis	Nail matrix
E5.17.1.0.4.0.5	Lamina unguis	Nail plate
E5.17.1.0.4.0.6	Eponychium	Eponychium
E5.17.1.0.4.0.7	Hyponychium	Hyponychium
E5.17.1.0.5.0.1	**Mamma**[313]	**Breast**
E5.17.1.0.5.0.2	Ectoderma mammaria	Mammary ectoderm
E5.17.1.0.5.0.3	Crista mammaria	Mammary crest
E5.17.1.0.5.0.4	Primordium epitheliale mammae	Epithelial mammary primordium
E5.17.1.0.5.0.5	Fovea mammaria	Mammary pit

[313] E5.17.1.0.5.0.1 *Mamma* The prenatal and prepubertal development of the mammary glands is similar in both sexes. In the newborn, both may secrete "witch's milk". The definitive male gland at 20 years is similar to that of the early pubertal female.

E5.17.1.0.5.0.6	Involutio cristae mammariae reliquae	Involution of remaining mammary crest
E5.17.1.0.5.0.7	Gemma ductus	Duct bud
E5.17.1.0.5.0.8	Gemma alveoli	Alveolar bud
E5.16.4.0.3.0.18	Mesenchyma[359]	Mesenchyme
E5.17.1.0.5.0.9	Stroma glandulae mammariae	Mammary gland stroma
E5.17.1.0.5.0.10	Glandula mammaria	Mammary gland
E5.17.1.0.5.0.11	Papilla mammae	Nipple
E5.17.1.0.5.0.12	Areola mammae	Areola
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
E5.17.1.0.5.0.13	Melanoblastus	Melanoblast
E5.17.1.0.5.0.14	Glandula areolaris	Areolar gland §Montgomery§
E5.16.4.0.3.0.18	Mesenchyma	Mesenchyme
E5.17.1.0.2.0.1	Dermis; Corium	Dermis
E5.17.1.0.5.0.15	Stroma mammae	Stroma of breast
E4.0.4.1.0.0.15	Textus adiposus albus	White adipose tissue
E5.17.1.0.5.0.16	Cutis mammae	Skin
E5.17.1.0.6.0.1	**Anomaliae integumenti communis**	**Anomalies of integument**
E5.17.1.0.6.0.2	Achoria	Achoria
E5.17.1.0.6.0.3	Aplasia cutis congenita; Aplasia cutis circumscripta	Congenital aplasia of the skin
E5.17.1.0.6.0.4	Dysplasia ectodermae congenita	Congenital ectodermal dysplasia
E5.17.1.0.6.0.5	Epidermolysis bullosa	Epidermolysis bullosa; [EB]
E5.17.1.0.6.0.6	Epidermolysis bullosa simplex	Simple epidermolysis bullosa; Epidermal EB
E5.17.1.0.6.0.7	Epidermolysis bullosa simplex manuum et pedum	Simple epidermolysis bullosa of hands and feet; §Weber-Cockayne§
E5.17.1.0.6.0.8	Epidermolysis bullosa letalis	Junctional EB §Herlitz§
E5.17.1.0.6.0.9	Epidermolysis bullosa dystrophica	Dermal EB
E5.17.1.0.6.0.10	Ichthyosis	Ichthyosis
E5.17.1.0.6.0.11	Keratodermatosis mutilans hereditaria	Hereditary mutilating keratoderma §Vohwinkel§
E5.17.1.0.6.0.12	Polymerismus	Polymerism
E5.17.1.0.6.0.13	Pterygium colli	Webbed neck
E5.17.1.0.6.0.14	Dyschromia congenita	Abnormal colour of skin
E5.17.1.0.6.0.15	Albinismus	Albinism
E5.17.1.0.6.0.16	Albinismus non totus; Hypomelanosis	Partial albinism; Hypomelanosis; Piebaldism §Ito§
E5.16.3.2.1.0.38	Albinismus oculocutaneus	Oculocutaneous albinism
E5.17.1.0.6.0.17	Albinismus totus; Amelanosis	Total albinism; Amelanosis
E5.17.1.0.6.0.18	Heterochromia	Heteropigmentation
E5.17.1.0.6.0.19	Hypochromia	Hypopigmentation
E5.17.1.0.6.0.20	Melanismus	Melanism
E5.17.1.0.6.0.21	Naevus	Naevus▲
E5.17.1.0.6.0.22	Naevus achromicus	Nonpigmented naevus▲
E5.17.1.0.6.0.23	Naevus pigmentosus	Pigmented naevus▲
E5.17.1.0.6.0.24	Naevus vasculosus	Vascular naevus▲
E5.17.1.0.6.0.25	Cystis dermoidea congenita	Congenital dermoid cyst
E5.17.1.0.6.0.26	Cystis pilonidalis congenita	Congenital pilonidal cyst
E5.17.1.0.6.0.27	Fistula pilonidalis congenita	Congenital pilonidal fistula
E5.17.1.0.6.0.28	Sinus pilonidalis congenitus	Congenital pilonidal sinus
E5.17.1.0.6.0.29	Sinus dermalis congenitus	Congenital dermal sinus
E5.17.1.0.6.1.1	**Anomaliae unguis**	**Nail anomalies**
E5.17.1.0.6.1.2	Onychodystrophia	Onychodystrophy
E5.17.1.0.6.1.3	Anonychia	Anonychia
E5.17.1.0.6.1.4	Brachyonychia	Brachyonychia
E5.17.1.0.6.1.5	Hyperonychia	Hyperonychia
E5.17.1.0.6.1.6	Pachyonychia	Pachyonychia
E5.17.1.0.6.1.7	Polyonychia	Polyonychia
E5.17.1.0.6.2.1	**Anomaliae pili**	**Hair anomalies**
E5.17.1.0.6.2.2	Trichodystrophia	Trichodystrophy
E5.17.1.0.6.2.3	Alopecia totalis congenita; Atrichia	Alopecia universalis congenita; Atrichia §El-Shanti§
E5.17.1.0.6.2.4	Alopecia triangularis temporalis congenita	Congenital temporal or frontal baldness

E5.17.1.0.6.2.5	Atrichia congenita circumscripta	Circumscribed congenital atrichosis
E5.17.1.0.6.2.6	Atrichia congenita diffusa	Diffuse congenital atrichosis
E5.17.1.0.6.2.7	Hypertrichosis partialis congenita	Congenital patchy hypertrichosis
E5.17.1.0.6.2.8	Hypertrichosis lanuginosa congenita; Hypertrichosis universalis	Congenital hypertrichosis lanuginosa §Ambras§
E5.17.1.0.6.2.9	Hypotrichosis	Hypotrichosis
E5.17.1.0.6.2.10	Pilus tortus congenitus	Congenital twisted hair
E5.17.1.0.6.2.11	Monilethrix congenita	Congenital moniliform hair; Congenital beaded hair
E5.17.1.0.6.2.12	Pilus canaliculus congenitus; Pilus triangularis congenitus	Congenital spun glass hair
E5.17.1.0.6.2.13	Trichorrhexis nodosa congenita	Congenital nodular hair
E5.17.1.0.6.2.14	Trichorrhexis invaginata congenita	Congenital bamboo hair
E5.17.1.0.6.2.15	Trichoschisis congenita	Congenital split hair
E5.17.1.0.6.2.16	Trichothiodystrophia congenita	Trichothiodystrophy; Congenital brittle hair
E5.17.1.0.6.3.1	**Anomaliae mammae**	**Anomalies of breast**
E5.17.1.0.6.3.2	Amastia	Amastia
E5.17.1.0.6.3.3	Gynaecomastia	Gynaecomastia▲
E5.17.1.0.6.3.4	Hypermastia	Hypermastia
E5.17.1.0.6.3.5	Macromastia	Macromastia
E5.17.1.0.6.3.6	Micromastia	Micromastia
E5.17.1.0.6.3.7	Polymastia	Polymastia
E5.17.1.0.6.3.8	Athelia	Athelia
E5.17.1.0.6.3.9	Microthelia	Microthelia
E5.17.1.0.6.3.10	Papilla mammaria inversa congenita	Congenital inverted nipple
E5.17.1.0.6.3.11	Polythelia	Polythelia
E5.17.1.0.6.3.12	Papilla mammaria accessoria pectoris	Accessory pectoral nipple
E5.17.1.0.6.3.13	Papilla mammaria axillaris	Axillary nipple
E5.17.1.0.6.3.14	Papilla mammaria inguinalis	Inguinal nipple
E5.17.2.0.0.0.1	**Tela subcutanea**	**Subcutaneous tissue**
E5.16.4.0.3.0.18	Mesenchyma[359]	Mesenchyme
E4.0.4.1.0.0.2	Mesenchyma somiticum	Somitic mesenchyme
E5.17.1.0.2.0.2	Mesenchyma dermatomiale	Dermatomal mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E5.2.0.3.2.0.2	Ectoderma embryonicum anuli umbilicalis[134]	Embryonic ectoderm of umbilical ring
E4.0.4.1.0.0.6	Mesenchyma ex eminentia caudale	Mesenchyme from caudal eminence
E4.0.4.1.0.0.5	Ectomesenchyma; Mesenchyma cristae neuralis	Ectomesenchyme; Neural crest mesenchyme
	Adnexa embryonica et fetalia; Membranae extraembryonicae et fetales[17]	**Developmental adnexa; Extra-embryonic and fetal membranes**
	Nomina generalia	*General terms*
E6.0.0.0.0.0.1	Nutritio[314]	Nutrition
E6.0.0.0.0.0.2	Endotrophia	Endotrophe▲
E6.0.0.0.0.0.3	Exotrophia	Exotrophe▲
E6.0.0.0.0.0.4	Embryotrophia	Embryotrophe▲
E6.0.0.0.0.0.5	Haemotrophia	Haemotrophe▲
E6.0.0.0.0.0.6	Histiotrophia	Histiotrophe▲
E6.0.1.0.0.0.1	**Adnexa embryonica**[315]	**Embryonic adnexa**
E6.0.1.1.0.0.1	**ADNEXA EMBRYONICA ANTE DIEM 19**	**EMBRYONIC ADNEXA BEFORE DAY 19**
E2.0.1.2.0.0.11	**Morula**[353]	**Morula**

[314] E6.0.0.0.0.0.1 *Nutritio* Nutrients originating inside the conceptus as a result of specific metabolic processes such as liquefaction of its cells are described as *endotroph*e. Nutrients originating outside the conceptus from maternal blood (*haemotroph*e▲) or as a result of liquefaction of maternal cells (*histiotroph*e) are described as *exotroph*e (Blechschmidt E, Gasser R. Biokinetics and biodynamics of human differentiation. Springfield: Charles C Thomas; 1978).

[315] E6.0.1.0.0.0.1 *Adnexa embryonica* The terms for the development of the extra-embryonic membranes are presented here in temporal sequence, which entails some repetition and, in the earlier stages, include items previously thought to give rise only to embryonic tissues: in particular, the *embryoblast* gives rise to both extra-embryonic and embryonic tissues; hence the alternative term *pluriblast* which recognizes this.

E6.0.1.1.1.0.1	Cellula externa morulae; Cellula trophoblastica praesumptiva; Cellula polarisata; Polarblastus[316]	Outer cell of morula; Presumptive trophoblastic cell; Polarized cell; Polarblast
E6.0.1.1.1.0.2	Cellula interna morulae; Cellula embryoblastica praesumptiva; Pluriblastus initialis[317]	Inner cell of morula; Presumptive embryoblastic cell; Early pluriblast
E6.0.1.1.2.0.1	**Blastocystis unilaminaris**[318]	**Unilaminar blastocyst**
E6.0.1.1.2.0.2	Trophoblastus; Massa cellularis externa[319]	Trophoblast; Outer cell mass; Trophectoderm
E6.0.1.1.2.0.3	Cavitas blastocystica[360]	Blastocystic cavity; Blastocyst cavity
E6.0.1.1.2.0.4	Embryoblastus; Massa cellularis interna; Pluriblastus serior[355]	Embryoblast; Inner cell mass; Late pluriblast
E6.0.1.1.3.0.1	**Blastocystis bilaminaris**	**Bilaminar blastocyst**
E6.0.1.1.2.0.2	Trophoblastus; Massa cellularis externa[319]	Trophoblast; Outer cell mass; Trophectoderm
E6.0.1.1.2.0.3	Cavitas blastocystica[360]	Blastocystic cavity; Blastocyst cavity
E6.0.1.1.3.0.2	Endoblastus extraembryonicus; Membrana exocoelomica[368]	Extra-embryonic endoblast; Exocoelomic membrane; Primary endoderm▲
E5.0.2.2.1.0.1	Epiblastus[357]	Epiblast; Primary ectoderm
E6.0.1.1.3.0.3	Cavitas amniotica primordialis[363]	Primordial amniotic cavity
E6.0.1.1.3.0.4	Hypoblastus[358]	Hypoblast; Primary endoderm
E6.0.1.1.4.0.1	**Blastocystis trilaminaris**	**Trilaminar blastocyst**
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E6.0.1.1.4.0.3	Lacunae trophoblasticae	Trophoblastic lacunae
E6.0.1.1.4.0.4	Circulus lacunosus vascularis	Lacunar vascular circle
E6.0.1.1.4.0.5	Cytotrophoblastus	Cytotrophoblast
E6.0.1.1.4.0.6	Aggregatio praevillosa cytotrophoblasti	Previllous clump of cytotrophoblast
E6.0.1.1.4.0.7	Cavitas trophoepiblastica[320]	Tropho-epiblastic cavity
E6.0.1.1.4.0.8	Amnioblastus; Cellulae amniogenicae[321]	Amnioblast; Amniogenic cells; Amniotic ectoderm
E6.0.1.1.4.0.9	Amnion primordiale	Primordial amnion
E6.0.1.1.4.0.10	Cavitas amniotica definitiva	Definitive amniotic cavity
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E5.0.2.2.1.0.1	Epiblastus[357]	Epiblast; Primary ectoderm
E6.0.1.1.4.0.11	Area caudalis mesoblastogenica[366]	Caudal mesoblastogenic area
E6.0.1.1.4.0.12	Mesoblastus extraembryonicus[367]	Extra-embryonic mesoblast
E6.0.1.1.4.0.13	Textus angioblasticus mesoblasti[370]	Angioblastic tissue of mesoblast
E6.0.1.1.4.0.14	Crista praevillosa mesoblasti[370]	Previllous crest of mesoblast

316 E6.0.1.1.1.0.1 *Cellula externa morulae; Cellula trophoblastica praesumptiva; Cellula polarisata; Polarblastus* The outer cells of the morula are polarized and are asymmetrical cells with the characteristics of epithelia. Their longitudinal divisions are conservative and result only in more polarized cells. Their transverse divisions are differentiative and result in both unpolarized embryoblastic cells and polarized cells. Cells remaining polarized become trophoblast (Johnson MH. Origin of pluriblast and trophoblast in the eutherian conceptus. Reprod Fertil Dev 1996;8:699-709). The term polarblast appropriately describes the tissue.

317 E6.0.1.1.1.0.2 *Cellula interna morulae; Cellula embryoblastica praesumptiva; Pluriblastus initialis* The inner cells of the morula are unpolarized and remain rounded and radially symmetrical. Their divisions are conservative and result only in more unpolarized cells. They will become the embryoblast or inner cell mass. The term *pluriblast* (Johnson MH. Origin of pluriblast and trophoblast in the eutherian conceptus. Reprod Fertil Dev 1996;8:699-709) recognizes the fact that its derivatives are both extra-embryonic or adnexal and embryonic or cyemic.

318 E6.0.1.1.2.0.1 *Blastocystis unilaminaris [St 3]* The cavity of a *unilaminar blastocyst* is surrounded by a single layered extra-embryonic ectodermal membrane, the trophoblast; in the bilaminar blastocyst, the trophoblast is lined by extra-embryonic endoblast; the interposition of extra-embryonic mesoderm creates the trilaminar blastocyst.

319 E6.0.1.1.2.0.2 *Trophoblastus; Massa cellularis externa* The term trophoblast is preferred for this tissue, which is defined as the earliest appearing stem cell population dedicated to nourishment of future embryonic tissues. Its cells are adhesive, migratory and, initially, multinucleate. They appear, at least in the mouse, to signal the specification of primordial germ cells and the allantois in the caudal epiblast (Lawson KA, Dunn NR, Roelen BA, Zeinstra LM, Davies AM, Wright CV, Corving JP, Hogan BL. Bmp4 is required for the generation of primordial germ cells in the mouse embryo. Genes Dev 1999;13:424-436). The term trophectoderm and its variants are not recommended because current usage postpones the use of the suffix -derm until after gastrulation (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). Other alternatives that include the term ectoderm, the use of which should be limited to the cells remaining on the dorsal surface of the embryo after the early somite stage, are not recommended.

320 E6.0.1.1.4.0.7 *Cavitas trophoepiblastica* It appears that the roof of the primordial amniotic cavity breaks down, creating a transient tropho-epiblastic cavity, present in most conceptuses of Stage 5a (Luckett WP. The development of primordial and definitive amniotic cavities in early Rhesus monkey and human embryos Am J Anat 1975;144:149-168).

321 E6.0.1.1.4.0.8 *Amnioblastus; Cellulae amniogenicae* The term *amnioblast* is preferred for this tissue as it provides appropriate information about its site, fate and potential. Extra-embryonic ectoderm is least preferred because current usage postpones the use of the suffix -derm until after gastrulation (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). Other alternatives that include the suffix -derm are not recommended.

E6.0.1.1.4.0.15	Reticulum extraembryonicum; Magma reticulare[371]	Extra-embryonic reticulum; Mesenchymal reticulum
E6.0.1.1.3.0.4	Hypoblastus[358]	Hypoblast; Primary endoderm
E6.0.1.1.4.0.16	Pedunculus connectans primordialis	Primordial connecting stalk
E6.0.1.1.4.0.17	Cavitas vesiculae umbilicalis primariae; Cavitas sacci vitellini primarii[322]	Cavity of primary umbilical vesicle; Cavity of primaryYolk sac
E6.0.1.1.4.0.18	Endoblastus extraembryonicus trophoblasto applicatus	Extra-embryonic endoblast applied to trophoblast
E6.0.1.1.4.0.19	Vesicula umbilicalis primaria; Saccus vitellinus primarius[322]	Primary umbilical vesicle; Primary yolk sac
E6.0.1.1.4.0.20	Operculum deciduale	Decidual operculum
E6.0.1.1.5.0.1	**Saccus chorionicus immaturus; Vesicula chorionica immatura**	**Early chorionic sac; Early chorionic vesicle**
E6.0.1.1.5.0.2	Chorion frondosum[323]	Chorion frondosum; Villous chorion
E6.0.1.1.5.0.3	Vesicula chorionica	Chorionic sac; Chorionic vesicle
E6.0.1.1.5.0.4	Cavitas chorionica; Coeloma extraembryonicum	Chorionic cavity; Extra-embryonic coelom▲
E6.0.1.1.5.0.5	Mesoblastus extraembryonicus caudaliter et dorsaliter amnioblasto et trophoblasto adjunctus	Extra-embryonic mesoblast applied to amnioblast and trophoblast caudodorsally
E6.0.1.1.5.0.6	Mesoblastus extraembryonicus amnioblasto toto adjunctus	Extra-embryonic mesoblast applying to whole amnioblast
E6.0.1.1.5.0.7	Amnion definitivum	Definitive amnion
E6.0.1.1.5.0.8	Cavitas amniotica	Amniotic cavity
E6.0.1.1.5.0.9	Liquor amnioticus	Amniotic fluid
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E5.11.3.1.1.0.4	Pedunculus connectans	Connecting stalk
E6.0.1.1.5.0.10	Gemma alloenterica	Alloenteric bud
E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus	Allantoic diverticulum; Allantoic duct
E6.0.1.1.5.0.11	Vasa primordialia pedunculi connectantis	Primordial vessels of connecting stalk
E6.0.1.1.5.0.12	Pedunculus vesiculae umbilicalis; Pedunculus sacci vitellini	Umbilical stalk; Stalk of yolk sac
E6.0.1.1.5.0.13	Cavitas vesiculae umbilicalis secundariae; Cavitas sacci vitellini secundarii[322]	Cavity of secondary umbilical vesicle; Cavity of secondary yolk sac
E6.0.1.1.5.0.14	Endoderma extraembryonicum vesiculae umbilicalis; Endoderma extraembryonicum sacci vitellini	Extra-embryonic endoderm of umbilical vesicle; Extra-embryonic endoderm of yolk sac
E6.0.1.1.5.0.15	Mesoblastus extraembryonicus endodermati extraembryonico adjunctus	Extra-embryonic mesoblast applied to extra-embryonic endoderm
E6.0.1.1.5.0.16	Vesicula umbilicalis secundaria; Saccus vitellinus secundarius[322]	Secondary umbilical vesicle; Secondary yolk sac
E6.0.1.1.5.0.12	Pedunculus vesiculae umbilicalis; Pedunculus sacci vitellini	Umbilical stalk; Stalk of yolk sac
E6.0.1.1.5.0.17	Vasa omphalomesenterica; Vasa vitellina	Omphalomesenteric vessels; Vitelline vessels
E5.4.7.0.0.0.5	Ductus omphaloentericus; Ductus vitellointestinalis	Omphalo-enteric duct; Vitello-intestinal duct; Yolk stalk
E6.0.1.2.0.0.1	**PARTES MEMBRANARUM EXTRAEMBRYONICARUM POST DIEM 19**	**COMPONENTS OF EXTRA-EMBRYONIC MEMBRANES AFTER DAY 19**
E6.0.1.2.0.0.2	Allantois	Allantois
E6.0.1.1.5.0.10	Gemma alloenterica	Alloenteric bud
E3.0.0.6.1.0.5	Canalisatio	Canalisation
E6.0.1.2.0.0.3	Pars proximalis	Proximal part
E6.0.1.2.0.0.4	Murus ventralis metenteri	Ventral wall of hindgut
E6.0.1.2.0.0.5	Pars distalis	Distal part

[322] E6.0.1.1.4.0.17/ E6.0.1.1.4.0.19/ E6.0.1.1.5.0.13/ E6.0.1.1.5.0.16 *Cavitas vesiculae umbilicalis primariae; Cavitas sacci vitellini primarii/Vesicula umbilicalis primaria; Saccus vitellinus primarius/Cavitas vesiculae umbilicalis secundariae; Cavitas sacci vitellini secundarii/Vesicula umbilicalis secundaria; Saccus vitellinus secundarius* The term umbilical vesicle, which has been in use for many years, is preferred because yolk (Latin *vitellus*) is not present in the human vesicle and because the term indicates location, the vesicle being a feature of the umbilical region of the embryo and becoming, at least partially, incorporated into the umbilical cord.

[323] E6.0.1.1.5.0.2 *Chorion frondosum* The predecidual reaction around embryos of Carnegie Stage 5 becomes a full-blown decidual reaction around embryos of Carnegie Stage 6, with the transformation of stromal cells into decidual cells: they become rounded or polyhedral and glycogen, lipids and mitochondria accumulate within their vacuolated cytoplasm.

E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus	Allantoic diverticulum; Allantoic duct
E6.0.1.2.0.0.6	Pedunculus allantoicus	Allantoic part of connecting stalk
E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus	Allantoic diverticulum; Allantoic duct
E6.0.1.2.0.0.7	Mesenchyma allantoicum	Allantoic mesenchyme
E6.0.1.2.0.0.8	Vasa allantoica	Allantoic vessels
E6.0.1.2.0.0.9	Amnion	Amnion
E6.0.1.2.0.0.10	Ectoderma extraembryonicum	Extra-embryonic ectoderm
E6.0.1.2.0.0.11	Mesenchyma amnioticum	Amniotic mesenchyme
E6.0.1.2.0.0.12	Mesothelium amnioticum	Amniotic mesothelium
E5.11.3.1.1.0.3	Chorion	Chorion
E6.0.1.1.2.0.2	Trophoblastus; Massa cellularis externa[319]	Trophoblast; Outer cell mass; Trophectoderm
E6.0.1.2.0.0.13	Mesenchyma chorionicum	Chorionic mesenchyme
E6.0.1.2.0.0.14	Mesothelium chorionicum	Chorionic mesothelium
E6.0.1.1.5.0.2	Chorion frondosum[323]	Chorion frondosum; Villous chorion
E6.0.1.2.0.0.15	Villus primarius	Primary villus
E6.0.1.2.0.0.16	Trophoblastus villosus	Villous trophoblast
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E6.0.1.2.0.0.17	Villus secundarius	Secondary villus
E6.0.1.2.0.0.18	Centrum cytotrophoblasticum villi secundarii	Cytotrophoblastic core of secondary villus
E6.0.1.2.0.0.19	Centrum mesenchymale villi secundarii	Mesenchymal core of secondary villus
E6.0.1.2.0.0.20	Villus tertiarius	Tertiary villus
E6.0.1.2.0.0.21	Vasa primordialia villi tertiarii	Primordial vessels of tertiary villus
E6.0.1.2.0.0.22	Villus mesenchymalis[324]	Mesenchymal villus
E6.0.1.2.0.0.23	Villus ancorans	Anchoring villus
E6.0.1.2.0.0.24	Trophoblastus extravillosus[325]	Extravillous trophoblast [EVT]
E6.0.1.2.0.0.25	Cytotrophoblastus interstitialis[326]	Interstitial cytotrophoblast
E6.0.1.2.0.0.26	Cytotrophoblastus endovascularis[327]	Endovascular cytotrophoblast
E6.0.1.2.0.0.27	Villus liber	Floating villus
E6.0.1.2.0.0.28	Villus ramosus	Branching villus
E6.0.1.2.0.0.29	Spatium intervillosum	Intervillous space
E6.0.1.2.0.0.30	Spatium subchorionicum	Subchorial lake
E6.0.1.2.0.0.31	Sinus marginalis	Marginal sinus
E6.0.1.2.0.0.32	Testa trophoblastica	Trophoblastic shell
E6.0.1.2.0.0.33	Cellula trophoblastica mononucleata	Mononuclear trophoblastic cell
E6.0.1.2.0.0.34	Cellula gigantea trophoblastica mononucleata	Mononuclear trophoblastic giant cell
E6.0.1.2.0.0.35	Cellula gigantea trophoblastica multinucleata	Multinuclear trophoblastic giant cell
E6.0.1.2.0.0.36	Cellula gigantea trophoblastica intravascularis	Intravascular trophoblastic giant cell
E6.0.1.2.0.0.37	Chorion laeve	Chorion laeve; Smooth chorion▲
E5.7.1.0.0.0.4	Vesicula umbilicalis; Saccus vitellinus[242]	Umbilical vesicle; Yolk sac
E6.0.1.1.5.0.14	Endoderma extraembryonicum vesiculae umbilicalis; Endoderma extraembryonicum sacci vitellini	Extra-embryonic endoderm of umbilical vesicle; Extra-embryonic endoderm of yolk sac
E5.7.1.0.0.0.2	Cellula germinalis praecursoria[381]	Primordial germ cell

[324] E6.0.1.2.0.0.22 *Villus mesenchymalis* Until Stage 23 all villi are *mesenchymal villi* and are inconspicuous, "with loose connective tissue, rich in mesenchymal cells, poor in fibres; few capillaries with signs of capillary sprouting; numerous cytotrophoblasts; and thick syncytiotrophoblastic layer, extending in trophoblastic sprouts." In the first two trimesters mesenchymal villi develop into immature intermediate villi, which themselves develop into *stem villi*. In the third trimester mesenchymal villi develop into mature intermediate villi and they and stem villi develop terminal villi (Castelluci M, Scheper M, Scheffen I, Celona A and Kaufmann P. The development of the human placental villous tree. Anat Embryol 1990;181:117-128).

[325] E6.0.1.2.0.0.24 *Trophoblastus extravillosus* *Extravillous trophoblast* is a highly migratory, proliferative and invasive population of cells that emerges from the tips of anchoring villi (Lyall F. Mechanisms regulating cytotrophoblast invasion in normal pregnancy and pre-eclampsia. Aust NZ J Obstet Gynaecol 2006;46:266-273). It infiltrates the maternal tissues in two phases: the first results in giant cells in the decidua basalis around the spiral arteries, which they penetrate; in the second phase giant cells reach the inner one-third of the myometrium by extravascular and intravascular routes.

[326] E6.0.1.2.0.0.25 *Cytotrophoblastus interstitialis* *Interstitial cytotrophoblast* invades the decidual stroma and superficial myometrium, including the walls of spiral vessels (Pijnenborg R, Bland JM, Robertson WB, Dixon G, Brosens I. The pattern of interstitial trophoblast invasion in early human pregnancy. Placenta 1981;2:303-316).

[327] E6.0.1.2.0.0.26 *Cytotrophoblastus endovascularis* When interstitial cytotrophoblast has penetrated the wall of a spiral vessel, it becomes *endovascular cytotrophoblast*, which invades the lumen and a small muscular artery is transformed into a distended flaccid vessel (Pijnenborg R, Bland JM, Robertson WB, Dixon G, Brosens I. Uteroplacental arterial changes related to interstitial trophoblast migration in early human pregnancy. Placenta 1983;4:397-414).

E6.0.1.2.0.0.38	Mesenchyma vesiculae umbilicalis; Mesenchyma sacci vitellini	Umbilical vesicle mesenchyme; Yolk sac mesenchyme
E6.0.1.2.0.0.39	Mesothelium vesiculae umbilicalis; Mesothelium sacci vitellini	Mesothelium of umbilical vesicle; Mesothelium of yolk sac
E6.0.1.3.0.0.1	**FUNICULUS UMBILICALIS INITIALIS**	**EARLY UMBILICAL CORD**
E6.0.1.3.0.0.2	Amniochorion	Amniochorion
E6.0.1.3.0.0.3	Textus mucoideus connectivus	Mucoid connective tissue
E6.0.1.3.0.0.4	Aa. umbilicales	Umbilical arteries
E5.11.2.2.1.0.4	Vv. umbilicales	Umbilical veins
E5.4.7.0.0.0.1	Ansa umbilicalis intestini	Midgut loop; Umbilical intestinal loop
E5.4.7.0.0.0.5	Ductus omphaloentericus; Ductus vitellointestinalis	Omphalo-enteric duct; Vitello-intestinal duct; Yolk stalk
E5.7.1.0.0.0.4	Vesicula umbilicalis; Saccus vitellinus[242]	Umbilical vesicle; Yolk sac
E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus	Allantoic diverticulum; Allantoic duct
E5.8.0.0.1.0.3	Coeloma umbilicale[205]	Umbilical coelom▲
E6.0.1.4.0.0.1	**PARTES MATERNAE MEMBRANARUM**	**MATERNAL PARTS OF MEMBRANES**
E6.0.1.4.0.0.2	Endometrium basale	Basal endometrium
E6.0.1.4.0.0.3	Reactio praedecidualis	Predecidual reaction
E6.0.1.4.0.0.4	Margo syncytiodecidualis[328]	Syncytiodecidual interface
E6.0.1.4.0.0.5	Reactio decidualis	Decidual reaction
E6.0.1.4.0.0.6	Cellulae deciduales	Decidual cells
E6.0.1.4.0.0.7	Decidua	Decidua
E6.0.1.4.0.0.8	Decidua basalis	Basal decidua
E6.0.1.4.0.0.9	Cryptae endometrii	Endometrial crypts
E6.0.1.4.0.0.10	Septa placentae[329]	Placental septa
E6.0.1.4.0.0.11	Insulae cellularum placentae[329]	Placental cell islands
E6.0.1.4.0.0.12	Glandulae uterinae	Uterine glands
E6.0.1.4.0.0.13	Zona limitans decidualis[330]	Decidual boundary zone
E6.0.1.4.0.0.14	Substantia fibrinoidea	Fibrinoid substance
E6.0.1.4.0.0.15	Decidua capsularis	Capsular decidua
E6.0.1.1.4.0.20	Operculum deciduale	Decidual operculum
E6.0.1.4.0.0.16	Decidua parietalis	Parietal decidua
E6.0.2.0.0.0.1	**Adnexa fetalia**[17]	**Fetal membranes**
E6.0.2.1.0.0.1	**MEMBRANAE FETALES DEFINITIVAE**	**DEFINITIVE FETAL MEMBRANES**
E6.0.1.2.0.0.9	Amnion	Amnion
E5.11.3.1.1.0.3	Chorion	Chorion
E6.0.1.3.0.0.2	Amniochorion	Amniochorion
E6.0.1.4.0.0.7	Decidua	Decidua
E5.11.3.1.1.0.5	Placenta	Placenta
E6.0.2.2.0.0.1	**FUNICULUS UMBILICALIS**	**UMBILICAL CORD**
E6.0.1.2.0.0.9	Amnion	Amnion
E6.0.1.3.0.0.3	Textus mucoideus connectivus	Mucoid connective tissue
E6.0.1.3.0.0.4	Aa. umbilicales	Umbilical arteries
E6.0.2.2.0.0.2	Anastomosis interarterialis transversa	Transverse interarterial anastomosis §Hyrtl§
E6.0.2.2.0.0.3	V. umbilicalis impar	Unpaired umbilical vein
E5.4.7.0.0.0.5	(Ductus omphaloentericus; Ductus vitellointestinalis)	(Omphalo-enteric duct; Vitello-intestinal duct; Yolk stalk)
E5.7.3.0.1.0.1	(Diverticulum allantoicum; Ductus allantoicus)	(Allantoic diverticulum; Allantoic duct)
E6.0.2.3.0.0.1	**PARTES PLACENTAE MATURANTIS**	**PARTS OF MATURING PLACENTA**
E6.0.2.3.0.1.1	**Lamina chorionica**	**Chorionic plate**
E6.0.1.2.0.0.12	Mesothelium amnioticum	Amniotic mesothelium

[328] E6.0.1.4.0.0.4 *Margo syncytiodecidualis* The *endometrium* responds to the presence of syncytiotrophoblast by undergoing the predecidual reaction, characterized by oedema and then saw–toothed glands, particularly in the stratum spongiosum. It is thenceforward called *decidua*.

[329] E6.0.1.4.0.0.10/ E6.0.1.4.0.0.11 *Septa placentae/Insulae cellularum placentae* *Placental septa* and *Cell islands* are of mixed fetal and maternal origin, trophoblast being applied to decidual cores.

[330] E6.0.1.4.0.0.13 *Zona limitans decidualis* The *decidual boundary zone* is the part of the decidua in contact with the trophoblastic shell.

E5.16.3.1.0.0.11	Epithelium simplex cuboideum	Simple cuboidal epithelium
E5.7.1.0.0.0.4	(Vesicula umbilicalis; Saccus vitellinus)[331]	(Umbilical vesicle; Yolk sac)
E6.0.2.3.0.1.2	Stratum textus connectivus compactus	Dense connective tissue layer
E6.0.2.3.0.1.3	Vasa umbilicalia	Umbilical vessels
E6.0.1.1.4.0.5	Cytotrophoblastus	Cytotrophoblast§Langhans§
E6.0.1.4.0.0.14	Substantia fibrinoidea[332]	Fibrinoid substance §Langhans§
E6.0.2.3.0.1.4	Paries internus syncytialis spatii intervillosi	Syncytial inner wall of intervillous space
E6.0.2.3.0.2.1	**Cotyledo; Lobulus**	**Cotyledon; Lobule**
E6.0.2.3.0.2.2	Cotyledo maternalis[333]	Maternal cotyledon
E6.0.2.3.0.2.3	Cotyledo fetalis[334]	Fetal cotyledon
E6.0.2.3.0.2.4	Villus peduncularis major; Truncus chorii[335]	Main stem villus; Anchoring stem villus
E6.0.2.3.0.2.5	Villus peduncularis[336]	Stem villus
E6.0.2.3.0.2.6	Villus intermedius immaturus[337]	Immature intermediate villus
E6.0.1.2.0.0.22	Villus mesenchymalis[324]	Mesenchymal villus
E6.0.2.3.0.2.7	Gemma villosa	Villous sprout
E6.0.2.3.0.2.8	Villus terminalis[338]	Terminal villus
E6.0.2.3.0.3.1	**Elementa villi**	**Components of villi**
E6.0.2.3.0.3.2	Centrum villi	Core of villus
E6.0.2.3.0.3.3	Textus connectivus compactus	Dense connective tissue
E5.13.2.0.0.0.2	Fibroblastus	Fibroblast
E6.0.2.3.0.3.4	Myofibroblastus	Myofibroblast
E5.11.2.3.0.0.10	Macrophagocytus	Macrophage §Hofbauer§
E6.0.2.3.0.3.5	Rete arteriocapillarovenosum	Arterio-capillary venous network
E6.0.2.3.0.3.6	Endothelium continuum	Endothelial continuum
E6.0.2.3.0.3.7	Cortex villi	Outer part of villus
E6.0.2.3.0.3.8	Vestigium cytotrophoblasti	Vestige of cytotrophoblast §Langhans§
E6.0.2.3.0.3.9	Nodi syncytiales[339]	Syncytial knots
E6.0.2.3.0.3.10	Superficies villi	Surface of villus
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E6.0.2.3.0.3.11	Gemmae syncytiales[340]	Syncytial sprouts
E6.0.2.3.0.3.12	(Substantia fibrinoidea perivillosa[341])	(Perivillous fibrin) §Rohr§
E6.0.2.3.0.3.13	(Substantia fibrinoidea intravillosa[341])	(Intravillous fibrin) §Rohr§
E6.0.1.2.0.0.29	**Spatium intervillosum**	**Intervillous space**
E6.0.2.3.0.4.1	Membrana placentae[342]	Placental membrane

---

331 E5.7.1.0.0.0.4 *Vesicula umbilicalis; Saccus vitellinus* An *umbilical vesicle* orYolk sac may be found in a persistent part of the chorionic cavity, between amnion and chorion, near the placental insertion of the umbilical cord.

332 E6.0.1.4.0.0.14 *Substantia fibrinoidea* Two types of fibrinoid are found at various sites in the placenta: fibrin-type fibrinoid is a result of blood clotting; matrix-type fibrinoid is a basal lamina-like glycoprotein secreted by extravillous trophoblast.

333 E6.0.2.3.0.2.2 *Cotyledo maternalis* When the detached placenta is examined from its decidual aspect, there are some 30 *maternal cotyledons*, separated by septa. However, because the septa do not reach the chorionic plate, a maternal cotyledon may include as many as 3 fetal cotyledons.

334 E6.0.2.3.0.2.3 *Cotyledo fetalis* There are some 40-60 *fetal cotyledons*, each based upon a main stem villus and supplied by a decidual spiral artery.

335 E6.0.2.3.0.2.4 *Villus peduncularis major; Truncus chorii* The *main stem villi* have a dense fibrous stroma and their cytotrophoblastic cell columns anchor them to the trophoblastic shell of the basal plate.

336 E6.0.2.3.0.2.5 *Villus peduncularis* *Stem villi* contain "fetal arteries and veins or arterioles and venules, surrounded by dense connective tissue, rich in collagen fibres" (Castelluci M, Scheper M, Scheffen I, Celona A and Kaufmann P. The development of the human placental villous tree. Anat Embryol 1990;181:117-128).

337 E6.0.2.3.0.2.6 *Villus intermedius immaturus* *Immature intermediate villi* are bulbous "with ample, loose connective tissue, containing few arterioles and venules and few undilated capillaries; the stroma is typified by numerous stromal channels delineated by sail-like processes of the fixed stromal cells and numerous macrophages in the channels" (Castelluci M, Scheper M, Scheffen I, Celona A and Kaufmann P. The development of the human placental villous tree. Anat Embryol 1990;181:117-128).

338 E6.0.2.3.0.2.8 *Villus terminalis* *Terminal villi* are short and stubby branches from mature intermediate villi that contain "highly dilated fetal capillaries, so-called sinusoids, making up more than 50% of the stromal volume; scarce loose connective tissue and thin syncytiotrophoblastic cover" (Castellucci M, Scheper M, Scheffen I, Celona A and Kaufmann P. The development of the human placental villous tree. Anat Embryol 1990;181:117-128).

339 E6.0.2.3.0.3.9 *Nodi syncytiales* *Syncytial knots* are localized aggregations of syncytiotrophoblastic nuclei in the lining of placental villi.

340 E6.0.2.3.0.3.11 *Gemmae syncytiales* *Syncytial sprouts* are localized aggregations of syncytiotrophoblastic nuclei on the surface of placental villi, where new terminal villi are forming; at term, however, the nuclei are largely degenerate.

341 E6.0.2.3.0.3.12/ E6.0.2.3.0.3.13 *Substantia fibrinoidea perivillosa/Substantia fibrinoidea intravillosa* Fibrin-type fibrinoid is frequently found around villi where they lack syncytiotrophoblast and may be part of a repair process. Matrix-type fibrinoid may be found within villi.

342 E6.0.2.3.0.4.1/ E6.0.2.3.0.4.2 *Membrana placentae/Claustrum placentae* The *placental membrane* consists of the fetal tissues separating the fetal from the maternal blood: initially it constitutes a selectively permeable placental barrier and consists of endothelium of fetal capillaries, connective tissue, the subepithelial basal lamina and its covering of

E6.0.2.3.0.4.2	Claustrum placentae	Placental barrier
E6.0.2.3.0.5.1	**Pars basalis placentae**	**Basal plate of placenta**
E6.0.2.3.0.5.2	Pars basalis placentae propriae	Basal plate of placenta proper
E6.0.2.3.0.5.3	Paries externus syncytialis spatii intervillosi	Syncytial outer wall of intervillous space
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E6.0.1.1.4.0.5	Cytotrophoblastus	Cytotrophoblast
E6.0.2.3.0.5.4	Stria fibrinoidea externa	External fibrinoid layer §Rohr§
E6.0.2.3.0.5.5	Vestigium testae trophoblasticae	Vestige of trophoblastic shell
E6.0.1.2.0.0.24	Trophoblastus extravillosus[325]	Extravillous trophoblast [EVT]
E6.0.2.3.0.5.6	Textus connectivus laxus	Loose connective tissue
E6.0.1.4.0.0.13	Zona limitans decidualis[330]	Decidual boundary zone
E6.0.2.3.0.5.7	Stria fibrinoidea interna	Internal fibrinoid layer §Nitabuch§
E6.0.2.3.0.5.8	A. spiralis uteri	Spiral artery of uterus
E6.0.1.4.0.0.8	Decidua basalis	Basal decidua
E6.0.2.3.0.5.9	Septa placentae; Septa cotyledonaria[343]	Placental septa; Cotyledonary septa
E6.0.2.4.0.0.1	**PARAPLACENTA**[344]	**PARAPLACENTA**
E6.0.1.2.0.0.37	Chorion laeve	Chorion laeve; Smooth chorion▲
E6.0.1.4.0.0.16	Decidua parietalis	Parietal decidua
E5.11.3.1.1.0.5	**PLACENTA**	**PLACENTA**
E6.0.2.5.0.1.1	**Insignia placentae humanae**	**Features of human placenta**
E6.0.2.5.0.1.2	Placenta deciduata	Deciduate placenta
E6.0.2.5.0.1.3	Placenta discoidea	Discoid placenta
E6.0.2.5.0.1.4	Vascularisatio chorioallantoica	Chorio-allantoic vascularization
E6.0.2.5.0.1.5	Membrana haemochorialis	Haemochorial membrane▲
E6.0.2.5.0.1.6	Gradus formationis placentae	Stages of placental formation
E6.0.2.5.0.1.7	Gradus villosus initialis	Initial villous stage
E6.0.2.5.0.1.8	Gradus labyrintheus	Labyrinthine stage
E6.0.2.5.0.1.9	Gradus villosus definitivus	Definitive villous stage
E6.0.2.5.0.1.10	Insertio centralis funiculi umbilicalis	Central insertion of umbilical cord
E6.0.2.5.0.2.1	**Formae placentae**	**Varieties of placental form**
E6.0.2.5.0.2.2	Placenta accessoria; Placenta succenturiata	Accessory placenta; Succenturiate placenta
E6.0.2.5.0.2.3	Placenta anularis	Anular placenta
E6.0.2.5.0.2.4	Placenta bilobata; Placenta bipartita	Bilobed placenta; Bidiscoid placenta; Bipartite placenta; Placenta duplex
E6.0.2.5.0.1.3	Placenta discoidea	Discoid placenta
E6.0.2.5.0.2.5	Placenta lobata	Lobed placenta; Placenta furcata
E6.0.2.5.0.2.6	Placenta membranacea	Diffuse placenta; Membranous placenta
E6.0.2.5.0.2.7	Placenta multilobata; Placenta multipartita	Multilobed placenta; Placenta multiplex
E6.0.2.5.0.2.8	Placenta trilobata	Three-lobed placenta; Placenta tripartita; Placenta triplex
E6.0.2.5.0.2.9	Placenta vallata; Placenta circumvallata	Vallate placenta; Circumvallate placenta
E6.0.2.5.0.3.1	**Varietates insertionis funiculi umbilicalis**	**Varieties of umbilical cord insertion**
E6.0.2.5.0.3.2	Insertio centralis	Central insertion
E6.0.2.5.0.3.3	Insertio marginalis	Marginal insertion; Battledore placenta
E6.0.2.5.0.3.4	Insertio velamentosa	Velamentous insertion
E6.0.2.5.0.4.1	**Varietates situs placentae**	**Varieties of placental site**
E6.0.2.5.0.4.2	Situs dorsalis placentae	Dorsal placental site
E6.0.2.5.0.4.3	Situs lateralis placentae	Lateral placental site
E6.0.2.5.0.4.4	Situs ventralis placentae	Ventral placental site
E6.0.2.5.0.4.5	Situs fundalis placentae	Fundal placental site
E6.0.2.5.0.4.6	Situs cornualis placentae	Cornual placental site
E1.0.2.6.3.0.6	Placenta praevia	Placenta praevia▲

cytotrophoblast and syncytiotrophoblast; it becomes progressively thinner until near term, when the barrier leaks and the membrane consists only of a thin syncytiofibrinoid layer sitting on the subepithelial basal lamina, beneath which are dilated capillaries.

[343] E6.0.2.3.0.5.9 *Septa placentae; Septa cotyledonaria* The *placental septa* extend from the basal plate towards the chorionic plate but do not reach it. Like villi, where their surface is not covered by syncytiotrophoblast, fibrinoid is exposed. Their cores contain vestiges of cytotrophoblast and connective tissue, in which are tissues of maternal origin and foci of degeneration.

[344] E6.0.2.4.0.0.1 *Paraplacenta* The interface between amniochorion and parietal decidua where some fetal-maternal interchanges occur.

E6.0.2.5.0.4.7	Placenta praevia centralis	Central placenta praevia▲
E6.0.2.5.0.4.8	Placenta praevia lateralis	Lateral placenta praevia▲
E6.0.2.5.0.4.9	Placenta praevia marginalis	Marginal placenta praevia▲
E6.0.2.5.0.4.10	Situs cervicalis placentae	Cervical placental site
E6.0.2.5.0.5.1	**Varietates vascularisationis placentae**	**Varieties of placental vascularization**
E6.0.2.5.0.5.2	Vascularisatio dispersa placentae [345]	Disperse placental vascularization
E6.0.2.5.0.5.3	Vascularisatio magistralis placentae[346]	Magistral placental vascularization
E6.0.2.5.1.0.1	**Anomaliae membranarum fetalium**	**Anomalies of fetal membranes**
E6.0.2.5.1.1.1	**Anomaliae amnii et liquoris amniotici**	**Amniotic and amniotic fluid anomalies**
E6.0.2.5.1.1.2	Adhaesio amnii	Amniotic adhesion
E6.0.2.5.1.1.3	Hydramnion; Polyhydramnion	Hydramnios; Polyhydramnios
E6.0.2.5.1.1.4	Oligohydramnion	Oligohydramnios; Oligamnios
E6.0.2.5.1.1.5	Taenia amniotica	Amniotic band
E6.0.2.5.1.2.1	**Anomaliae chorii**	**Chorionic anomalies**
E6.0.2.5.1.2.2	Deformitas placentae	Placental deformity
E6.0.2.5.1.2.3	Defectus placentae	Placental defect
E6.0.2.5.1.2.4	Defectus paraplacentalis chorii	Chorionic paraplacental defect
E6.0.2.5.1.3.1	**Anomaliae funiculi umbilicalis**	**Umbilical cord anomalies**
E6.0.2.5.1.3.2	A. umbilicalis singularis	Single umbilical artery
E6.0.2.5.1.3.3	Funiculus umbilicalis glomeratus	Looped umbilical cord
E6.0.2.5.1.3.4	Strangulatio	Strangulation
E6.0.2.5.1.3.5	Amputatio	Amputation
E6.0.2.5.1.3.6	Nodus spurius funiculi umbilicalis	False knot of umbilical cord
E6.0.2.5.1.3.7	Nodus verus funiculi umbilicalis	True knot of umbilical cord
E6.0.2.5.1.3.8	Vesicula allantoica	Allantoic cyst
E6.0.2.5.1.4.1	**Anomaliae placentae**	**Placental anomalies**
E6.0.2.5.1.4.2	Placenta accreta	Placenta accreta
E6.0.2.5.1.4.3	Placenta adhaerens	Adherent placenta
E6.0.2.5.1.4.4	Placenta extrachorialis	Extrachorial placenta
E6.0.2.5.1.4.5	Placenta fenestrata	Fenestrated placenta
E6.0.2.5.1.4.6	Placenta incarcerata	Incarcerated placenta
E6.0.2.5.1.4.7	Placenta increta	Placenta increta
E6.0.2.5.1.4.8	Placenta panduriformis	Panduriform placenta
E6.0.2.5.1.4.9	Placenta percreta	Placenta percreta
	Notatio temporum ontologicorum	**Temporal stages of development**
E1.0.0.0.0.0.21	**Ontogenesis praenatalis**	**Prenatal ontogeny**
E1.0.0.0.0.0.25	Embryogenesis[2]	Embryogenesis; Embryogeny
	Insignia a gradibus carnegiensibus	*Features by Carnegie stages*
E2.0.1.2.0.0.6	**GRADUS CELLULAE UNICAE; EMBRYO UNICELLULARIS [St.1]**[347]	**ONE-CELL STAGE; SINGLE CELL EMBRYO [St.1]**
E2.0.1.2.0.0.7	**Oocytus penetratus; Oocytus definitivus; Embryo primordiale [St.1a]**	**Penetrated oocyte; Definitive oocyte; Primordial embryo [St.1a]**
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.4.0.0.8	Spatium subzonale; Spatium subcapsulare[348]	Subzonal space; Subcapsular space
E7.0.1.1.1.0.1	Caput spermatozoi in zona pellucida, in spatio subzonale plasmalemmati adherente aut in cytoplasmati oocyti	Sperm head in zona pellucida, in subzonal space attaching to plasmalemma or in cytoplasm of oocyte

[345] E6.0.2.5.0.5.2 *Vascularisatio dispersa placentae* In disperse placental vascularization the umbilical arteries undergo a succession of dichotomous divisions and rapidly diminish in calibre.

[346] E6.0.2.5.0.5.3 *Vascularisatio magistralis placentae* In magistral placental vascularization the umbilical arteries almost reach the placental margin before there is a marked reduction in their size.

[347] E2.0.1.2.0.0.6 *Gradus cellulae unicae*; *Embryo unicellularis [St.1]* The feature of Carnegie Stage 1 is unicellularity. In penetrated oocytes of Stage 1a, pronuclei have not yet formed. In ootids of Stage 1b, the haploid pronuclei remain separate. In zygotes of Stage 1c, syngamy has resulted in a single diploid aggregation of chromosomes, without the formation of a nuclear membrane. Embryos of Stage 1 are generally 0.1-0.15mm in diameter and about 1 postovulatory day old.

[348] E1.0.5.4.0.0.8 *Spatium subzonale; Spatium subcapsulare* The commonly used term *perivitelline space* is inappropriate for the space surrounding the human oocyte, which is deficient in yolk (*Latin - vitellus*).

E7.0.1.1.1.0.2	Caput spermatozoi in cytoplasmati oocyti sine tegumento nucleare et cum chromatino disperso	Sperm head in cytoplasm of oocyte without nuclear envelope and with decondensed chromatin
E2.0.1.1.0.1.2	Peractio divisionis meioticae secundae	Completion of second meiotic division
E2.0.1.1.0.1.3	Pronucleus femininus; Pronucleus maternus	Female pronucleus; Maternal pronucleus
E2.0.1.1.0.1.4	Corpus polare secundum; Polocytus secundarius[28]	Second polar body; Second polocyte
E2.0.1.1.0.1.7	Reactio corticalis	Cortical reaction
E2.0.1.1.0.1.13	Dilatatio spatii subzonalis; Dilatatio spatii subcapsularis	Expansion of subzonal space; Expansion of subcapsular space
E2.0.1.1.0.1.15	Reactio zonalis; Reactio capsularis[349]	Zonal reaction; Capsular reaction[IVF]
E2.0.1.1.0.1.17	Conus fertilisationis	Fertilization cone[IVF]
E7.0.1.1.1.0.3	Locatio partis intermediae spermatozoi sub cono fertilisationis	Sperm middle piece under fertilization cone[IVF]
E7.0.1.1.1.0.4	Locatio partis caudae spermatozoi in cytoplasmati	Intracytoplasmic sperm tail[IVF]
E7.0.1.1.1.0.5	Fusus anaphasis II	Spindle of anaphase II[IVF]
E7.0.1.1.1.0.6	Fusus telophasis II	Spindle of telophase II[IVF]
E7.0.1.1.1.0.7	Intercorpus [350]	Interbody[IVF]
E2.0.1.2.0.0.8	**Ootidium; Ovum; Embryo pronuclearis [St.1b]**[351]	**Ootid; Ovum; Pronuclear embryo [St.1b]**
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.4.0.0.8	Spatium subzonale; Spatium subcapsulare[348]	Subzonal space; Subcapsular space
E2.0.1.1.0.1.3	Pronucleus femininus; Pronucleus maternus	Female pronucleus; Maternal pronucleus
E7.0.1.1.2.0.1	Reconstitutio tegumenti nuclei spermatozoi	Reconstitution of sperm nuclear envelope
E7.0.1.1.2.0.2	Reorganisatio chromatini ad formationem pronuclei masculini in ootidio	Reorganization of chromatin to form male pronucleus in ootid
E7.0.1.1.2.0.3	Pronucleus masculinus; Pronucleus paternus	Male pronucleus; Paternal pronucleus
E7.0.1.1.2.0.4	Pronuclei admoti	Approximated pronuclei
E7.0.1.1.2.0.5	Corpuscula praecursoria nucleolorum	Nucleolar precursor bodies
E1.0.5.1.0.0.5	Polus animalis; Polus embryonicus praesumptivus[23]	Animal pole; Presumptive embryonic pole
E7.0.1.1.2.0.6	Pronucleus cum nucleolis dissipatis	Pronucleus with scattered nucleol[IVF]
E7.0.1.1.2.0.7	Pronucleus cum nucleolis ordinatis	Pronucleus with aligned nucleoli[IVF]
E2.0.1.2.0.0.9	**Zygotum; Embryo syngamicum [St.1c]**	**Zygote; Syngamic embryo [St.1c]**
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.4.0.0.8	Spatium subzonale; Spatium subcapsulare[348]	Subzonal space; Subcapsular space
E2.0.1.1.0.1.24	Vesiculatio et disintegratio tegumentorum nuclearium	Vesiculation and disintegration of nuclear envelopes
E7.0.1.1.3.0.1	Congrutio chromosomatum homologorum	Pairing of homologous chromosomes
E2.0.1.1.0.1.28	Dispositio chromosomatum homologorum conjunctorum super fusum fissionis primae extra centrum positum	Arrangement of paired homologous chromosomes on eccentric first cleavage spindle
E2.0.1.2.0.0.10	**ZYGOTUM FINDENS [St.2]**[352]	**CLEAVING ZYGOTE [St. 2]**
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E1.0.5.4.0.0.8	Spatium subzonale; Spatium subcapsulare[348]	Subzonal space; Subcapsular space
E7.0.1.2.0.0.1	Cellulae II, Cellulae III, Cellulae IV, et cetera	Two-cells, three-cells, four-cells, etc.

[349] E2.0.1.1.0.1.15 *Reactio zonalis; Reactio capsularis* This and other items with the superscript IVF on the English side are observed in *in vitro fertilization* studies.

[350] E7.0.1.1.1.0.7 *Intercorpus* The *interbody* is a prominent intracytoplasmic electron-dense contractile structure in the equatorial plane of the second meiotic spindle, extending from the penetrated oocyte into the extruding second polar body. Fine electron-dense particles of unknown chemical nature are associated with spindle microtubules and the interbody represents the site of detachment of the second polar body and reconstitution of the cell membranes of the embryo and second polar body.

[351] E2.0.1.2.0.0.8 *Ootidium; Ovum; Embryo pronuclearis [St.1b]* The imprecise term *ovum* has been variously applied, alone or qualified, to stages from the primary oocyte to the implanting blastocyst and beyond. The use of the more precise term is recommended. In mammals, it is the secondary oocyte, arrested in the metaphase of meiosis II, which is penetrated and thus best referred to as a penetrated oocyte until meiosis II has been completed. Penetration activates the oocyte into completing meiosis II, with the formation of the ootid and the second polar body. The mammalian ootid contains two separate haploid elements, the female and male pronuclei. As these two elements fuse into a single diploid aggregation of chromosomes, the ootid becomes a zygote.

[352] E2.0.1.2.0.0.10 *Zygotum findens [St.2]* Embryos of Carnegie Stage 2 consist of between 2 and about 32 cells but have no blastocystic cavity by light microscopy. They are generally 0.1-0.2mm in diameter and about 2-3 days old.

E7.0.1.2.0.0.2	Blastomerus	Blastomere
E2.0.1.2.0.0.11	Morula[353]	Morula
E3.0.0.4.0.0.1	Compactio	Compaction
E7.0.1.2.0.0.3	Nexus; Macula communicans; Synapsis non vesicularis; Synapsis electrica	Gap junction; Nonvesicular synapse; Electrical synapse
E7.0.1.2.0.0.4	Macula adhaerens; Desmosoma	Desmosome; Macula adhaerens; Spot desmosome
E7.0.1.2.0.0.5	Zonula occludens	Tight junction
E6.0.1.1.1.0.1	Cellula externa morulae; Cellula trophoblastica praesumptiva; Cellula polarisata; Polarblastus[316]	Outer cell of morula; Presumptive trophoblastic cell; Polarized cell; Polarblast
E6.0.1.1.1.0.2	Cellula interna morulae; Cellula embryoblastica praesumptiva; Pluriblastus initialis[317]	Inner cell of morula; Presumptive embryoblastic cell; Early pluriblast
E7.0.1.2.0.0.6	Axis radialis morulae	Radial axis of morula
E2.0.1.2.0.0.13	**BLASTOCYSTIS LIBERA [St.3]**[354]	**FREE BLASTOCYST [St.3]**
E7.0.1.3.0.0.1	Blastocystis capsulata	Encapsulated blastocyst; Unhatched blastocyst
E1.0.5.2.0.0.3	Zona pellucida; Capsula pellucida[25]	Zona pellucida; Capsula pellucida
E3.0.0.6.1.0.6	Cavitatio	Cavitation[IVF]
E7.0.1.3.0.0.2	Cavitatio incipiens	Start of cavitation[IVF]
E7.0.1.3.0.0.3	Regressio cavitatis	Collapse of cavity[IVF]
E7.0.1.3.0.0.4	Redilatatio cavitatis	Re-expansion of cavity[IVF]
E7.0.1.3.0.0.5	Cavitatio terminalis	End of cavitation[IVF]
E7.0.1.3.0.0.6	Denudatio	Hatching[IVF]
E7.0.1.3.0.0.7	Cellula rumpens zonam	Zona-breaker cell[IVF]
E7.0.1.3.0.0.8	Cellula rejecta	Discarded cell[IVF]
E7.0.1.3.0.0.9	Cellula sequestrata	Sequestered cell[IVF]
E7.0.1.3.0.0.10	Cellula segregata	Isolated cell[IVF]
E7.0.1.3.0.0.11	Fragmentum zonae pellucidae	Fragment of zona pellucida[IVF]
E7.0.1.3.0.0.12	Blastocystis nuda	Hatched blastocyst
E7.0.1.3.0.0.13	Segregatio embryoblasti	Segregation of embryoblast
E7.0.1.3.0.0.14	Polus embryonicus	Embryonic pole
E7.0.1.3.0.0.15	Polus abembryonicus	Abembryonic pole
E6.0.1.1.2.0.4	Embryoblastus; Massa cellularis interna; Pluriblastus serior[355]	Embryoblast; Inner cell mass; Late pluriblast
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E7.0.1.3.0.0.16	Dorsoventralitas	Dorsoventrality
E7.0.1.3.0.0.17	Epithelium primordiale [356]	Primordial epithelium
E5.0.2.2.1.0.1	Epiblastus[357]	Epiblast; Primary ectoderm
E6.0.1.1.3.0.4	Hypoblastus[358]	Hypoblast; Primary endoderm

[353] E2.0.1.2.0.0.11 *Morula* Stage 2 embryos from 12 to about 32 cells and without a blastocystic cavity are called morulae (Latin morum, a mulberry or blackberry). The term is not ideal because, unlike the amphibian morula, for which the term was coined, the human morula gives rise to extra-embryonic as well as embryonic tissues. Nevertheless, when the number of blastomeres cannot be counted, there is no other term to describe the solid mass that precedes the formation of the blastocystic cavity.

[354] E2.0.1.2.0.0.13 *Blastocystis libera [St. 3]* Embryos of Carnegie Stage 3 are free blastocysts with a blastocystic cavity by light microscopy. They consist of up to 90 cells, of which about 30 are inner cell mass cells, are about 4-5 days old and are generally 0.1-0.2mm in diameter.

[355] E6.0.1.1.2.0.4 *Embryoblastus; Massa cellularis interna; Pluriblastus serior* The term *embryoblast* is widely used although the derivatives of this tissue are extra-embryonic or adnexal as well as embryonic or cyemic. The term *inner cell mass* is also used but cannot be used as a comparative term as the corresponding cells are not inner in many, if not all, marsupials (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). The term *pluriblast* has neither of these disadvantages.

[356] E7.0.1.3.0.0.17 *Epithelium primordiale* The tissues of the pre-implantation embryo proper are all epithelial in that their cells are sessile, are polarized between a free surface and a basal lamina and they have specialized juxtaluminal junctions and little intercellular substance. Daughter cells may be epithelial or, as a result of epitheliomesenchymal transformation, become mesenchymal [both see below].

[357] E5.0.2.2.1.0.1 *Epiblastus* The term *epiblast* is preferred for this tissue as it provides appropriate information about its site, fate and potential. Primary ectoderm is less preferred both because the term has been used to include amnioblast and because current usage postpones the use of the suffix -derm until after gastrulation (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64).Other alternatives that include the term ectoderm, the use of which should be limited to the cells remaining on the dorsal surface of the embryo after the early somite stage, are not recommended.

[358] E6.0.1.1.3.0.4 *Hypoblastus* The term *hypoblast* is preferred for this tissue as it provides appropriate information about its site, fate and potential. It appears to induce the formation of the primordial amniotic cavity (Coucouvanis E, Martin GR. Signals for death and survival: a two-step mechanism for cavitation in the vertebrate embryo. Cell 1995;83:279-287) and of axial patterning in the epiblast, including the forebrain (Beddington RSP, Robertson EP. Axis development and early asymmetry in mammals. Cell 1999;96:195-209). The term *primary endoderm* is less preferred both because the term has been used to include the extra-embryonic endoblast and because current usage

E3.0.0.6.1.0.109	Transformatio epitheliomesenchymalis[76]	Epitheliomesenchymal transformation
E5.16.4.0.3.0.18	Mesenchyma[359]	Mesenchyme
E3.0.0.6.1.0.110	Transformatio mesenchymoepithelialis[77]	Mesenchymo-epithelial transformation
E6.0.1.1.2.0.3	Cavitas blastocystica[360]	Blastocystic cavity; Blastocyst cavity
E6.0.1.1.2.0.2	Trophoblastus; Massa cellularis externa[319]	Trophoblast; Outer cell mass; Trophectoderm
E7.0.1.3.0.0.18	Trophoblastus polaris	Polar trophoblast
E7.0.1.3.0.0.19	Trophoblastus muralis	Mural trophoblast
E7.0.1.3.0.1.1	**Insignia miscellanea cellularum trophoblasticarum non differentiatarum**[361]	**Miscellaneous features of undifferentiated trophoblast cells**
E7.0.1.3.0.1.2	Corpus heterophagolysosomati simile	Heterophagolysosome-like body[IVF]
E7.0.1.3.0.1.3	Telolysosoma; Corpusculum residuale	Telolysosome; Residual body[IVF]
E7.0.1.3.0.1.4	Desmosoma	Desmosome; Macula adhaerens[IVF]
E7.0.1.3.0.1.5	Junctio occludens apicalis	Apical tight junction[IVF]
E7.0.1.3.0.1.6	Junctio occludens basalis	Basal tight junction[IVF]
E7.0.1.3.0.1.7	Junctio occludens anularis	Anular tight junction[IVF]
E7.0.1.3.0.1.8	Lamella anularis	Anulate lamella[IVF]
E7.0.1.3.0.1.9	Microvilli	Microvilli[IVF]
E7.0.1.3.0.1.10	Mitochondria longa	Long mitochondria[IVF]
E7.0.1.3.0.1.11	Processus cellulares	Cell processes[IVF]
E7.0.1.3.0.1.12	Reticulum endoplasmicum granulosum	Rough endoplasmic reticulum[IVF]
E2.0.1.2.0.0.18	**BLASTOCYSTIS ADHAERENS [St.4]**[362]	**ATTACHING BLASTOCYST [St.4]**
E6.0.1.1.3.0.3	Cavitas amniotica primordialis[363]	Primordial amniotic cavity
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E6.0.1.1.4.0.5	Cytotrophoblastus	Cytotrophoblast
E7.0.1.4.0.0.1	Adhaesio epithelio endometrii	Adherence to endometrial epithelium[IVF]
E7.0.1.4.0.0.2	Complexus junctionalis apicalis	Apical junctional complex[IVF]
E7.0.1.4.0.0.3	Desmosoma; Macula adhaerens	Desmosome; Macula adhaerens; Spot desmosome[IVF]
E7.0.1.4.0.0.4	Invaginatio cellulae epiblasticae a processu cellulare	Cell process invaginating epiblastic cell[IVF]
E7.0.1.3.0.1.9	Microvilli	Microvilli[IVF]
E7.0.1.4.0.0.5	Pori nucleares	Nuclear pores[IVF]
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E7.0.1.4.0.0.6	Processus inter endometrii epitheliocytos	Processes between endometrial cells[IVF]
E7.0.1.4.0.0.7	Margo syncytioepithelialis	Syncytio-epithelial interface

postpones the use of the suffix -derm until after gastrulation (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). Other alternatives that include the term endoderm are not recommended.

[359] E5.16.4.0.3.0.18 *Mesenchyma* A tissue consisting of free cells without polarity or specialized juxtaluminal junctions. The loosely arranged, often stellate, cells are suspended in a gelatinous matrix and are amoeboid and actively phagocytic. As they migrate their processes make temporary contact with each other, with overlying epithelial cells and with their basal laminae. As a result of eptheliomesenchymal transformation, there are now two types of tissue present, epithelial and mesenchymal. These tissue types do not correspond to the primary germ layers, ectoderm, endoderm and mesoderm [q.v.].

[360] E6.0.1.1.2.0.3 *Cavitas blastocystica* The term *blastocystic cavity* is recommended, rather than *blastocoel*, because the cavity is not homologous with the blastocoel of amphibians and birds, the homologue of which is "the very narrow slit confined between the epiblast and hypoblast" (Eyal-Giladi H. Establishment of the axis in chordates: facts and speculations. Development 1997;124: 2285-2296).

[361] E7.0.1.3.0.1.1 *Insignia miscellanea cellularum trophoblastorum non differentiatarum* These miscellaneous features have only been observed *in vitro*. Similar observations on the differentiated trophoblast are not readily available.

[362] E2.0.1.2.0.0.18 *Blastocystis adhaerens [St. 4]* An embryo of Carnegie Stage 4 is an attaching blastocyst but no such *in vivo* human specimen has been recorded. Previously reliance was placed on those of the macaque (Heuser CH, Streeter GL. Development of the macaque embryo. Contrib Embryol 1941;29:15-55) but direct information about Stage 4 is now derived from *in vitro* experiments in which blastocysts are placed on monolayers of cultured endometrial epithelial cells. Embryos of Stage 4 would be about 6 days old and about 0.1-0.2mm in diameter.

[363] E6.0.1.1.3.0.3 *Cavitas amniotica primordialis* It appears that a *primordial amniotic cavity* forms by cavitation within the epiblast, that the roof of the primordial amniotic cavity breaks down creating a transient tropho-epiblastic cavity and that the definitive amniotic cavity becomes roofed by cells that arise from the margins of the epiblast. There is no primordial amniotic cavity in embryos of Stage 3 and while most embryos of Stage 5a have a tropho-epiblastic cavity, the “earliest known human implantation stage” (Carnegie N° 8020) has a primordial amniotic cavity (Luckett WP.The development of primordial and definitive amniotic cavities in early Rhesus monkey and human embryos. Am J Anat 1975;144:149-168). It is therefore presumed that for most embryos a primordial amniotic cavity occurs in Stage 4.

E2.0.1.2.0.0.20	**BLASTOCYSTIS IMPLANTATA; BLASTOCYSTIS INVADENS; CONCEPTUS PRAEVILLOSUS[St.5]**[364]	**IMPLANTED BLASTOCYST; INVADING BLASTOCYST; PREVILLOUS CONCEPTUS [St.5]**
E2.0.1.2.0.0.14	Discus embryonicus	Embryonic disc
E6.0.1.1.4.0.5	Cytotrophoblastus	Cytotrophoblast
E6.0.1.1.4.0.2	Syncytiotrophoblastus	Syncytiotrophoblast
E6.0.1.4.0.0.4	Margo syncytiodecidualis[328]	Syncytiodecidual interface
E7.0.1.5.0.0.1	Implantatio superficialis	Superficial implantation
E6.0.1.2.0.0.32	Testa trophoblastica	Trophoblastic shell
E2.0.1.2.0.0.21	**Blastocystis invadens sine lacunis trophoblasticis [St.5a]**	**Invading blastocyst without trophoblastic lacunae [St.5a]**
E7.0.1.5.1.0.1	Dimidium abembryonicum blastocystis visibile in cavitate uterina	Abembryonic half of blastocyst exposed to uterine cavity
E7.0.1.5.1.0.2	Cavitas blastocystica pressula	Flattened blastocystic cavity
E7.0.1.5.1.0.3	Initium formationis endoblasti extraembryonici	Extra-embryonic endoblast formation beginning
E7.0.1.5.1.0.4	Discus embryonicus concavus dorsaliter	Dorsally concave embryonic disc
E7.0.1.5.1.0.5	Trophoblastus solidus	Solid trophoblast
E6.0.1.1.4.0.7	Cavitas trophoepiblastica[320]	Tropho-epiblastic cavity
E6.0.1.1.3.0.3	Cavitas amniotica primordialis	Primordial amniotic cavity
E6.0.1.1.4.0.8	Amnioblastus; Cellulae amniogenicae[321]	Amnioblast; Amniogenic cells; Amniotic ectoderm
E7.0.1.5.1.0.6	Primordium marginis caudalis lineae primitivae; Primordium marginis caudalis lineae gastrulationis[365]	Primordium of caudal margin of primitive streak; Primordium of caudal margin of gastrulation streak
E6.0.1.1.4.0.11	Area caudalis mesoblastogenica[366]	Caudal mesoblastogenic area
E2.0.1.2.0.0.22	**Blastocystis invadens cum lacunis trophoblasticis separatis [St.5b]**	**Invading blastocyst with isolated trophoblastic lacunae [St.5b]**
E7.0.1.5.2.0.1	Pars minor abembryonica visibilis in cavitate uterina	Less than abembryonic half exposed to uterine cavity
E7.0.1.5.2.0.2	Discus embryonicus parve oblongus	Embryonic disc slightly longer than wide
E6.0.1.1.4.0.3	Lacunae trophoblasticae	Trophoblastic lacunae
E6.0.1.1.4.0.6	Aggregatio praevillosa cytotrophoblasti	Previllous clump of cytotrophoblast
E6.0.1.1.4.0.10	Cavitas amniotica definitiva	Definitive amniotic cavity
E7.0.1.5.2.0.3	Margo caudalis lineae primitivae praecoquis; Margo caudalis lineae gastrulationis praecoquis[365]	Precocious caudal margin of primitive streak; Precocious caudal margin of gastrulation streak
E6.0.1.1.4.0.11	Area caudalis mesoblastogenica[366]	Caudal mesoblastogenic area
E6.0.1.1.4.0.12	Mesoblastus extraembryonicus[367]	Extra-embryonic mesoblast
E7.0.1.5.2.0.4	Mesoblastus extraembryonicus adjunctus trophoblasto	Extra-embryonic mesoblast applied to trophoblast
E7.0.1.5.2.0.5	Chorion primordiale	Primordial chorion

[364] E2.0.1.2.0.0.20 *Blastocystis implantata; Blastocystis invadens; Conceptus praevillosa [St.5]* Embryos of Carnegie Stage 5 are implanted but previllous blastocysts. Their trophoblast is solid in Stage 5a, contains isolated lacunae in Stage 5b and contains intercommunicating lacunae in Stage 5c. The embryonic disc in embryos of Stage 5, which are about 7-12 days old, is generally 0.1-0.2mm in diameter.

[365] E7.0.1.5.1.0.6/ E7.0.1.5.2.0.3 *Primordium marginis caudalis lineae primitivae; Primordium marginis caudalis lineae gastrulationis / Margo caudalis lineae primitivae praecoquis; Margo caudalis lineae gastrulationis praecoquis* "The epiblast at the future caudal end of the embryonic disc is flexed dorsally and exhibits an alteration and loosening of its epithelium basally. An accumulation of more loosely associated cells appears to be continuous with, and derived from, the ventral surface of the epiblast. This modification of the epiblast is interpreted as the precociously differentiated caudal margin of the primitive streak" (Luckett WP. Origin and differentiation of theYolk sac and extraembryonic mesoderm in presomite human and rhesus monkey embryos. Am J Anat 1979;152:59-98).

[366] E6.0.1.1.4.0.11 *Area caudalis mesoblastogenica* An area at the future caudal margin of the epiblast, which precedes the appearance of a definite primitive streak [St.6b]. Extra-embryonic mesoblast is thought to arise from this area rather than by delamination from the trophoblast (see footnote[367]).

[367] E6.0.1.1.4.0.12 *Mesoblastus extraembryonicus* The term mesoblast is preferred for this tissue because it provides appropriate information on its site, fate and potential. Lankester used the term to describe those cells, which he thought derived from enteric cells (extra-embryonic endoblast), separated, spread out, became amoebiform and "crawled all over the inner wall of the ectodermic vesicle (blastocoele or blastocystic cavity) (Lankester R. Notes on the embryology and classification of the animal kingdom. Q J Microscop Sci 1877;17:399-454.). A term is necessary to describe the tissues found outside the extra-embryonic endoblast and inside the trophoblast before gastrulation and the use of the suffix -*blast* is a corollary of current usage (Johnson MH, Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). The qualifying adjective extra-embryonic is necessary because the term mesoblast has been used to describe the free cells that migrate between the epiblast and intra-embryonic endoderm (Collins P, Billett FS. The terminology of early development: history, concepts, and current usage. Clin Anat 1995;8:418-25) and to denote a temporary, embryonic cell lineage, which will later generate either an epithelial or a free-cell arrangement (Collins P. Embryology and development. In: Williams PL, Bannister LH, Berry MM, Collins P, Dyson M, Dussek J, Ferguson MWJ, editors. Gray's Anatomy 38th ed. Edinburgh: Churchill Livingstone; 1995).

E6.0.1.1.3.0.2	Endoblastus extraembryonicus; Membrana exocoelomica[368]	Extra-embryonic endoblast; Exocoelomic membrane; Primary endoderm▲
E6.0.1.1.4.0.17	Cavitas vesiculae umbilicalis primariae; Cavitas sacci vitellini primarii[322]	Cavity of primary umbilical vesicle; Cavity of primaryYolk sac
E6.0.1.1.4.0.18	Endoblastus extraembryonicus trophoblasto applicatus	Extra-embryonic endoblast applied to trophoblast
E6.0.1.1.4.0.19	Vesicula umbilicalis primaria; Saccus vitellinus primarius[322]	Primary umbilical vesicle; Primary yolk sac
E7.0.1.5.3.0.1	**Blastocystis invadens cum lacunis trophoblasticis conjunctis [St.5c]**	**Invading blastocyst with intercommunicating lacunae [St.5c]**
E7.0.1.5.3.0.2	Blastocystis haesa sub epithelio superficiale	Blastocyst deep to surface epithelium
E7.0.1.5.3.0.3	Obscuramentum fibrosum in loco implantationis	Fibrous coagulum at implantation site; Closing plug
E6.0.1.1.4.0.4	Circulus lacunosus vascularis[369]	Lacunar vascular circle
E7.0.1.5.3.0.4	Cavitas chorionica primordialis	Primordial chorionic cavity
E7.0.1.5.3.0.5	Discus embryonicus convexus dorsaliter	Embryonic disc dorsally convex
E7.0.1.5.3.0.6	Discus embryonicus oblongus	Embryonic disc longer than wide
E7.0.1.5.3.0.7	Axis longitudinalis embryonis	Longitudinal axis of embryo
E7.0.1.5.3.0.8	Vesiculae cytoplasmicae in cellulis disci	Cytoplasmic vacuoles in cells of disc
E7.0.1.5.2.0.3	Margo caudalis lineae primitivae praecoquis; Margo caudalis lineae gastrulationis praecoquis[365]	Precocious caudal margin of primitive streak; Precocious caudal margin of gastrulation streak
E6.0.1.1.4.0.11	Area caudalis mesoblastogenica[366]	Caudal mesoblastogenic area
E6.0.1.1.4.0.13	Textus angioblasticus mesoblasti[370]	Angioblastic tissue of mesoblast
E6.0.1.1.4.0.14	Crista praevillosa mesoblasti[370]	Previllous crest of mesoblast
E6.0.1.1.4.0.15	Reticulum extraembryonicum; Magma reticulare[371]	Extra-embryonic reticulum; Mesenchymal reticulum
E7.0.1.5.3.0.9	Lamina praechordalis praecoqua[372]	Precocious prechordal plate
E2.0.1.2.0.0.29	**CONCEPTUS VILLOSUS [St.6]**[373]	**VILLOUS CONCEPTUS [St.6]**
E2.0.1.2.0.0.30	**Conceptus villosus sine linea primitiva manifesta [St.6a]; Conceptus villosus sine linea gastrulationis manifesta [St.6a]**	**Villous conceptus without obvious primitive streak [St.6a]; Villous conceptus without obvious gastrulation streak [St.6a]**
E7.0.1.6.1.0.1	Agnitio sexus genetici	Detection of genetic sex
E5.11.3.1.1.0.3	Chorion	Chorion
E6.0.1.1.2.0.2	Trophoblastus; Massa cellularis externa[319]	Trophoblast; Outer cell mass; Trophectoderm
E6.0.1.2.0.0.13	Mesenchyma chorionicum	Chorionic mesenchyme
E6.0.1.2.0.0.14	Mesothelium chorionicum	Chorionic mesothelium
E6.0.1.1.5.0.2	Chorion frondosum[323]	Chorion frondosum; Villous chorion
E6.0.1.2.0.0.15	Villus primarius	Primary villus
E6.0.1.2.0.0.17	Villus secundarius	Secondary villus
E6.0.1.2.0.0.20	Villus tertiarius	Tertiary villus
E6.0.1.2.0.0.21	Vas primordiale villi tertiarii	Primordial vessel of tertiary villus

[368] E6.0.1.1.3.0.2 *Endoblastus extraembryonicus; Membrana exocoelomica* The term *endoblast* is preferred for this tissue as it provides appropriate information about its site, fate and potential. The term *primary endoderm* is least preferred both because it applies also to the hypoblast and also because current usage postpones the use of the suffix -derm until after gastrulation (Johnson MH and Selwood L. Nomenclature of early development in mammals. Reprod Fertil Dev 1996;8:759-64). Other alternatives that include the term endoderm are not recommended.

[369] E6.0.1.1.4.0.4 *Circulus lacunosus vascularis* The *lacunar vascular circle* is visible from the endometrial surface.

[370] E6.0.1.1.4.0.13/ E6.0.1.1.4.0.14 *Textus angioblasticus mesoblasti/Crista previllosa mesoblasti* Extra-embryonic mesoblastic tissues produced from the epiblast before gastrulation.

[371] E6.0.1.1.4.0.15 *Reticulum extraembryonicum; Magma reticulare* Extra-embryonic mesoblast produced, initially from the hypoblast, before gastrulation. At least in the rhesus monkey, the cells of both the hypoblast and the initial reticulum are mitotically active (Enders AC, King BF. Formation and differentiation of extraembryonic mesoderm in the rhesus monkey. Am J Anat 1988;181:327-340) so that later reticulum may have arisen from either source.

[372] E7.0.1.5.3.0.9 *Lamina praechordalis praecoqua* "The first clear evidence of a (rostro)caudal embryonic axis appears [at Stage 5c] as a pronounced thickening of the [hypoblast] at the future cranial end of the embryonic disc to form a *prechordal plate*." (Luckett WP. Origin and differentiation of theYolk sac and extraembryonic mesoderm in presomite human and rhesus monkey embryos. Am J Anat 1979;152:59-98). However, this thickening may not correspond to the *prechordal plate* but to the extra-embryonic *rostral visceral endoderm* or *rostral marginal crescent* found in other mammals (Viebahn C.The anterior margin of the mammalian gastrula: comparative and phylogenetic aspects of its role in axis formation and head induction. Curr Top Dev Biol 1999;46:63-103). The *prechordal plate* proper may not appear until Stage 7.

[373] E2.0.1.2.0.0.29 *Conceptus villosus [St.6]* Embryos of Carnegie Stage 6 are villous conceptuses. There may be the suggestion of a primitive streak in embryos of Stage 6a or earlier, but one is definitely present in embryos of Stage 6b. The embryonic discs of embryos of Stage 6 are generally about 0.2mm in diameter and they are about 17 days old.

E6.0.1.2.0.0.29	Spatium intervillosum	Intervillous space
E6.0.1.1.5.0.5	Mesoblastus extraembryonicus caudaliter et dorsaliter amnioblasto et trophoblasto adjunctus	Extra-embryonic mesoblast applied to amnioblast and trophoblast caudodorsally
E6.0.1.1.5.0.13	Cavitas vesiculae umbilicalis secundariae; Cavitas sacci vitellini secundarii[322]	Cavity of secondary umbilical vesicle; Cavity of secondary yolk sac
E6.0.1.1.5.0.14	Endoderma extraembryonicum vesiculae umbilicalis; Endoderma extraembryonicum sacci vitellini	Extra-embryonic endoderm of umbilical vesicle; Extra-embryonic endoderm of yolk sac
E6.0.1.1.5.0.15	Mesoblastus extraembryonicus endodermati extraembryonico adjunctus	Extra-embryonic mesoblast applied to extra-embryonic endoderm
E6.0.1.1.5.0.16	Vesicula umbilicalis secundaria; Saccus vitellinus secundarius[322]	Secondary umbilical vesicle; Secondary yolk sac
E7.0.1.6.1.0.2	Insulae sanguineae vesiculae umbilicalis; Insulae sanguineae sacci vitellini	Blood islands of umbilical vesicle; Blood islands of yolk sac
E7.0.1.6.1.0.3	Haemangiogenesis vesiculae umbilicalis incipiens; Haemangiogenesis sacci vitellini incipiens	Incipient umbilical vesicle haemangiogenesis ▲; Incipient Yolk sac haemangiogenesis ▲
E6.0.1.1.4.0.16	Pedunculus connectans primordialis	Primordial connecting stalk
E2.0.1.2.0.0.31	**Conceptus villosus cum linea primitiva manifesta [St.6b]; Conceptus villosus cum linea gastrulationis manifesta [St.6b]**	**Villous conceptus with obvious primitive streak [St.6b]; Villous conceptus with obvious gastrulation streak [St.6b]**
E4.0.3.3.2.0.3	Mesenchyma capitis[374]	Head mesenchyme
E7.0.1.6.2.0.1	Linea primitiva; Linea gastrulationis[375]	Primitive streak; Gastrulation streak
E7.0.1.6.2.0.2	Sulcus primitivus; Sulcus gastrulationis[375]	Primitive groove; Gastrulation groove
E3.0.0.6.1.0.109	Transformatio epitheliomesenchymalis[76]	Epitheliomesenchymal transformation
E5.16.4.0.3.0.18	Mesenchyma[359]	Mesenchyme
E3.0.0.6.1.0.110	Transformatio mesenchymoepithelialis[77]	Mesenchymo-epithelial transformation
E7.0.1.6.2.0.3	Mesoderma embryonicum; Mesoblastus[376]	Embryonic mesoderm
E5.0.1.1.0.0.2	Nodus primitivus; Nodus gastrulationis[377]	Primitive node; Gastrulation node §Hensen§
E7.0.1.6.2.0.4	Endoderma embryonicum[378]	Embryonic endoderm
E5.0.2.1.0.0.4	Lamina praechordalis[379]	Prechordal plate
E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus[380]	Allantoic diverticulum; Allantoic duct
E6.0.1.2.0.0.32	Testa trophoblastica	Trophoblastic shell
E7.0.1.6.2.0.5	Membrana cloacalis primordialis	Primordial cloacal membrane

[374] E4.0.3.3.2.0.3 *Mesenchyma capitis* *Head mesenchyme* is listed as present in embryos from Stage 6b onwards in the Edinburgh atlas and database of human developmental anatomy. http://www.ana.ed.ac.uk/anatomy/database/humat/ but the primary source of the listing is not known. Its presence in embryos of Stage 7 may be inferred from Hill JP, Florian J. A young human embryo (embryo Dobbin) with head-process and prechordal plate. Phil Trans Roy Soc London B 1931;219:443-486.

[375] E7.0.1.6.2.0.2/ E5.0.1.1.0.0.2/ E7.0.1.6.2.0.2 *Linea primitiva; Linea gastrulationis/Nodus primitivus; Nodus gastrulationis/Sulcus primitivus; Sulcus gastrulationis* The terms primitive streak/node/groove are widely used but may be misuses of the term primitive, which more usually refers to phylogeny rather than ontogeny. The alternative terms, gastrulation streak/node/groove, have not have this defect and, in functional terms, are more informative.

[376] E7.0.1.6.2.0.3 *Mesoderma embryonicum; Mesoblastus* These terms describe the intermediate germ layer of the trilaminar embryo, which will form bone, muscle and connective and blood-vascular tissues. Experimental studies suggest that cells ingressing through primitive node and the rostral part of the primitive streak give rise to paraxial mesoderm and those through the middle part give rise to lateral plate mesoderm. The qualifying adjective embryonic is necessary as long as terms such as primary mesoderm remain in use. The term mesoblast has been used (Collins P. Embryology and development. In: Williams PL, Bannister LH, Berry MM, Collins P, Dyson M, Dussek J, Ferguson MWJ, editors. Gray's Anatomy 38th ed. Edinburgh: Churchill Livingstone; 1995 and subsequent editions). However, the use of the suffix -derm for a germ layer produced by gastrulation is preferred and has that restricted use here : the parts of the germ layer are paraxial and lateral plate mesoderms; their derivatives are either epithelial or mesenchymal and are named accordingly.

[377] E5.0.1.1.0.0.2 *Nodus primitivus; Nodus gastrulationis* Once the primitive node has formed, gene expression centred on it becomes asymmetrical and the molecular basis for left-right asymmetry is established.

[378] E7.0.1.6.2.0.4 *Endoderma embryonicum* The term describes the ventral germ layer of the trilaminar embryo, which will form the epithelium of the gut, including the prechordal plate, and many of their derivatives. These possibly include prechordal mesenchyme but this may be of notochordal origin. Experimental studies suggest that the first cells ingressing through the primitive node give rise to notochord and embryonic endoderm, which will form the roof of the secondary umbilical vesicle, displacing the cells of the hypoblast laterally into its walls. The qualifying adjective embryonic is necessary as long as terms such as primary endoderm remain in use.

[379] E5.0.2.1.0.0.4 *Lamina praechordalis* The *prechordal plate* may not appear until Stage 7: certainly in Stage 8 it is "a highly developed mesendodermal mass [in which cells resemble either endoderm or mesenchyme] in contact with the floor of the neural groove". At stages 9 and 10, the plate is related to neuromere D1. Lateral growth at stages 9-11 gives rise to the bilateral premandibular condensations (Müller F, O'Rahilly R. The prechordal plate, the rostral end of the notochord and nearby median features in staged human embryos. Cells Tissues Organs 2003;173:1-20). Prechordal mesenchyme does not become truly plate-like until Stage 9 and some would thus say that the *prechordal plate* appears in Stage 9.

[380] E5.7.3.0.1.0.1 *Diverticulum allantoicum; Ductus allantoicus* Several examples of "allantoic diverticula" have been reported in embryos of Stage 6. Nevertheless, "it is difficult to find a convincing example of an allanto-enteric diverticulum at Stage 6" (O'Rahilly R, Müller F. Developmental stages in human embryos. Washington DC: Carnegie Institution of Washington; 1987).

E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E5.11.3.1.1.0.4	Pedunculus connectans	Connecting stalk
E6.0.1.1.5.0.11	Vasa primordialia pedunculi connectantis	Primordial vessels of connecting stalk
E7.0.1.6.2.0.7	Villus tertiarius ramosus	Branching tertiary villus
E7.0.1.6.2.0.8	Vasa villi tertiarii	Vessels of tertiary villus
E7.0.1.6.2.0.9	Villus anchorans	Anchoring villus
E6.0.1.2.0.0.27	Villus liber	Floating villus
E6.0.1.1.5.0.6	Mesoblastus extraembryonicus amnioblasto toto adjunctus	Extra-embryonic mesoblast applying to whole amnioblast
E7.0.1.6.2.0.10	Amnion bilaminare	Bilaminar amnion
E5.7.1.0.0.0.2	Cellulae germinales praecursoriae[381]	Primordial germ cells
E2.0.1.2.0.0.33	**EMBRYO CUM PROCESSU NOTOCHORDALI [St.7]; EMBRYO CUM PROCESSU AXIALI [St.7]; EMBRYO CUM CHORDOMESODERMA [St.7]**[382]	**EMBRYO WITH NOTOCHORDAL PROCESS [St.7]; EMBRYO WITH AXIAL PROCESS [St.7]; EMBRYO WITH CHORDAMESODERM [St.7]**
E5.13.1.0.1.0.1	Lamina neuralis; Lamina medullaris	Neural plate; Medullary plate
E4.0.3.3.2.0.3	Mesenchyma capitis	Head mesenchyme
E5.0.2.1.0.0.4	Lamina praechordalis[379]	Prechordal plate
E5.0.1.1.0.0.4	Processus notochordalis; Processus axialis; Chordomesoderma	Notochordal process; Axial process; Chordamesoderm
E5.4.0.0.0.0.15	Membrana cloacalis	Cloacal membrane
E6.0.1.2.0.0.2	Allantois	Allantois
E5.7.3.0.1.0.1	Diverticulum allantoicum; Ductus allantoicus	Allantoic diverticulum; Allantoic duct
E6.0.1.2.0.0.7	Mesenchyma allantoicum	Allantoic mesenchyme
E6.0.1.2.0.0.8	Vasa allantoica	Allantoic vessels
E7.0.1.7.0.0.1	Cellulae sanguineae in vasibus allantoicis	Blood cells in allantoic vessels
E6.0.1.2.0.0.9	Amnion	Amnion
E6.0.1.2.0.0.10	Ectoderma extraembryonicum	Extra-embryonic ectoderm
E6.0.1.2.0.0.11	Mesenchyma amnioticum	Amniotic mesenchyme
E6.0.1.2.0.0.12	Mesothelium amnioticum	Amniotic mesothelium
E6.0.1.1.5.0.14	Endoderma extraembryonicum vesiculae umbilicalis; Endoderma extraembryonicum sacci vitellini	Extra-embryonic endoderm of umbilical vesicle; Extra-embryonic endoderm of yolk sac
E5.7.1.0.0.0.2	Cellula germinalis praecursoria	Primordial germ cell
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E6.0.1.2.0.0.38	Mesenchyma vesiculae umbilicalis; Mesenchyma sacci vitellini	Umbilical vesicle mesenchyme; Yolk sac mesenchyme
E7.0.1.7.0.0.2	Cellulae sanguineae in vasibus vesiculae umbilicalis; Cellulae sanguineae in vasibus sacci vitellini	Blood cells in vessels of umbilical vesicle; Blood cells in vessels of yolk sac
E6.0.1.2.0.0.39	Mesothelium vesiculae umbilicalis; Mesothelium sacci vitellini	Mesothelium of umbilical vesicle; Mesothelium of yolk sac
E2.0.1.2.0.0.34	**EMBRYO PRAESOMITICUM [St.8]**[383]	**PRESOMITE EMBRYO [St.8]**
E2.0.1.2.0.0.35	**Embryo praesomiticum sine sulco neurale [St.8a]**	**Presomite embryo without neural groove [St.8a]**
E7.0.1.8.1.0.1	Embryo piriformis	Pear-shaped embryo

[381] E5.7.1.0.0.0.2 *Cellulae germinales praecursoriae* An embryo of Stage 6b showed a marked concentration of glycogen in the extra-embryonic endoderm of the secondaryYolk sac and some of the cells may be primordial germ cells (Hertig AT, Adams EC, McKay DG, Rock J, Mulligan WJ, Menkin MF. A thirteen-day human ovum studied histochemically. Am J Obstet Gynecol 1958;76:1025-1043). Experimental studies suggest that cells originating in a caudal part of the epiblast, ingress through a caudal part of the primitive streak and migrate into the extra-embryonic endoderm of the secondary yolk sac.

[382] E2.0.1.2.0.0.33 *Embryo cum processu notochordali [St.7]; Embryo cum processu axiali [St.7]; Embryo cum chordomesoderma [St.7]* Each embryo of Carnegie Stage 7 has a notochordal process immediately rostral to its primitive node and streak. The embryos are generally about 0.4mm in diameter and about 19 days old.

[383] E2.0.1.2.0.0.34 *Embryo praesomiticum [St.8]* Embryos of Carnegie Stage 8 are late presomite embryos. They are generally 1-1.5mm in greatest length and about 23 days old. The term presomite embryo is sometimes applied more generically to include also Stages 6-8 but this usage is not recommended. Originally, phases were not ascribed to Stage 8 (O'Rahilly R, Müller F. Developmental stages in human embryos. Washington DC: Carnegie Institution of Washington; 1987). However, only advanced specimens show a neural groove: in the same specimens the floor of the notochordal process is breaking down and a notochordal plate is present (O'Rahilly R, Müller F.The first appearance of the human nervous system at stage 8. Anat Embryol 1981;163:1-13). These distinct phases are recognised here by the use of the terms Presomite embryo without neural groove [St.8a] and Presomite embryo with neural groove [St.8b].

E5.0.1.1.0.0.3	Fovea primitiva; Fovea notochordalis[384]	Primitive pit; Notochordal pit
E4.0.3.3.2.0.3	Mesenchyma capitis	Head mesenchyme
E2.0.1.2.0.0.36	**Embryo praesomiticum cum sulco neurale [St.8b]**	**Presomite embryo with neural groove [St.8b]**
E7.0.1.8.2.0.1	Plica capitis primordialis; Plica cephalica primordialis	Primordial head fold
E5.13.1.0.1.0.3	Sulcus neuralis	Neural groove
E3.0.0.6.1.0.91	Neurulatio primaria[74]	Primary neurulation
E7.0.1.8.2.0.2	Textus cristae neuralis praesumptivae	Presumptive neural crest tissue
E7.0.1.8.2.0.3	Junctio neurosomatica ectodermalis; Junctio neurectodermalis	Neurosomatic ectodermal junction; Neuro-ectodermal junction
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E5.0.2.2.2.0.2	Somitomera[385]	Somitomeres
E5.0.3.0.0.0.2	Mesoderma laminae lateralis	Lateral plate mesoderm
E5.8.0.0.2.0.6	Mesenchyma cardiogenicum	Cardiogenic mesenchyme
E7.0.1.8.2.0.4	Campus primarius mesenchymatis cardiogenici	Primary heart field of cardiogenic mesenchyme
E5.8.0.0.2.0.4	Spatia coelomica segrega	Isolated coelomic spaces▲
E5.8.0.0.2.0.11	Zona junctionalis mesenchymalis[208]	Junctional zone of mesenchyme
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E5.0.1.1.0.0.5	Canalis notochordalis	Notochordal canal
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E5.0.1.1.0.0.7	Lamina notochordalis	Notochordal plate
E2.0.1.2.0.0.39	**EMBRYO CUM SOMITIS I ad III [St.9]**[386]	**1-3 SOMITE EMBRYO [St.9]** ~25 days 1.5-2.5mm GL
E7.0.1.9.0.0.1	Embryo solearis cum lordose	Slipper-sole-shaped embryo with lordosis
E7.0.1.9.0.0.2	Plica capitis; Plica cephalica	Head fold
E7.0.1.9.0.0.3	Plica caudalis primordialis	Primordial tail fold; Primordial caudal fold
E5.13.1.0.2.0.1	Eminentia caudalis; Gemma caudalis	Caudal eminence; Tail bud
E7.0.1.9.0.0.4	Crista ectodermalis ventralis eminentiae caudalis; Crista ectodermalis ventralis gemmae caudalis	Ventral ectodermal ridge of caudal eminence; Ventral ectodermal ridge of tail bud [VER]
E7.0.1.9.0.0.5	Finis motus involutionis per lineam primitivam; Finis motus involutionis per lineam gastrulationis finientem	End of involutionary movement through primitive streak; End of involutionary movement through gastrulation streak
E5.13.1.0.2.0.2	Mesenchyma densum axiale	Axial dense mesenchyme; Tail cord
E7.0.1.9.0.0.6	Cylindrus notochordalis	Notochordal rod
E5.13.1.0.2.0.3	Corda medullaris; Corda neuralis	Medullary cord; Neural cord
E5.0.2.1.0.0.3	Mesoderma paraxiale	Paraxial mesoderm
E5.0.3.0.0.0.2	Mesoderma laminae lateralis	Lateral plate mesoderm
E7.0.1.9.0.0.7	Somiti occipitales [1 ad 3]	Occipital somites [1-3]
E5.0.2.2.2.0.4	Somitocoelia	Somitocoeles▲
E5.4.0.0.0.0.7	Stomatodeum primordiale	Primordial stomodeum
E5.3.0.0.0.0.5	Membrana oropharyngea	Oropharyngeal membrane
E5.4.0.0.0.0.8	Primordium praeenteri; Primordium proenteri	Primordium of foregut
E5.4.2.0.0.1.2	Saccus pharyngeus primus [1]	First pharyngeal pouch [1]
E5.4.0.0.0.0.12	Primordium metenteri	Primordium of hindgut
E5.6.0.0.0.0.2	Mesenchyma intermedium[177]	Intermediate mesenchyme
E4.0.4.1.0.0.3	Mesenchyma somatopleurale[206]	Somatopleuric mesenchyme
E5.8.0.0.2.0.1	Coeloma intraembryonicum	Intra-embryonic coelom▲

[384] E5.0.1.1.0.0.3 *Fovea primitiva; Fovea notochordalis* The term *primitive pit* is widely used but may be a misuse of the term primitive, which more usually refers to phylogeny rather than ontogeny. The term notochordal pit does not have this defect and is more informative.

[385] E5.0.2.2.2.0.2 *Somitomera* *Somitomeres* are paired whorls of mesenchymal cells that appear metamerically in paraxial mesoderm before the appearance of epithelial somites: somitomeres form in strict craniocaudal sequence beginning in the head where they subsequently contribute to head mesenchyme; elsewhere, they condense, epithelialise and form somites; they have been found in all amniote embryos that have been examined by stereo scanning electron microscopy (Jacobson AG. Somites and head mesoderm arise from somitomeres. In: Sanders EJ, Lash JW, Ordahl CP. Eds. The origin and fate of somites. Amsterdam: IOS Press;. 2001.) and are expected to be found in human embryos when examined by an appropriate method.

[386] E2.0.1.2.0.0.39 *Embryo cum somitis I ad III [St.9]* Embryos of Carnegie Stage 9 have 1-3 pairs of somites. They are generally 1.5-2.5mm in length and about 25 days old.

E5.8.0.0.2.0.8	Cavitas pericardiaca primordialis	Primordial pericardial cavity
E5.8.0.0.3.0.3	Mesocardium[210]	Mesocardium; Dorsal mesocardium
E5.8.0.0.3.0.2	Primordium epicardii; Proepicardium[209]	Primordium of epicardium; Pro-epicardium
E4.0.4.1.0.0.4	Mesenchyma splanchnopleurale[207]	Splanchnopleuric mesenchyme
E7.0.1.8.2.0.4	Campus primarius mesenchymatis cardiogenici	Primary heart field of cardiogenic mesenchyme
E5.11.1.1.1.0.3	Laminae cardiogenicae non symmetricae; Primordia endocardiaca	Bilateral asymmetric cardiogenic plates; Endocardiac primordia
E7.0.1.9.0.0.8	Primordia endocardiaca	Endocardiac primordia
E7.0.1.9.0.0.9	Myocardium primordiale	Primordial myocardium
E5.11.1.1.1.0.8	Gelatinoreticulum; Cardioglia	Cardiac jelly
E5.11.1.1.1.0.4	Primordium cordis; Cor plexiforme	Heart primordium; Plexiform heart
E5.2.0.4.0.0.2	Septum transversum	Septum transversum
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.9.0.0.10	Vasa extraembryonica	Extra-embryonic blood vessels
E7.0.1.9.0.0.11	Vasa chorionica	Chorionic blood vessels
E6.0.1.2.0.0.8	Vasa allantoica	Allantoic vessels
E6.0.1.1.5.0.17	Vasa omphalomesenterica; Vasa vitellina	Omphalomesenteric vessels; Vitelline vessels
E7.0.1.9.0.0.12	Vasa intraembryonica	Intra-embryonic blood vessels
E7.0.1.9.0.0.13	V. omphalomesenterica; V. vitellina	Omphalomesenteric vein; Vitelline vein
E5.11.1.2.0.0.1	A. arcus primi pharyngei [1][223]	First pharyngeal arch artery [1]; First aortic arch [1]
E7.0.1.9.0.0.14	Primordium arteriae carotidis internae	Internal carotid artery primordium
E7.0.1.9.0.0.15	Aorta dorsalis primordialis	Primordial dorsal aorta
E5.0.3.0.0.0.3	Ectoderma embryonicum[121]	Embryonic ectoderm
E5.13.1.0.1.0.2	Plica neuralis	Neural fold
E7.0.1.9.0.0.16	Primordium prosencephali	Forebrain primordium
E7.0.1.9.0.0.17	Incisura terminalis	Terminal notch
E7.0.1.9.0.0.18	Neuromerus primarius prosencephali [P]	Primary neuromere of forebrain [P]
E5.14.3.3.0.0.3	Flexura mesencephalica	Mesencephalic flexure; Cephalic flexure
E7.0.1.9.0.0.19	Primordium mesencephali	Midbrain primordium
E7.0.1.9.0.0.20	Neuromerus primarius mesencephali [M]	Primary neuromere of midbrain [M]
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E4.0.3.3.1.0.1	Complexus cristae neuralis mesencephalicae[95]	Mesencephalic neural crest complex
E7.0.1.9.0.0.21	Primordium rhombencephali	Hindbrain primordium
E7.0.1.9.0.0.22	Rhombomeri primarii [A ad D]	Primary rhombomeres [A-D]
E7.0.1.9.0.0.23	Primordium medullae spinalis	Spinal cord primordium
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E5.15.2.0.0.0.4	Placoda otica	Otic placode; Otic disc
E7.0.1.9.0.0.24	Epithelium superficiale corporis simplex	One-layered body surface epithelium
E2.0.1.2.0.0.40	**EMBRYO CUM SOMITIS IV ad XII [St.10]**[387]	**4-12 SOMITE EMBRYO [St.10]** ~28 days 2.0-3.5mm GL
	Generalia	*General*
E7.0.1.10.0.0.1	Ruptura zonae junctionalis mesenchymatis inter coeloma embryonicum et coeloma extraembryonicum	Breakdown of junction zone of mesenchyme between embryonic and extra-embryonic coelomata▲
E7.0.1.10.0.0.2	Plica lateralis primordialis corporis	Primordial lateral body fold
E5.2.0.3.2.0.9	Anulus umbilicalis	Umbilical ring
E5.0.2.1.5.0.1	Arcus pharyngeus primus [1]	First pharyngeal arch [1]
E7.0.1.10.0.0.3	Densatio ectodermalis	Ectodermal thickening
E5.3.0.0.0.0.13	Prominentia maxillaris	Maxillary prominence
E7.0.1.10.0.0.4	Somitus occipitalis quartus[4]	Fourth occipital somite [4]
E7.0.1.10.0.0.5	Somiti cervicales [5 ad 12]	Cervical somites [5-12]
E5.8.0.0.2.0.9	Canalis pericardioperitonealis primordialis	Primordial pericardioperitoneal canal
E7.0.1.10.0.0.6	Emanatio cellularum notochordae de eminentia caudale	Emergence of notochordal cells from caudal eminence

[387] E2.0.1.2.0.0.40 *Embryo cum somitis IV ad XII [St.10]* Embryos of Carnegie Stage 10 have 4-12 pairs of somites. They are generally 2-3.5mm in length and about 28 days old.

E5.0.3.0.0.0.4	Anulus ectodermalis primordialis	Primordial ectodermal ring
	Alimentaria	*Alimentary*
E5.3.0.0.0.0.4	Stomodeum; Stomatodeum	Stomodeum
E5.3.0.0.0.0.14	Prominentia mandibularis	Mandibular prominence
E5.16.4.0.1.0.2	Sulcus pharyngeus primus [1]	First pharyngeal groove [1]
E5.16.4.0.2.0.12	Arcus pharyngeus secundus [2]	Second pharyngeal arch [2]
E7.0.1.10.0.0.3	Densatio ectodermalis	Ectodermal thickening
E5.2.0.0.0.0.4	Placodae epipharyngeae	Epipharyngeal placodes
E5.4.4.0.0.0.2	Praeenteron; Proenteron	Foregut
E5.4.2.0.0.1.7	Saccus pharyngeus secundus	Second pharyngeal pouch
E5.4.2.0.0.1.10	Saccus pharyngeus tertius [3]	Third pharyngeal pouch [3]
E5.4.9.0.2.0.1	Metenteron	Hindgut
E5.4.11.0.0.0.1	Urenteron; Pars postcloacalis intestini[197]	Postcloacal gut; Tailgut; Endgut
E7.0.1.10.0.0.7	Lamina hepatica	Hepatic lamina
	Respiratoria	*Respiratory*
E7.0.1.10.0.0.8	Primordium respiratorium	Respiratory primordium
	Urogenitalia	*Urogenital*
E7.0.1.10.0.0.9	Primordium pronephri	Primordium of pronephros
	Endocrina	*Endocrine*
E5.4.1.1.2.2.2	Primordium adenohypophysis	Adenohypophysial primordium
E7.0.1.10.0.0.10	Primordium glandulae thyroideae	Primordium of thyroid gland
	Cardiovascularia	*Cardiovascular*
E5.8.0.0.3.0.5	Sinus transversus pericardii	Transverse pericardial sinus
E5.11.2.2.1.0.4	Vv. umbilicales	Umbilical veins
E5.11.1.1.1.0.5	Cor tubulare	Tubular heart
E5.11.1.2.0.0.3	Ansa cordis crescentiformis	C-loop
E5.11.1.2.0.0.4	Ansa cordis sigmoidea prima	Early S-loop
E3.0.0.6.1.0.50	Inflatio	Ballooning
E5.11.1.3.2.0.3	Tractus influxus	Inflow tract
E5.11.1.2.0.0.6	Cornua sinistrum et dextrum sinus venosi cordis	Left and right horns of sinus venosus
E5.11.1.3.1.0.2	Ventriculus embryonicus; Ventriculus communis	Embryonic ventricle
E5.11.1.3.2.0.15	Tractus effluxionis	Outflow tract
E5.11.1.2.0.0.1	A. arcus primi pharyngei [1][223]	First pharyngeal arch artery [1]; First aortic arch [1]
E5.11.2.1.2.0.2	A. arcus secundi pharyngei [2][223]	Second pharyngeal arch artery [2]; Second aortic arch [2]
E7.0.1.10.0.0.11	Aa. intersegmentales	Intersegmental arteries
E6.0.1.3.0.0.4	Aa. umbilicales	Umbilical arteries
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Neuralia et sensoria	*Neural and senses*
E7.0.1.10.0.0.12	Pars mediana telencephali primordialis; Telencephalon impar	Primordial median telencephalon; Unpaired telencephalon
E7.0.1.10.0.0.13	Neuromerus secundarius telencephalicus [T]	Telencephalic secondary neuromere [T]
E7.0.1.10.0.0.14	Diencephalon primordiale	Primordial diencephalon
E7.0.1.10.0.0.15	Neuromerus secundarius diencephalicus [D1]	Diencephalic secondary neuromere [D1]
E5.16.3.1.0.0.2	Primordium opticum	Optic primordium
E5.14.3.4.2.2.3	Sulcus opticus	Optic groove; Optic sulcus
E5.16.3.1.4.0.2	Crista neuralis optica	Optic neural crest
E7.0.1.10.0.0.16	Neuromerus secundarius diencephalicus [D2]	Diencephalic secondary neuromere [D2]
E7.0.1.10.0.0.17	Conjunctio plicarum neuralium rhombencephalicarum	Fusion of rhombencephalic neural folds
E5.14.1.0.0.0.1	Tubus neuralis	Neural tube
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E5.0.2.1.0.0.2	Crista neuralis	Neural crest
E4.0.3.3.3.0.1	Crista neuralis rhombencephalica	Rhombencephalic neural crest
E4.0.3.3.3.1.1	Complexus cristae neuralis trigeminalis[97]	Trigeminal neural crest complex
E5.15.4.0.0.0.5	Primordium ganglii trigeminalis	Primordium of trigeminal ganglion
E4.0.3.3.3.2.1	Complexus cristae neuralis facialis[98]	Facial neural crest complex
E5.15.1.0.2.0.5	Complexus cristae neuralis faciovestibulocochlearis[288]	Faciovestibulocochlear neural crest complex

E4.0.3.5.0.1.1	Complexus cristae neuralis glossopharyngealis[100]	Glossopharyngeal neural crest complex
E7.0.1.10.0.0.18	Primordium ganglionum glossopharyngeorum	Primordium of glossopharyngeal ganglia
E4.0.3.5.0.2.1	Complexus cristae neuralis vagalis[100]	Vagal neural crest complex
E7.0.1.10.0.0.19	Primordium ganglionum vagalium	Primordium of vagal ganglia
E4.0.3.5.0.5.1	Crista neuralis hypoglossalis; Crista neuralis occipitalis[103]	Hypoglossal neural crest; Occipital neural crest
E4.0.3.5.1.0.1	Crista neuralis spinalis[104]	Spinal neural crest
E2.0.1.2.0.0.41	**EMBRYO CUM SOMITIS XIII ad XX [St.11]**[388]	**13-20 SOMITE EMBRYO [St.11]** ~29 days 2.5-4.5mm GL
	Generalia	*General*
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E7.0.1.11.0.0.1	Anulus ectodermalis imperfectus	Ectodermal ring incomplete
E7.0.1.11.0.0.2	Pars rostralis anuli ectodermalis	Rostral part of ectodermal ring
E5.0.3.0.0.0.6	Gemma membri superioris	Upper limb bud; Rostral limb bud
E7.0.1.11.0.0.3	Pars caudalis anuli ectodermalis	Caudal part of ectodermal ring
E7.0.1.9.0.0.4	Crista ectodermalis ventralis eminentiae caudalis; Crista ectodermalis ventralis gemmae caudalis	Ventral ectodermal ridge of caudal eminence; Ventral ectodermal ridge of tail bud [VER]
E7.0.1.11.0.0.4	Somiti thoracici [13 ad 20]	Thoracic somites [13-20]
E7.0.1.11.0.0.5	Sclerotomi occipitales [4]	Occipital sclerotomes [4]
E5.2.0.0.0.0.5	Dermatomyotomi; Dermomyotomi	Dermatomyotomes; Dermomyotomes
E5.0.1.1.0.0.8	Notochorda; Notochorda propria; Chorda dorsalis	Notochord; Notochord proper
E5.8.0.0.6.0.1	Communicatio inter latera dextrum et sinistrum cavitatis peritonealis caudaliter ductui omphaloenterico	Communication between right and left sides of peritoneal cavity caudal to omphalo-enteric duct
	Alimentaria	*Alimentary*
E7.0.1.11.0.0.6	Abruptio membranae oropharyngeae	Rupture of oropharyngeal membrane
E5.4.2.0.0.1.17	Saccus pharyngeus quartus [4]	Fourth pharyngeal pouch [4]
E5.4.4.0.0.0.3	Primordium oesophagei	Primordium of oesophagus
E5.4.5.0.0.0.2	Primordium gastris	Primordium of stomach
E7.0.1.11.0.0.7	Primordium duodeni	Primordium of duodenum
E5.4.13.0.0.0.3	Diverticulum hepatocysticum	Hepatocystic diverticulum
E7.0.1.11.0.0.8	Pars distalis diverticuli hepatocystici	Distal part of hepatocystic diverticulum
E5.4.6.0.0.0.14	Diverticulum hepaticum	Hepatic diverticulum
E5.4.13.0.0.0.4	Pars proximalis diverticuli hepatocystici	Proximal part of hepatocystic diverticulum
E7.0.1.11.0.0.9	Diverticulum ductus cystici	Cystic duct diverticulum; Cystic diverticulum
	Urogenitalia	*Urogenital*
E5.6.1.0.0.0.5	(Ductus pronephricus)	(Pronephric duct)
E5.6.2.0.0.0.3	Chorda nephrogenica; Chorda mesonephrica[180]	Nephrogenic cord; Mesonephric cord
E5.6.2.0.0.0.4	Ductus mesonephricus	Mesonephric duct
E7.0.1.11.0.0.10	Vesiculae mesonephricae	Mesonephric vesicles
E5.7.1.0.0.0.3	Translatio cellularum germinalium praecursorium; Migratio cellularum germinalium praecursorium[189]	Positional change of primordial germ cells; Migration of primordial germ cells
	Cardiovascularia	*Cardiovascular*
E7.0.1.11.0.0.11	Cor circumitum; Cor sigmoideum	Looped heart; Sigmoid heart
E5.11.1.2.0.0.5	Ansa cordis sigmoidea sera	Late S-loop
E7.0.1.11.0.0.12	Sinus venosus primordialis	Primordial sinus venosus
E5.11.1.3.1.0.6	Auriculae dextra et sinistra	Right and left auricles; Right and left atrial appendages
E7.0.1.11.0.0.13	Primordium atrii dextri	Right atrial primordium
E7.0.1.11.0.0.14	Primordium atrii sinistri	Left atrial primordium
E5.11.1.3.2.0.11	Canalis atrioventricularis	Atrioventricular canal
E7.0.1.11.0.0.15	Junctio atrioventricularis	Atrioventricular junction
E5.11.1.3.1.0.3	Ventriculi embryonici dexter sinisterque paralleli	Right and left embryonic ventricles in parallel
E7.0.1.11.0.0.16	Primordium trabeculare ventriculi dextri	Trabeculated right ventricle primordium

[388] E2.0.1.2.0.0.41 *Embryo cum somitis XIII ad XX [St.11]* Embryos of Carnegie Stage 11 have 13-20 pairs of somites. They are generally 2.5-4.5mm in length and about 29 days old.

E5.11.1.7.3.0.1	Septum interventriculare	Interventricular septum
E7.0.1.11.0.0.17	Primordium trabeculare ventriculi sinistri	Trabeculated left ventricle primordium
E7.0.1.11.0.0.18	Conotruncus	Conotruncus
E5.11.1.3.2.0.16	Saccus aorticus	Aortic sac
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Neuralia et sensoria	*Neural and senses*
E5.0.1.1.0.0.6	(Canalis neurentericus)[115]	(Neurenteric canal)
E7.0.1.11.0.0.19	Situs occlusionis canalis neurenterici[115]	Site of former neurenteric canal
E7.0.1.11.0.0.20	Occlusio neuropori rostralis	Rostral neuropore closure
E5.14.3.4.2.2.4	Vesicula optica	Optic vesicle
E4.0.3.2.0.0.1	Complexus cristae neuralis opticae[93]	Optic neural crest complex
E7.0.1.11.0.0.21	Rhombomerus primus [Rh 1]	First rhombomere [Rh 1]
E7.0.1.11.0.0.22	Rhombomerus secundus [Rh 2]	Second rhombomere [Rh 2]
E7.0.1.11.0.0.23	Ganglion trigeminale	Trigeminal ganglion
E7.0.1.11.0.0.24	Rhombomerus tertius [Rh 3]	Third rhombomere [Rh 3]
E7.0.1.11.0.0.25	Rhombomerus quartus [Rh 4]	Fourth rhombomere [Rh 4]
E7.0.1.11.0.0.26	Ganglion faciovestibulocochleare	Faciovestibulocochlear ganglion
E5.15.2.0.0.0.5	Fovea otica	Otic pit
E7.0.1.11.0.0.27	Discus oticus	Otic plate
E7.0.1.11.0.0.28	Crista neuralis otica	Otic neural crest
E7.0.1.11.0.0.29	Rhombomerus quintus [Rh 5]	Fifth rhombomere [Rh 5]
E7.0.1.11.0.0.30	Rhombomerus sextus [Rh 6]	Sixth rhombomere [Rh 6]
E7.0.1.11.0.0.31	Ganglia glossopharyngea	Glossopharyngeal ganglia
E7.0.1.11.0.0.32	Rhombomerus septimus [Rh 7]	Seventh rhombomere [Rh 7]
E7.0.1.11.0.0.33	Ganglia vagalia	Vagal ganglia
E7.0.1.11.0.0.34	Rhombomerus octavus [Rh 8]	Eighth rhombomere [Rh 8]
E2.0.1.2.0.0.42	**EMBRYO CUM SOMITIS XXI ad XXIX [St.12]**[389]	**21-29 SOMITE EMBRYO [St.12]** ~30 days 3.0-5.0mm GL
	Generalia	*General*
E7.0.1.12.0.0.1	Somiti thoracici [21 ad 24]	Thoracic somites [21-24]
E7.0.1.12.0.0.2	Somiti lumbales [25 ad 29]	Lumbar somites [25-29]
E5.0.1.1.0.0.10	Lamina basalis notochordalis; Vagina acellularis notochordalis[116]	Notochordal basal lamina; Acellular notochordal sheath
E7.0.1.12.0.0.3	Sinus cervicalis	Cervical sinus
E7.0.1.12.0.0.4	Anulus ectodermalis completus	Ectodermal ring complete
E7.0.1.11.0.0.2	Pars rostralis anuli ectodermalis	Rostral part of ectodermal ring
E5.0.3.0.0.0.6	Gemma membri superioris	Upper limb bud; Rostral limb bud
E7.0.1.12.0.0.5	Pars intermembralis praesumptiva anuli ectodermalis	Presumptive intermembral part of ectodermal ring
E7.0.1.11.0.0.3	Pars caudalis anuli ectodermalis	Caudal part of ectodermal ring
E7.0.1.9.0.0.4	Crista ectodermalis ventralis eminentiae caudalis; Crista ectodermalis ventralis gemmae caudalis	Ventral ectodermal ridge of caudal eminence; Ventral ectodermal ridge of tail bud [VER]
E5.8.0.0.6.0.2	Communicatio inter latera dextrum et sinistrum cavitatis peritonealis cranialiter ductui omphaloenterico	Communication between right and left sides of peritoneal cavity cranial to omphalo-enteric duct
	Alimentaria	*Alimentary*
E5.4.1.2.0.0.11	Copula	Copula
E5.8.0.0.5.0.15	Bursa omentalis	Omental bursa; Lesser sac
E7.0.1.12.0.0.6	Primordium recessus pleuroperitonealis dexteri	Primordium of right pleuroperitoneal recess
E5.9.0.0.0.0.2	Mesenterium dorsale primordiale	Primordial dorsal mesentery
E5.4.6.0.0.0.15	Gemma pancreatica dorsalis	Dorsal pancreatic bud
	Respiratoria	*Respiratory*
E7.0.1.12.0.0.7	Gemma trachealis; Gemma pulmonalis	Tracheal bud; Lung bud
	Urogenitalia	*Urogenital*
E7.0.1.12.0.0.8	Ductus mesonephricus junctus cum cloaca	Mesonephric duct joins cloaca

[389] E2.0.1.2.0.0.42 *Embryo cum somitis XXI ad XXIX [St.12]* Embryos of Carnegie Stage 12 have 21-29 pairs of somites. They are generally 3-5mm in length and about 30 days old.

E7.0.1.12.0.0.9	Cellulae germinales praecursoriae in muro metenteri	Primordial germ cells in wall of hindgut
	Endocrina	*Endocrine*
E5.4.2.0.0.1.21	Corpus ultimopharyngeum[390]	Ultimopharyngeal body
E5.4.1.2.0.0.9	Saccus thyroideus; Diverticulum thyroideum	Thyroid pouch; Thyroid diverticulum
	Cardiovascularia	*Cardiovascular*
E5.11.1.3.2.0.7	Ostium sinuatriale	Sinuatrial orifice
E5.11.1.5.0.0.12	Valva sinuatrialis	Sinu-atrial valve
E5.11.1.3.2.0.9	Septum primum	Primary interatrial septum
E5.11.1.3.2.0.11	Canalis atrioventricularis	Atrioventricular canal
E5.11.1.3.2.0.12	Tuber endocardiacum atrioventriculare	Atrioventricular endocardial cushion
E4.0.3.5.0.3.10	Ductus communis effluxionis cordis	Common outflow tract of heart
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E5.11.1.3.2.0.16	Saccus aorticus	Aortic sac
E5.11.2.1.2.0.4	A. arcus tertii pharyngei [3][223]	Third pharyngeal arch artery [3]; Third aortic arch [3]
E7.0.1.12.0.0.10	Primordium trunci coeliaci	Primordium of coeliac trunk▲
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.12.0.0.11	Initium haematopoiesis in hepate	Start of haematopoiesis in liver▲
	Neuralia et sensoria	*Neural and senses*
E7.0.1.12.0.0.12	Occlusio neuropori caudalis	Caudal neuropore closing
E7.0.1.12.0.0.13	Phasis zonae unae differentiationis epithelii tubi neuralis	One-zone phase of differentiation of neural tube epithelium
E5.3.0.0.0.0.8	Placoda nasalis; Placoda olfactoria[165]	Nasal placode; Nasal disc; Olfactory placode
E4.0.3.5.0.3.1	Complexus cristae neuralis cardiacus[101]	Cardiac neural crest complex
E4.0.3.5.0.4.1	Crista neuralis nervi accessorii[102]	Neural crest of accessory nerve
E7.0.1.12.0.0.14	Radices nervi hypoglossi	Hypoglossal nerve roots
E3.0.0.6.1.0.92	Neurulatio secundaria[75]	Secondary neurulation
	Cutanea	*Cutaneous*
E7.0.1.12.0.0.15	Epithelium superficiale corporis bilaminare	Two-layered body surface epithelium
E5.3.0.0.0.0.3	Periderma	Periderm
E2.0.1.2.0.0.43	**EMBRYO CUM SOMITIS XXX+ [St.13]**[391]	**30+ SOMITE EMBRYO [St.13]** ~32 days 4.0-6.0mm GL
	Generalia	*General*
E7.0.1.13.0.0.1	Somiti sacrales [30 ad 34][392]	Sacral somites [30-34]
E7.0.1.13.0.0.2	Somiti coccygei [35 ad 38/39][392]	Coccygeal somites [35-38/39]
E5.0.1.1.0.0.11	Vagina notochordalis; Vagina cellularis notochordalis	Notochordal sheath; Perichordal sheath; Cellular notochordal sheath
E7.0.1.13.0.0.3	Arcus pharyngeus quartus [IV]	Fourth pharyngeal arch [4]
E5.0.3.0.0.0.7	Gemma membri inferioris	Lower limb bud; Caudal limb bud
	Alimentaria	*Alimentary*
E5.4.1.2.0.0.6	Tuberculum impar; Gemma lingualis mediana	Median lingual swelling
E5.4.1.2.0.0.12	Eminentia hypopharyngea[169]	Hypopharyngeal eminence
E5.4.5.0.0.0.2	Primordium gastris	Primordium of stomach
E7.0.1.13.0.0.4	Descensus gastris primordialis	Descent of primordial stomach
E7.0.1.13.0.0.5	Elongatio gastris primordialis	Elongation of primordial stomach
E5.4.15.0.2.0.2	Gemma pancreatica ventralis	Ventral pancreatic bud
E7.0.1.13.0.0.6	Laminae hepaticae frontales et sagittales	Frontal and sagittal hepatic plates
E7.0.1.13.0.0.7	Primordium caeci	Primordium of caecum▲
E5.4.4.0.0.0.4	Epithelium endodermale	Endodermal epithelium
E5.9.0.0.0.0.2	Mesenterium dorsale primordiale	Primordial dorsal mesentery

390 E5.4.2.0.0.1.21 *Corpus ultimopharyngeum* The *ultimopharyngeal bodies*, which are said to provide the lateral components of the thyroid and parathyroid glands (Weller JL.Development of the thyroid, parathyroid and thymus glands in man. Carnegie Instn Wash Publ 443, Contrib Embryol 1933;24:93-139), separate from pharyngeal pouches III and IV in Carnegie Stage 12.

391 E2.0.1.2.0.0.43 *Embryo cum somitis XXX+ [St.13]* Embryos of Carnegie Stage 13 have 30+ pairs of somites. They are generally 4-6mm in length and about 32 days old.

392 E7.0.1.13.0.0.1/ E7.0.1.13.0.0.2 *Somiti sacrales [30 ad 34] /Somiti coccygeae [35 ad 38/39]* The *sacral and coccygeal somites* are derived from secondary paraxial mesoderm, which comes from the axial dense mesenchyme of the caudal eminence or tail bud.

E5.4.7.0.0.0.5	Ductus omphaloentericus; Ductus vitellointestinalis	Omphalo-enteric duct; Vitello-intestinal duct; Yolk stalk
	Respiratoria	*Respiratory*
E7.0.1.13.0.0.8	Primordium diaphragmatis in collo	Primordium of diaphragm in neck
E7.0.1.13.0.0.9	Canalis pleuroperitonealis	Pleuroperitoneal canal
E5.8.0.0.4.0.2	Invaginatio faciei medialis canalis pericardioperitonealis a pulmone primordiale	Invagination of medial aspect of pericardioperitoneal canal by primordial lung
E5.5.3.0.1.0.26	Trachea	Trachea
E7.0.1.13.0.0.10	Gemmae bronchiales primariae dextra et sinistra; Gemmae pulmonales dextra et sinistra	Right and left primary bronchial buds; Right and left lung buds
E7.0.1.13.0.0.11	Aa. pulmonales	Pulmonary arteries
E7.0.1.13.0.0.12	Vasa capillaria pulmonalia	Pulmonary capillaries
E7.0.1.13.0.0.13	V. pulmonalis unica	Single pulmonary vein
	Urogenitalia	*Urogenital*
E7.0.1.13.0.0.14	Glomeruli mesonephrici	Mesonephric glomeruli
E7.0.1.13.0.0.15	Tubuli mesonephrici sigmoidei	S-shaped mesonephric tubules
E5.6.3.2.0.0.1	Blastema metanephrogenicum	Metanephrogenic blastema; Metanephric mass of mesenchyme
E7.0.1.13.0.0.16	Linea fissionis urorectalis	Urorectal cleavage line
	Endocrina	*Endocrine*
E5.10.1.1.0.0.4	Saccus adenohypophysialis[112]	Adenohypophysial pouch §Rathke§
	Cardiovascularia	*Cardiovascular*
E5.11.1.7.3.0.16	Fasciculus atrioventricularis	Atrioventricular bundle §His§
E7.0.1.13.0.0.17	A. arcus quarti pharyngei [4][223]	Fourth pharyngeal arch artery [4]; Fourth aortic arch [4]
E7.0.1.13.0.0.11	Aa. pulmonales	Pulmonary arteries
E7.0.1.13.0.0.12	Vasa capillaria pulmonalia	Pulmonary capillaries
E7.0.1.13.0.0.13	V. pulmonalis unica	Single pulmonary vein
E5.11.1.5.1.1.5	Plica pulmonalis	Pulmonary fold
E5.11.2.1.3.2.4	Truncus coeliacus	Coeliac trunk▲
E7.0.1.13.0.0.18	Aa. mesentericae	Mesenteric arteries
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E5.11.3.1.8.0.2	Primordium thymi	Primordium of thymus
	Neuralia et sensoria	*Neural and senses*
E7.0.1.13.0.0.19	Phasis zonarum duarum differentiationis epithelii tubi neuralis	Two-zone phase of differentiation of neural tube epithelium
E4.0.3.1.0.0.1	Complexus cristae neuralis nasalis[92]	Nasal neural crest complex
E5.15.1.0.2.0.2	Complexus cristae neuralis olfactoriae	Olfactory neural crest complex
E5.15.1.0.2.0.3	Complexus cristae neuralis terminalis	Terminal neural crest complex
E5.15.1.0.2.0.4	Complexus cristae neuralis vomeronasalis	Vomeronasal neural crest complex
E4.0.3.3.2.0.1	Crista neuralis isthmica[96]	Isthmic neural crest
E5.14.3.3.1.1.2	Nucleus nervi oculomotorii	Nucleus of oculomotor nerve
E5.14.3.1.7.1.3	Nucleus nervi trochlearis	Nucleus of trochlear nerve
E7.0.1.13.0.0.20	Primordia gangliorum spinalium	Primordia of spinal ganglia
E7.0.1.13.0.0.21	Ganglion trigeminale conspicuum	Conspicuous trigeminal ganglion
E7.0.1.13.0.0.22	Radices motoriae nervorum trigemini abducentis glossopharyngei vagi accessoriique	Motor roots of trigeminal, abducent, glossopharyngeal, vagus and accessory nerves
E7.0.1.13.0.0.23	Radices ventrales cervicales; Radices anteriores cervicales; Radices motoriae cervicales[393]	Cervical ventral roots; Cervical anterior roots; Cervical motor roots
E7.0.1.13.0.0.24	Radices dorsales cervicales; Radices posteriores cervicales[393]	Cervical dorsal roots; Cervical posterior roots
E5.16.3.1.0.0.13	Placoda lentis; Discus lentis[394]	Lens placode; Lens disc
E5.16.3.1.0.0.4	Discus retinalis	Retinal disc

[393] E7.0.1.13.0.0.23/ E7.0.1.13.0.0.24 *Radices ventrales cervicales; Radices anteriores cervicales; Radices motoriae cervicales/ Radices dorsales rostrales; Radices posteriores rostrales* The usage here is not in accord with Terminologia Anatomica 1998: *dorsal* and *ventral* for nerve roots are now very commonly used and *sensory* is not recommended, as there is evidence for motor autonomic outflow through dorsal roots.

[394] E5.16.3.1.0.0.13 *Placoda lentis; Discus lentis* The *lens placode* is like other placodes in that it is a localized ectodermal thickening on the surface of the head or neck in embryonic life. It is unlike other placodes in that it is not a neural placode and thus some prefer the term lens disc.

E7.0.1.13.0.0.25	Pedunculus opticus primordialis	Primordial optic stalk
E5.15.1.0.0.0.4	Vesicula otica	Otic vesicle; Otocyst
E2.0.1.2.0.0.45	**EMBRYO GRADUS XIV[St.14]**[395]	**STAGE 14 EMBRYO [St.14]** ~33 days 5-7mm GL
	Generalia	*General*
E5.0.2.2.2.0.17	Pars rostralis sclerotomi; Pars laxa sclerotomi	Rostral part of sclerotome; Loose part of sclerotome
E5.0.2.2.2.0.22	Pars caudalis sclerotomi; Pars densa sclerotomi	Caudal part of sclerotome; Dense part of sclerotome
E5.0.2.2.2.0.24	Pars rostralis vaginae notochordalis; Pars laxa vaginae notochordalis	Rostral part of notochordal sheath; Loose part of notochordal sheath
E5.0.2.2.2.0.26	Pars caudalis vaginae notochordalis; Pars densa vaginae notochordalis	Caudal part of notochordal sheath; Dense part of notochordal sheath
E7.0.1.14.0.0.1	Crista ectodermalis apicalis membri superioris	Apical ectodermal ridge of upper limb
E7.0.1.14.0.0.2	Blastema skeletale humeri proximalis	Skeletal blastema of proximal humerus
E7.0.1.14.0.0.3	Blastema skeletale cranii; Desmocranium	Skeletal blastema of cranium
	Alimentaria	*Alimentary*
E5.4.4.0.0.0.1	Oesophagus	Oesophagus▲
E7.0.1.14.0.0.4	Sinistropositio gastris primordialis	Sinistroposition of primordial stomach
E7.0.1.14.0.0.5	Rotatio gastris primordialis	Rotation of primordial stomach
E5.4.7.0.0.0.1	Ansa umbilicalis intestini	Midgut loop; Umbilical intestinal loop
E5.4.10.0.0.0.5	Tuberculum anale	Anal tubercle
	Respiratoria	*Respiratory*
E5.5.3.0.1.0.8	Tuber arytenoideum	Arytenoid swelling
E5.5.3.0.1.0.10	Lamina epithelialis laryngis	Epithelial lamina of larynx
E7.0.1.14.0.0.6	Sacci pulmonales dexter et sinister	Right and left lung sacs
	Urogenitalia	*Urogenital*
E7.0.1.14.0.0.7	(Glomeruli externi)[179]	(External glomeruli)
E7.0.1.14.0.0.8	Cellulae reninopositivae in mesonephro	Renin cells in mesonephros
E5.6.3.1.0.0.2	Gemma ureterica; Diverticulum metanephricum	Ureteric bud; Metanephric diverticulum
E5.6.3.2.0.0.4	Galea metanephrogenica	Metanephrogenic cap
E7.0.1.14.0.0.9	Ampulla singularis gemmae metanephricae in galea metanephrogenica	Single ampulla of ureteric bud in metanephrogenic cap
E5.7.1.0.0.0.5	Crista gonadalis	Gonadal ridge
E5.7.1.0.0.0.3	Translatio cellularum germinalium praecursorium; Migratio cellularum germinalium praecursorium[189]	Positional change of primordial germ cells; Migration of primordial germ cells
	Endocrina	*Endocrine*
E5.10.1.1.0.0.5	Truncus sacci adenohypophysialis patens[112]	Open stem of adenohypophysial pouch
E5.4.2.0.0.1.22	Ductus thyroglossus	Thyroglossal duct §His§
E7.0.1.14.0.0.10	Glandula thyroidea bilobata	Bilobed thyroid gland
E5.4.2.0.0.1.19	Gemma parathyroidea superior; Gemma parathyroidea a quarto sacco	Superior parathyroid bud; Parathyroid bud from pouch 4
	Cardiovascularia	*Cardiovascular*
E7.0.1.14.0.0.11	Mesenchyma cardiacum	Cardiac mesenchyme
E5.11.1.3.2.0.12	Tuber endocardiacum atrioventriculare	Atrioventricular endocardial cushion
E4.0.3.5.0.3.11	Crista endocardiaca septalis; Tuber endocardiacum septale	Septal ridge; Septal cushion; Parietal cushion
E7.0.1.14.0.0.12	Defectio arteriarum arcuum pharyngeorum primi et secundi [1 ad 2][223]	Disappearance of first and second pharyngeal arch arteries [1-2]
E7.0.1.14.0.0.13	Septum transversum in plano cervicale medio	Septum transversum at mid-cervical level
E5.11.2.1.2.0.13	A. sexti arcus pharyngei [6]; Arcus pulmonalis[223]	Sixth pharyngeal arch artery [6]; Sixth aortic arch [6]; Pulmonary arch
E5.11.2.1.2.0.15	A. pulmonalis	Pulmonary artery
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.14.0.0.14	Primordium splenis	Primordium of spleen
	Neuralia et sensoria	*Neural and senses*
E7.0.1.14.0.0.15	Ganglion terminale	Terminal ganglion
E5.16.1.1.0.0.1	Organum vomeronasale	Vomeronasal organ

[395] E2.0.1.2.0.0.45 *Embryo gradus XIV [St.14]* Embryos of Carnegie Stage 14, which exhibit these features, are generally 5-7mm in length and about 33 days old.

E7.0.1.14.0.0.16	Primordium hemispheri cerebri	Primordium of cerebral hemisphere
E7.0.1.14.0.0.17	Eminentia medialis corpori striato	Medial eminence for corpus striatum
E7.0.1.14.0.0.18	Neuromerus rostralis parencephalicus [Par r]	Rostral parencephalic neuromere [Par r]
E7.0.1.14.0.0.19	Neuromerus caudalis parencephalicus [Par c]	Caudal parencephalic neuromere [Par c]
E7.0.1.14.0.0.20	Neuromerus synencephalicus [Syn]	Synencephalic neuromere [Syn]
E7.0.1.14.0.0.21	Primordium cerebelli	Primordium of cerebellum
E5.14.3.1.5.0.9	Flexura pontina; Sulcus transversus rhombencephali	Pontine flexure; Transverse rhombo-encephalic sulcus
E7.0.1.14.0.0.22	Crista neuralis terminovomeronasalis apposita ad encephalon	Terminovomeronasal nasal crest apposed to brain
E7.0.1.14.0.0.23	N. oculomotorius [III]	Oculomotor nerve [III]
E7.0.1.14.0.0.24	Radices nervi hypoglossi conjunctae	Hypoglossal nerve roots united
E7.0.1.14.0.0.25	Innervatio incipiens gemmae membri superioris	Incipient innervation of upper limb bud
E7.0.1.14.0.0.26	Terminatio nervorum motoriorum in primordiis musculorum	Termination of motor nerves in muscle primordia
E7.0.1.14.0.0.27	Rr. communicantes	Rami communicantes
E5.16.3.1.0.0.14	Fovea lentis	Lens pit
E5.14.3.4.2.2.7	Cupula optica	Optic cup
E7.0.1.13.0.0.25	Pedunculus opticus primordialis	Primordial optic stalk
E5.14.3.4.2.2.15	Fissura optica; Fissura retinae[281]	Retinal fissure; Optic fissure
E5.0.2.1.4.1.4	Capsula otica	Otic capsule
E7.0.1.14.0.0.28	Diverticulum endolymphaticum; Appendiculum endolymphaticum	Endolymphatic diverticulum; Endolymphatic appendage
E7.0.1.14.0.0.29	Primordium ductus cochlearis	Primordium of cochlear duct
E2.0.1.2.0.0.46	**EMBRYO GRADUS XV [ST.15]**[396]	**STAGE 15 EMBRYO [ST.15]** ~36 days 7-9mm GL
	Generalia	*General*
E7.0.1.15.0.0.1	Differentiatio vaginae notochordalis cellularis	Differentiation of cellular notochordal sheath
E5.0.2.2.3.0.3	Blastema arcus neuralis	Blastema of neural arch
E7.0.1.15.0.0.2	Blastema costale	Blastema of rib
E5.0.2.2.2.0.29	Blastema centri vertebrae	Blastema of centrum of vertebra
E7.0.1.15.0.0.3	Junctio sclerotomorum occipitalium quatuor	Four occipital sclerotomes fusing
E7.0.1.15.0.0.4	Blastemata skeletalia scapulae, humeri, radii, ulnae, carpi, manus, acetabuli et femoris proximalis	Skeletal blastemas of scapula, humerus, radius, ulna, carpus, hand, acetabulum and proximal femur
E7.0.1.15.0.0.5	Lamina manus	Hand plate
E7.0.1.15.0.0.6	Crista ectodermalis apicalis membri inferioris; Crista marginalis membri inferioris	Apical ectodermal ridge of lower limb; Marginal ridge of lower limb
	Alimentaria	*Alimentary*
E7.0.1.15.0.0.7	Stratum circulare tunicae muscularis oesophagi	Circular muscle layer of oesophagus▲
E7.0.1.15.0.0.8	Descensus cardiae gastris primordialis	Descent of primordial cardia of stomach
E7.0.1.15.0.0.9	Elongatio muri sinistri gastris primordialis	Elongation of left wall of primordial stomach
E7.0.1.15.0.0.10	(Interruptio luminis duodenalis)	(Duodenal lumen interrupted)
E5.4.9.0.1.0.6	Bulla caecalis	Caecal swelling▲
E5.4.14.0.0.0.3	Vesica biliaris; Vesica fellea	Gallbladder
E5.4.13.0.0.0.1	Ductus choledochus; Ductus biliaris	Bile duct
E5.8.0.0.5.0.27	Foramen omentale; Foramen epiploicum	Omental foramen; Epiploic foramen
	Respiratoria	*Respiratory*
E5.3.0.0.0.0.9	Fovea nasalis	Nasal pit
E5.3.0.0.0.0.12	Prominentia nasalis lateralis	Lateral nasal prominence
E5.3.0.0.0.0.11	Prominentia nasalis medialis	Medial nasal prominence
E5.5.3.0.1.0.35	Gemmae bronchiales secundariae; Gemmae loborum pulmonalium	Secondary bronchial buds; Pulmonary lobar buds
	Urogenitalia	*Urogenital*
E7.0.1.15.0.0.11	Metanephros in pelve praesumptiva	Metanephros in presumptive pelvis
E7.0.1.15.0.0.12	Ramificatio ampullae uretericae in blastemate metanephrogenico incipiens	Incipient branching of ureteric ampulla in metanephrogenic blastema
E7.0.1.15.0.0.13	Formatio ampullarum uretericarum superioris et inferioris	Formation of superior and inferior ureteric ampullae
E5.7.3.0.3.0.1	Sinus urogenitalis primordialis	Primordial urogenital sinus

[396] E2.0.1.2.0.0.46 *Embryo gradus XV [St.15]* Embryos of Carnegie Stage 15, which exhibit these features, are generally 7-9mm in length and about 36 days old.

	Cardiovascularia	*Cardiovascular*
E5.11.1.5.1.1.2	Foramen secundum	Foramen secundum
E5.11.2.1.3.2.22	A. vertebralis	Vertebral artery
E5.11.2.1.3.2.24	A. basilaris	Basilar artery
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Endocrina	*Endocrine*
E5.10.2.0.0.0.2	Primordium glandulae pinealis	Primordium of pineal gland
E5.10.5.1.0.0.2	Primordium corticis glandulae suprarenalis	Primordium of cortex of suprarenal gland
E5.10.5.2.0.0.2	Primordium medullae glandulae suprarenalis	Primordium of medulla of suprarenal gland
	Neuralia et sensoria	*Neural and senses*
E7.0.1.15.0.0.14	Complexus cristae neuralis olfactoriae apud telencephalon	Olfactory neural crest complex at telencephalon
E7.0.1.15.0.0.15	Fibrae nervi olfactorii apud bulbum olfactorium	Olfactory nerve fibres at primordial olfactory bulb
E7.0.1.15.0.0.16	Densatio hippocampalis	Hippocampal thickening
E7.0.1.15.0.0.17	Eminentia lateralis corpori striato	Lateral eminence for corpus striatum
E7.0.1.15.0.0.18	N. abducens [VI]	Abducent nerve; Abducens nerve [VI]
E7.0.1.15.0.0.19	Primordia gangliorum geniculi et vestibulocochlearis disjungentia	Primordia of geniculate and vestibulocochlear ganglia separating
E7.0.1.15.0.0.20	Ganglion geniculi; Ganglion geniculatum	Geniculate ganglion
E5.16.4.0.3.0.40	Ganglion vestibulocochleare	Vestibulocochlear ganglion
E7.0.1.15.0.0.21	Innervatio incipiens gemmae membri inferioris	Incipient innervation of lower limb bud
E7.0.1.15.0.0.22	Primordium trunci sympathici cervicalis	Primordium of cervical sympathetic trunk
E5.16.3.1.4.0.6	Corpus vitreum primarium	Primary vitreous body
E7.0.1.15.0.0.23	Pigmentatio laminae externae cupulae opticae	Pigmentation of external optic cup layer
E5.16.3.1.0.0.15	Vesicula lentis	Lens vesicle
E7.0.1.15.0.0.24	Colliculi aurales	Auricular hillocks
E2.0.1.2.0.0.47	**EMBRYO GRADUS XVI [ST.16]**[397]	**STAGE 16 EMBRYO [ST.16]** ~38 days 8-11mm GL
	Generalia[398]	*General*
E7.0.1.16.0.0.1	Motus levissime perceptibiles[399]	Movements just discernible
E5.3.0.0.0.0.6	Prominentia frontonasalis	Frontonasal prominence
E5.3.0.0.0.0.19	Sulcus nasomaxillaris	Nasomaxillary groove
E5.3.0.0.0.0.20	Sulcus nasolacrimalis; Sulcus lacrimalis[307]	Nasolacrimal groove; Lacrimal groove
E5.16.3.2.0.0.10	Lamina lacrimalis[308]	Lacrimal lamina
E5.15.8.0.0.0.24	Plexus lumbosacralis	Lumbosacral plexus
E7.0.1.16.0.0.2	Lamina pedis	Foot plate
E7.0.1.16.0.0.3	Chondrificatio humeri	Chondrifying humerus
E7.0.1.16.0.0.4	Ingressio nervorum in laminam manus	Entry of nerves into hand plate
E7.0.1.16.0.0.5	Directura partis caudalis embryonis	Straightening of caudal part of embryo
E5.5.3.0.1.0.13	Condensatio mesenchymalis ossis hyoidei	Mesenchymal condensation of hyoid bone
	Alimentaria	*Alimentary*
E7.0.1.16.0.0.6	Junctio prominentiarum palatinarum primariarum	Joining of primary palatal prominences
E5.4.1.1.1.2.2	Primordium organi juxtaoralis	Primordium of juxta-oral organ §Chievitz§
E7.0.1.16.0.0.7	Formatio curvaturae majoris	Formation of greater curvature
E7.0.1.16.0.0.8	Formatio fundi gastris	Formation of fundus of stomach
E7.0.1.16.0.0.9	Formatio curvaturae minoris	Formation of lesser curvature
E7.0.1.16.0.0.10	Incisura angularis	Angular incisure

397 E2.0.1.2.0.0.47 *Embryo gradus XVI [St.16]* Embryos of Carnegie Stage 16, which exhibit these features, are generally 8-11mm in length and about 38 days old.

398 *Generalia* From Stage 16 onwards the list of *General features* begins with movements: either spontaneous movements (motus) observed using real-time ultrasound or responses (reflexus) elicited from aborted embryos/foetuses. The Stages at which these items first appear are derived from the menstrual ages of the original data. Movements appear in an orderly sequence and the last appearing movements are repeated in the Stages until the next movement in the sequence appears.

399 E7.0.1.16.0.0.1 *Motus levissime perceptibiles* "A slow and small shifting of the [embryonic] contours is seen lasting from half a second to two seconds, which usually occurs as a single event" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322). The state of the Stage 16 embryo and animal evidence (Harris JE. Early embryonic movements. J Obstet Gynaecol Br Emp 1962;69:818-821) suggest that these early movements may be myogenic and that conduction of contractions is along the myotomes themselves. This type of movement disappears after a period of less than 2 weeks whereas subsequent types persist, some until full term.

E7.0.1.16.0.0.11	Translatio cranialiter duodeni aboralis et flexurae duodenojejunalis	Cranial relocation of distal duodenum and duodenojejunal flexure
E7.0.1.16.0.0.12	Stratum circulare tunicae muscularis duodeni	Circular muscle layer of duodenum
E7.0.1.15.0.0.10	(Interruptio luminis duodenalis)	(Duodenal lumen interrupted)
E7.0.1.16.0.0.13	Canaliculi biliferi laminae hepatis	Bile canaliculi of hepatic plate
E5.4.7.0.0.0.11	Hernia umbilicalis physiologica	Physiological umbilical hernia
	Respiratoria	*Respiratory*
E5.5.1.0.0.0.2	Saccus nasalis	Nasal sac
E5.3.0.0.0.0.10	Pinna nasalis	Nasal fin
E5.5.3.0.1.0.12	Condensatio mesenchymalis epiglottidis	Mesenchymal condensation of epiglottis
E5.5.3.0.1.0.14	Condensatio mesenchymalis cartilaginis cricoideae	Mesenchymal condensation of cricoid cartilage
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.14	Metanephros in regione lumbale inferiore	Metanephros in lower lumbar region
E7.0.1.16.0.0.15	Incrementum metanephri	Metanephros enlarging
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.16.0.0.17	Formatio ductuum uretericorum polarium et lobulorum renalium	Formation of ureteric polar ducts and renal lobules
E7.0.1.16.0.0.18	Coalescentia ductuum polarium formantium propelves	Coalescence of polar ducts to form propelves
E7.0.1.16.0.0.19	Primordium pelvis renalis	Primordium of renal pelvis
E7.0.1.16.0.0.20	Invaginatio epithelii coelomici	Invagination of coelomic epitheium▲
E7.0.1.16.0.0.21	Ductus paramesonephricus primordialis	Primordial paramesonephric duct
	Endocrina	*Endocrine*
E7.0.1.16.0.0.22	Resorptio ductus thyroglossi	Resorption of thyroglossal duct
E5.4.2.0.0.1.12	Gemma parathyroidea inferior; Gemma parathyroidea sacci tertii	Inferior parathyroid bud; Parathyroid bud from pouch 3
E7.0.1.16.0.0.23	Chordae parathyroideae	Parathyroid cords
E7.0.1.16.0.0.24	Parathyrocyti endocrini lucidi	Pale principal parathyroid cells
E7.0.1.16.0.0.25	Incrementum prominens glandulae suprarenalis	Prominent increase in size of suprarenal gland
E5.10.5.1.0.0.5	Cortex suprarenalis temporarius[216]	Provisional suprarenal cortex; X zone
E7.0.1.16.0.0.26	Evaginatio neurohypophysis	Neurohypophysial evagination
E5.10.1.2.0.0.3	Recessus infundibularis	Infundibular recess
	Cardiovascularia	*Cardiovascular*
E7.0.1.16.0.0.27	Valvula semilunaris	Semilunar valve
E7.0.1.16.0.0.28	Occlusio foraminis primi cordis	Closure of foramen primum of heart
E7.0.1.16.0.0.29	A. cerebri posterior	Posterior cerebral artery
E7.0.1.16.0.0.30	A. subclavia	Subclavian artery
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Neuralia et sensoria	*Neural and senses*
E7.0.1.16.0.0.31	Neurofibrae nervorum olfactoriorum appositae ad bulbum olfactorium	Olfactory nerve fibres at olfactory bulb▲
E7.0.1.16.0.0.32	N. trochlearis [IV]	Trochlear nerve [IV]
E7.0.1.16.0.0.33	Truncus sympathicus compactus	Compact sympathetic trunk
E5.14.3.4.2.2.6	Pedunculus opticus	Optic stalk
E7.0.1.16.0.0.34	Densatio utriculosaccularis	Utriculosaccular thickening
E2.0.1.2.0.0.48	**EMBRYO GRADUS XVII [ST.17]**[400]	**STAGE 17 EMBRYO [ST.17]** ~41 days 11-14mm GL
	Generalia	*General*
E7.0.1.17.0.0.1	Motus tremefactionis[401]	Startle
E7.0.1.17.0.0.2	Colliculi auriculares sex	Six auricular hillocks
E7.0.1.17.0.0.3	Radii manus[402]	Hand rays

[400] E2.0.1.2.0.0.48 *Embryo gradus XVII [St.17]* Embryos of Carnegie Stage 17, which exhibit these features, are generally 11-14mm in length and about 41 days old.

[401] E7.0.1.17.0.0.1 *Motus tremefactionis* "A *startle* is a quick generalized movement, always initiated in the limbs and sometimes spreading to neck and trunk…. lasts about one second." (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[402] E7.0.1.17.0.0.3 *Radii manus* The five rays that form in the hand plate are appropriately named *hand rays* rather than digital rays because they give rise to the metacarpals as well as to the phalanges.

E7.0.1.17.0.0.4	Regressio partis non vertebratae eminentiae caudalis; Regressio partis non vertebratae gemmae caudalis [403]	Non-vertebrated part of caudal eminence regressing; Non-vertebrated part of tailbud regressing
E7.0.1.17.0.0.5	Chondrificatio partis basilaris ossis occipitalis	Basi-occiput chondrifying
E7.0.1.17.0.0.6	Chondrificatio centrorum vertebrarum	Vertebral centra chondrifying
E7.0.1.17.0.0.7	Costae membranaceae	Membranous ribs
E7.0.1.17.0.0.8	Blastemata skeletalia claviculae, manus, coxae, femoris, tibiae, fibulae et pedis	Skeletal blastema of clavicle, hand, hip bone, femur, tibia, fibula and foot
E7.0.1.17.0.0.9	Centra cartilaginea scapulae, radii, ulnae, coxae, femoris, tibiae et fibulae	Chondrification centres for scapula, radius, ulna, hip bone, femur, tibia and fibula▲
	Alimentaria	*Alimentary*
E7.0.1.17.0.0.10	Invaginatio primordii organi juxtaoralis	Invagination of primordium of juxta-oral organ §Chievitz§
E5.4.1.1.4.0.3	Palatum primarium; Processus palatinus medianus[404]	Primary palate; Median palatal process
E5.4.1.1.4.0.6	Processus palatinus secundarius; Processus palatinus lateralis	Lateral palatine process; Palatal shelf
E7.0.1.17.0.0.11	Primordia vestibuli oris	Primordia of oral vestibule; Primary epithelial band
E7.0.1.17.0.0.12	Epithelium stratificatum columnare oesophagi	Stratified columnar epithelium of oesophagus▲
E7.0.1.17.0.0.13	Vacuola epitheliorum	Epithelial vacuoles
E7.0.1.15.0.0.7	Stratum circulare tunicae muscularis oesophagi	Circular muscle layer of oesophagus▲
E7.0.1.17.0.0.14	Stratum circulare tunicae muscularis gastris	Circular muscle layer of stomach
E7.0.1.17.0.0.15	Positio horizontalis gastris primordialis	Transverse position of primordial stomach
E7.0.1.17.0.0.16	Areae gastricae	Gastric regions
E7.0.1.17.0.0.17	Foveolae gastricae	Gastric pits
E7.0.1.17.0.0.18	Plexus nervosus myentericus gastris	Myenteric plexus of stomach §Auerbach§
E7.0.1.17.0.0.19	Gemma cryptae intestini tenuis	Crypt bud of small intestine
E7.0.1.17.0.0.20	Plexus nervosus myentericus intestini tenuis	Myenteric plexus of small intestine §Auerbach§
E7.0.1.17.0.0.21	Occlusio luminis duodenalis	Duodenal lumen occluded
E7.0.1.17.0.0.22	Junctio pancreatum dorsalis et ventralis	Dorsal and ventral pancreas fused
E7.0.1.17.0.0.23	Primordium appendicis; Primordium appendicis vermiformis	Primordium of appendix; Primordium of vermiform appendix
	Respiratoria	*Respiratory*
E5.5.3.0.1.0.36	Gemmae bronchiales tertiariae; Gemmae segmentorum bronchopulmonalium	Tertiary bronchopulmonary buds; Bronchopulmonary segmental buds
	Urogenitalia[405]	*Urogenital*
E7.0.1.17.0.0.24	Bifurcatio ductuum uretericorum in blastemate metanephrogenico	Bifurcation of ureteric polar ducts in metanephrogenic blastema
E7.0.1.17.0.0.25	Formatio uretericarum propelvium et renalium ductuum lobulorumque	Formation of ureteric propelves, ducts and renal lobules
E7.0.1.17.0.0.26	Coalescentia propelvium formans calyces majores	Coalescence of propelves to form major calyces
E7.0.1.17.0.0.27	Primordia calycum renalium	Primordia of renal calyces
E7.0.1.17.0.0.28	Chordae gonadales	Gonadal cords
E7.0.1.17.0.0.29	Extensio caudaliter ductuum paramesonephricorum contra ductum mesonephricum	Extension of paramesonephric ducts caudally to juxtapose with mesonephric duct
E5.7.3.0.3.0.2	Canalis vesicourethralis	Vesico-urethral canal
E5.7.3.1.0.0.1	Sinus urogenitalis definitivus	Definitive urogenital sinus
	Endocrina	*Endocrine*

---

[403] E7.0.1.17.0.0.4 *Regressio partis non vertebralis eminentiae caudalis; Regressio partis non vertebralis gemmae caudalis* Only the proximal part of the caudal eminence or tail bud contains paraxial mesoderm or somitic material. The distal part thus has no vertebral elements and some say that to call it a tail is inappropriate.

[404] E5.4.1.1.4.0.3 *Palatum primarium; Processus palatinus medianus* The *median palatal process* is located in and adjacent to the midline and is the conjoined, lower (caudal) part of the medial nasal prominences. It is sometimes referred to as the intermaxillary segment because of its location between the maxillary prominences and rostral to the presumptive incisive canal. The incisor tooth buds form in the region. Historically, the region has been called the premaxilla but this usage is not recommended because of possible confusion with the premaxilla of the maxillary bone.

[405] *Urogenitalia* The mesonephros produces urine in Stage 17.

E7.0.1.17.0.0.30	Associatio corporis ultimopharyngei cum glandula thyroidea	Ultimopharyngeal body associates with thyroid gland
E5.10.3.0.0.0.5	Pars lateralis primordii thyroidei	Lateral thyroid component
E7.0.1.17.0.0.31	Associatio glandulae parathyroideae superioris cum glandula thyroidea	Superior parathyroid associated with thyroid gland; Parathyroid 4 associates with thyroid gland
E7.0.1.17.0.0.32	Gradus praecolloidalis glandulae thyroideae	Precolloid stage of thyroid gland
E5.10.5.1.0.0.6	Mesenchyma in cortice suprarenale temporaria	Mesenchyme in provisional suprarenal cortex
	Cardiovascularia	*Cardiovascular*
E7.0.1.17.0.0.33	Conjunctio tuberum endocardiacorum atrioventricularium	Fusion of atrioventricular endocardiac cushions
E7.0.1.17.0.0.34	Septum transversum in plano thoracico medio	Septum transversum at mid- thoracic level
E7.0.1.17.0.0.35	Aa. cerebri anterior et media	Anterior and middle cerebral arteries
E5.11.2.1.1.0.8	Truncus brachiocephalicus	Brachiocephalic trunk
E5.11.2.1.1.0.12	A. carotis communis sinistra	Left common carotid artery
E7.0.1.17.0.0.36	Defectio aortae dorsalis inter arterias arcuum pharyngeorum 3 et 4; Defectio ductus carotici	Disappearance of dorsal aorta between pharyngeal arch arteries 3 and 4; Disappearance of ductus caroticus
E7.0.1.17.0.0.37	Defectio partis distalis arteriae arcus pharyngei sexti dextri	Disappearance of distal part of right 6th pharyngeal arch artery
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.17.0.0.38	Disjunctio primordii thymi	Detachment of thymic primordium
E7.0.1.17.0.0.39	Hilum primordiale splenis	Primordial hilum of spleen
	Neuralia et sensoria	*Neural and senses*
E7.0.1.17.0.0.40	Bulbus olfactorius praesumptivus	Presumptive olfactory bulb
E7.0.1.17.0.0.41	Ganglia ciliare pterygopalatinum et submandibulare	Ciliary, pterygopalatine and submandibular ganglia
E7.0.1.17.0.0.42	Ganglia geniculi et vestibulocochleare disjuncta	Geniculate and vestibulocochlear ganglia separated
E7.0.1.17.0.0.43	Nn. craniales 0 ad XII[406]	Cranial nerves 0-XII
E7.0.1.17.0.0.44	Occlusio cavitatis lentis	Lens cavity obliterated
E7.0.1.17.0.0.45	Differentiatio retinae neuralis incipiens	Differentiation of neural retina begins
E7.0.1.17.0.0.46	Stratum nucleare strati ventricularis cupulae opticae	Nuclear layer of ventricular layer of optic cup
E7.0.1.17.0.0.47	Stratum marginale initiale retinae	Initial marginal layer of retina
E7.0.1.17.0.0.48	Capsula otica membranacea	Membranous otic capsule
E7.0.1.17.0.0.49	Diverticulum utriculosacculare	Utriculosaccular diverticulum
E5.4.2.0.0.1.3	Recessus tubotympanicus	Tubotympanic recess
E7.0.1.17.0.0.50	Ossicula auditus membranacea	Membranous auditory ossicles
E2.0.1.2.0.0.49	**EMBRYO GRADUS XVIII [ST.18]**[407]	**STAGE 18 EMBRYO [ST.18]** ~44 days 13-17mm GL
	Generalia	*General*
E7.0.1.18.0.0.1	Motus contractionis corporalis generalis[408]	General movements
E7.0.1.18.0.0.2	Motus singultus[409]	Hiccup
E7.0.1.18.0.0.3	Sexus gonadalis masculinus	Evidence of male gonadal features
E7.0.1.18.0.0.4	Initium lordosis cervicalis	Beginning of cervical lordosis
E7.0.1.18.0.0.5	Initium lordosis lumbalis	Beginning of lumbar lordosis
E7.0.1.18.0.0.6	Regio cubitalis	Elbow region
E7.0.1.18.0.0.7	Lamina manus incisa	Notched hand plate
E7.0.1.18.0.0.8	Radii pedis[410]	Foot rays

406 E7.0.1.17.0.0.43 *Nn. craniales [0 ad XII]* All *cranial nerves*, including the nervus terminalis [0], are represented in Stage 17 as fibres from the olfactory epithelium reach the presumptive olfactory bulb. The most proximal parts of the other cranial nerves developed earlier and their more peripheral parts will develop subsequently.

407 E2.0.1.2.0.0.49 *Embryo gradum XVIII [St.18]* Embryos of Carnegie Stage 18, which exhibit these features, are generally 13-17mm in length and about 44 days old.

408 E7.0.1.18.0.0.1 *Motus contractionis corporalis generalis* In *General movements* "the whole body is moved but no distinctive patterning or sequencing of the body parts can be recognized: initially slow and of limited amplitude, after 2 or 3 weeks they become forceful (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

409 E7.0.1.18.0.0.2 *Motus singultus* A *hiccup* consists of a jerky contraction of the diaphragm (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

E5.16.3.2.0.0.2	Plicae palpebrales	Palpebral folds
E7.0.1.18.0.0.9	Apex nasi	Apex of nose; Tip of nose
E7.0.1.18.0.0.10	Bifurcatio apicis laminae lacrimalis	Bifurcation of tip of lacrimal lamina
E7.0.1.18.0.0.11	Omnia centra vertebralia praesentia	All vertebral centra present
E7.0.1.18.0.0.12	Omnia ganglia spinalia praesentia	All spinal ganglia present
E7.0.1.18.0.0.13	Initium ossificationis membranaceae corporis claviculae	Beginning of intramembranous ossification of shaft of clavicle
E7.0.1.18.0.0.14	Initium ossificationis membranaceae corporis mandibulae	Beginning of intramembranous ossification of body of mandible
E7.0.1.18.0.0.15	Initium ossificationis membranacea maxillae	Beginning of intramembranous ossification of maxilla
E7.0.1.18.0.0.16	Initium chondrificationis arcuum vertebralium et costarum	Beginning of chondrification of vertebral arches and ribs
E7.0.1.18.0.0.17	Blastemata skeletalia ossis lunati, ossis pisiformis et plurium phalangium	Skeletal blastemata of lunate, pisiform and some phalanges
E7.0.1.18.0.0.18	Centra chondrificationis ossium tarsalium et metatarsalium	Chondrification centres for tarsus and metatarsus▲
E7.0.1.18.0.0.19	Cartilagines skeletales scapulae, humeri, radii, ulnae, ossis capitati, ossis hamati, ossis scaphoidei, ossium trapezii trapezoideique, ossium metacarpalium atque aliarum phalangium, ilii, ischii, pubis, femoris, tibiae et fibulae	Skeletal cartilages of scapula, humerus, radius, ulna, capitate, hamate, scaphoid, trapezium and trapezoid, metacarpals and other phalanges, of ilium, ischium and pubis, femur, tibia and fibula
E7.0.1.18.0.0.20	Chondrificatio ossis hyoidei	Chondrification of hyoid bone
E7.0.1.18.0.0.21	Primordia muscularia	Muscle primordia
	Alimentaria	*Alimentary*
E5.4.1.1.1.2.4	Primordium organi juxtaoralis disiunctum	Detached primordium of juxta-oral organ §Chievitz§
E7.0.1.18.0.0.22	Taenia labiogingivalis	Labiogingival lamina; Vestibular band
E5.4.1.1.1.0.3	Lamina dentalis	Dental lamina
E5.4.1.3.0.0.7	Gemma glandulae submandibularis	Submandibular gland bud
E7.0.1.18.0.0.23	Formatio glandularum gastricae propriae	Formation of gastric glands proper
E7.0.1.18.0.0.24	Exocrinocyti parietales glandularum gastris	Parietal cells of gastric glands; Oxyntic cells
E5.7.4.0.1.0.5	Plica cloacalis[201]	Cloacal fold
E5.4.10.0.0.0.7	Abruptio membranae cloacalis	Rupture of cloacal membrane
	Respiratoria	*Respiratory*
E7.0.1.18.0.0.25	Primordium ductus nasolacrimalis	Primordium of nasolacrimal duct
E5.5.1.0.0.0.14	Sulcus vomeronasalis	Vomeronasal groove
E7.0.1.18.0.0.26	Primordium septi nasi	Primordium of nasal septum
E5.5.1.0.0.0.9	Membrana oronasalis	Oronasal membrane
E5.5.1.0.0.0.10	Choana primaria	Primary choana
E7.0.1.18.0.0.27	Gemmae bronchiales quaternariae; Gemmae bronchopulmonales subsegmentales	Quaternary bronchopulmonary buds; Bronchopulmonary subsegmental buds
	Urogenitalia	*Urogenital*
E7.0.1.18.0.0.28	Metanephros in regione lumbale superiore	Metanephros in upper lumbar region
E5.6.3.1.1.0.2	Occlusio luminis ureteri	Occluded ureteric lumen
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenicum	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.18.0.0.29	Formatio propelvium uretericarum, ductuum renalium et lobulorum renalium	Formation of ureteric propelves, renal ducts and renal lobules
E7.0.1.18.0.0.30	Propelvium coalescentia formans calyces minores	Coalescence of propelves to form minor calyces
E7.0.1.18.0.0.31	Circa triginta duas ampullas uretericas	About 32 ureteric ampullae
E5.6.3.1.2.0.21	Tubuli metanephrici colligentes; Ductus metanephrici colligentes	Collecting tubules of metanephros; Collecting ducts of metanephros [CD] §Bellini§
E7.0.1.18.0.0.32	Chordae testiculares	Testicular cords
E7.0.1.18.0.0.33	Elongatio ductus paramesonephrici	Elongation of paramesonephric duct
E5.7.4.0.1.0.1	Tuberculum phallicum; Tuberculum genitale	Phallic tubercle; Genital tubercle
	Cardiovascularia	*Cardiovascular*
E5.11.1.5.1.1.8	Plica secunda interatrialis; Septum secundum[226]	Secondary interatrial fold

[410] E7.0.1.18.0.0.8 *Radii pedis* The five rays that form in the foot plate are appropriately named *foot rays* rather than digital rays because they give rise to the metatarsals as well as to the phalanges.

E5.11.1.5.1.1.11	Foramen ovale	Oval foramen §Botallo§
E5.11.1.7.1.0.3	M. papillaris superolateralis ventriculi sinistri; M. papillaris anterior ventriculi sinistri[227]	Superolateral papillary muscle of left ventricle; Anterior papillary muscle of left ventricle
E5.11.1.7.1.0.4	M. papillaris inferoseptalis ventriculi sinistri; M. papillaris posterior ventriculi sinistri[227]	Inferoseptal papillary muscle of left ventricle; Posterior papillary muscle of left ventricle
E5.11.1.7.2.0.3	M. papillaris anterolateralis ventriculi dextri; M. papillaris anterior[227]	Anterolateral papillary muscle; Anterior papillary muscle of right ventricle
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.18.0.0.34	Invasio vasorum sanguineorum in primordium splenis	Invasion of splenic primordium by blood vessels
	Neuralia et sensoria	*Neural and senses*
E7.0.1.18.0.0.35	Phasis zonarum trium differentiationis epithelii tubi neuralis	Three-zone phase of differentiation of neural tube epithelium
E5.14.3.1.0.0.3	Fissura choroidea	Choroid fissure
E7.0.1.18.0.0.36	Plexus choroideus villosus ventriculi lateralis	Villous choroid plexus of lateral ventricle
E7.0.1.18.0.0.37	Occlusio fissurae retinalis; Occlusio fissurae opticae	Closure of retinal fissure; Closure of optic fissure
E5.16.3.1.4.0.9	Canalis hyaloideus	Hyaloid canal
E7.0.1.18.0.0.38	Conjunctio colliculorum auricularium	Fusion of auricular hillocks
E5.16.4.0.2.0.16	Stapes	Stapes
E5.16.4.0.2.0.17	M. stapedius	Stapedius
E5.16.4.0.3.0.10	Ductus semicirculares auris internae	Semicircular ducts of internal ear
E2.0.1.2.0.0.50	**EMBRYO GRADUS XIX [ST.19][411]**	**STAGE 19 EMBRYO [ST.19]** ~46 days 16-18mm GL 10-16.5 developmental points
	Generalia	*General*
E7.0.1.18.0.0.1	Motus contractionis corporalis generalis[408]	General movements
E7.0.1.18.0.0.2	Motus singultus[409]	Hiccup
E7.0.1.19.0.0.1	Cartilagines arcuum pharyngeorum primi, secundi et tertii; Cartilagines arcuum mandibularis, hyoidei et tertii	Cartilages of first, second and third pharyngeal arches; Cartilages of mandibular, hyoid and third arches
E7.0.1.19.0.0.2	Chorda lacrimalis et primordium canaliculorum	Lacrimal cord and primordium of canaliculi
E7.0.1.19.0.0.3	Lamina meatus nasalis inferioris	Lamina of inferior nasal meatus
E7.0.1.19.0.0.4	Centrum ossificationis primarium femoris	Primary ossification centre of femur▲
E7.0.1.19.0.0.5	Ossificatio mandibulae	Ossification of mandible
E7.0.1.19.0.0.6	Chondrificatio pediculi arcus vertebrae	Chondrification of pedicle of vertebral arch
E7.0.1.19.0.0.7	Primordia articulationum coxae et genus	Primordia of hip and knee joints
E7.0.1.19.0.0.8	Septum transversum prope vel ad situationem definitivam	Septum transversum at or near definitive level
E5.16.3.2.0.0.8	Blastema glandulae lacrimalis[412]	Blastema of lacrimal gland
	Alimentaria	*Alimentary*
E5.4.1.1.1.2.5	Chorda juxtaoralis cum lumine	Juxta-oral cord with lumen
E7.0.1.19.0.0.9	Mesenchyma appositum ad gemmam glandulae submandibularis	Mesenchyme applied to submandibular gland bud
E7.0.1.19.0.0.10	Exocrinocyti caliciformes intestini tenuis	Goblet cells of small intestine
E7.0.1.19.0.0.11	Villi primordiales intestini tenuis	Primordial villi of small intestine
E5.4.4.0.0.0.10	Epithelium pseudostratificatum columnare	Pseudostratified columnar epithelium
E5.4.9.0.1.0.3	Colon primordiale	Primordial colon
E7.0.1.19.0.0.12	Lamina muscularis mucosae coli	Muscularis mucosae of colon
E5.4.9.0.2.0.11	Rectum primordiale	Primordial rectum
	Urogenitalia	*Urogenital*

411 E2.0.1.2.0.0.50 *Embryo gradum XIX [St.19]* Embryos of Carnegie Stage 19, which exhibit these features, are generally 16-18mm in length and about 46 days old. Correct assignment to particular Stages in the range 19-22 gets progressively more difficult. Comparisons with Streeter's photographs and Greatest Length are important, as are "point scores" based upon the state of development of the cornea, optic nerve, cochlear duct, adenohypophysis, vomeronasal organ, submandibular gland, metanephros and humerus. Embryos of Carnegie Stage 19 score totals of 10-16.5 developmental points. These embryos have completed the "premier sous-stade de 45j allant jusqu'à la 1ère ébauche typiquement humaine" (Guyot R. Théorie nouvelle sur les âges de la vie. 2nd ed. Paris: Barré & Dayez; 1985).

412 E5.16.3.2.0.0.8 *Blastema glandulae lacrimalis* Mesenchyme condenses in relation to the superior conjunctival fornix, the epithelium of which thickens before the appearance of epithelial buds (Cuadra-Blanco C, Peces-Peña MD, Mérida-Velasco JR. Morphogenesis of the human lacrimal gland. J Anat 2003;203:531-536).

E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.19.0.0.13	Vesiculae metanephricae; Vesiculae renales	Metanephric vesicles; Renal vesicles
	Endocrina	*Endocrine*
E5.10.1.1.0.0.6	Truncus occlusus sacci adenohypophysialis[112]	Closed stem of adenohypophysial pouch
E5.10.1.1.0.0.10	Paries abinfundibularis sacci adenohypophysialis[112]	Abinfundibular wall of adenohypophysial pouch
E5.10.1.1.0.0.11	Pars distalis adenohypophysis	Pars distalis of adenohypophysis; Pars anterior of hypophysis
E5.10.1.1.0.0.19	Paries infundibularis sacci adenohypophysialis[112]	Infundibular wall of adenohypophysial pouch
E5.10.1.1.0.0.20	Pars intermedia adenohypophysis	Pars intermedia of adenohypophysis
E5.10.1.1.0.0.21	Paries dorsolateralis sacci adenohypophysialis[112]	Dorsolateral wall of adenohypophysial pouch
E7.0.1.19.0.0.14	Pars tuberalis adenohypophysis	Pars tuberalis of adenohypophysis
E7.0.1.19.0.0.15	Disjunctio gemmae parathyroideae inferioris; Disjunctio gemmae parathyroideae sacci tertii	Bud of inferior parathyroid detached; Parathyroid bud of pouch 3 detached
E7.0.1.19.0.0.16	Associatio glandulae parathyroideae inferioris cum glandula thyroidea	Inferior parathyroid associates with thyroid gland; Parathyroid 3 associates with thyroid gland
	Cardiovascularia	*Cardiovascular*
E7.0.1.19.0.0.17	Circulus arteriosus cerebri	Cerebral arterial circle
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Neuralia et sensoria	*Neural and senses*
E5.14.3.4.3.1.13	Bulbus olfactorius	Olfactory bulb
E5.14.3.1.6.0.8	Lamina cerebellaris	Cerebellar plate
E4.0.3.3.1.0.8	Epithelium posterius corneae	Endothelium of anterior chamber
E7.0.1.19.0.0.18	Ingressio axonum nervi optici in pedunculum opticum	Entry of optic nerve axons into optic stalk
E7.0.1.19.0.0.19	Stratum pigmentosum retinae	Pigmented layer of retina
E7.0.1.19.0.0.20	Directio dorsalis ductus cochlearis	Cochlear duct pointing dorsad
E7.0.1.19.0.0.21	Malleus	Malleus
E7.0.1.19.0.0.22	Incus	Incus
E7.0.1.19.0.0.23	Capsula otica cartilaginea	Cartilaginous otic capsule
E2.0.1.2.0.0.51	**EMBRYO GRADUS XX [ST.20]**[413]	**STAGE 20 EMBRYO [ST.20]** ~49 days 18-22mm GL 19-29.5 developmental points
	Generalia	*General*
E7.0.1.18.0.0.1	Motus contractionis corporalis generalis[408]	General movements
E7.0.1.18.0.0.2	Motus singultus[409]	Hiccup
E7.0.1.20.0.0.1	Plexus vasculosus subcutaneus capitis incipiens	Incipient subcutaneous vascular plexus of head
E7.0.1.20.0.0.2	Chondrocranium praesellare	Presellar chondrocranium
E7.0.1.20.0.0.3	Centra ossificationis primaria tibiae, fibulae, humeri, radii et ulnae	Primary ossification centres of tibia, fibula, humerus, radius and ulna▲
E7.0.1.20.0.0.4	Cartilago skeletalis ossium tarsalium, ossium metatarsalium et phalangium	Skeletal cartilage of tarsus, metatarsus and phalanges
E7.0.1.20.0.0.5	Primordia ligamentorum primorum	Primordia of first ligaments
E7.0.1.20.0.0.6	Eminentia caudalis vestigialis; Cauda vestigialis	Vestigial caudal eminence; Vestigial tail
E7.0.1.20.0.0.7	Tuberculum coccygeum [414]	Coccygeal tubercle
E7.0.1.20.0.0.8	Tuberculum caudale[414]	Caudal tubercle
	Alimentaria	*Alimentary*
E7.0.1.20.0.0.9	Innervatio primordii organi juxtaoralis a nervo buccale	Innervation of primordial juxta-oral organ by buccal nerve §Chievitz§
E7.0.1.20.0.0.10	Extensio pediculi glandulae submandibularis	Elongated submandibular stalk

[413] E2.0.1.2.0.0.51 *Embryo gradus XX [St.20]* Embryos of Carnegie Stage 20, which exhibit these features, are generally 18-22mm in length and about 49 days old. Embryos of Carnegie Stage 20 have scored totals of 19-29.5 developmental points (see footnote[407]).

[414] E7.0.1.20.0.0.7/ E7.0.1.20.0.0.8 *Tuberculum coccygeum / Tuberculum caudale* In Stage 20 the vestigial caudal eminence or tail bud is reduced to two transient midline tubercles, caudal to the anal pit: the *coccygeal tubercle*, which is nearer to the pit, is produced by the underlying tip or dorsum of the coccyx and will become submerged; the *caudal tubercle*, which is further from the pit, is produced by vestiges of the nonvertebrated part of the caudal eminence or tail bud and may become cystic.

E7.0.1.20.0.0.11	Ampulla recti	Rectal ampulla
E7.0.1.20.0.0.12	Columnae anales	Anal columns
E7.0.1.20.0.0.13	Occlusio ani[415]	Occlusion of anus
	Respiratoria	*Respiratory*
E5.16.1.1.0.0.3	Cupula vomeronasalis	Vomeronasal cup
E7.0.1.20.0.0.14	Occlusio hiatus pleuroperitonealis	Closure of pleuroperitoneal opening
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.20.0.0.15	Tubuli metanephrici sigmoidei	S-shaped metanephric tubules
	Endocrina	*Endocrine*
E7.0.1.20.0.0.16	Colloidum in folliculis glandulae thyroideae	Colloid in thyroid gland follicles
E5.10.1.1.0.0.7	Truncus extensus sacci adenohypophysialis[112]	Elongated stem of adenohypophysial pouch
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E5.12.1.2.1.0.1	Cortex thymi	Cortex of thymus
	Neuralia et sensoria	*Neural and senses*
E7.0.1.18.0.0.36	Plexus choroideus villosus ventriculi lateralis	Villous choroid plexus of lateral ventricle
E7.0.1.20.0.0.17	Adventus axonorum in chiasma opticum	Arrival of axons in optic chiasm
E7.0.1.20.0.0.18	Stratum neuronorum immaturorum externum retinae	Outer immature neuron layer of retina
E5.16.3.1.1.1.33	Stratum anucleare fugax retinae	Transient anuclear layer of retina §Chievitz§
E5.16.3.1.1.1.34	Stratum neuronorum immaturorum internum retinae; Stratum intermedium retinae; Stratum pallii retinae	Inner immature neuron layer of retina; Mantle layer of retina
E5.16.4.0.2.0.11	M. tensor tympani	Tensor tympani
E7.0.1.20.0.0.19	Ductus cochlearis caudaliter	Cochlear duct pointing caudad
E2.0.1.2.0.0.52	**EMBRYO GRADUS XXI [ST.21]**[416]	**STAGE 21 EMBRYO [ST.21]** ~51 days 22-24mm GL 30-39 developmental points
	Generalia	*General*
E7.0.1.21.0.0.1	Motus singularis membri[417]	Isolated limb movements
E7.0.1.21.0.0.2	Motus singularis extensionis capitis[418]	Isolated retroflexion of the head
E7.0.1.21.0.0.3	Motus singularis rotationis capitis[419]	Isolated rotation of the head
E7.0.1.21.0.0.4	Expansio plexus vasculosi subcutanei capitis	Expansion of subcutaneous vascular plexus of head
	Alimentaria	*Alimentary*
E7.0.1.21.0.0.5	Rr. primarii pediculi glandulae submandibularis	Primary branches of submandibular stalk
E7.0.1.21.0.0.6	Extensio pediculi glandulae parotideae	Elongation of parotid bud
E7.0.1.21.0.0.7	Papillae linguales vallatae et foliatae	Vallate and foliate papillae of tongue
E7.0.1.21.0.0.8	Stratum longitudinale tunicae muscularis oesophagi	Longitudinal muscle layer of oesophagus▲
E7.0.1.21.0.0.9	Stratum longitudinale tunicae muscularis gastris	Longitudinal muscle layer of stomach
E7.0.1.21.0.0.10	Recanalisatio luminis duodenalis	Duodenal lumen recanalised
E7.0.1.21.0.0.11	Stratum circulare tunicae muscularis recti	Circular muscle layer of rectum
	Respiratoria	*Respiratory*
E5.16.1.1.0.0.1	Organum vomeronasale	Vomeronasal organ

[415] E7.0.1.20.0.0.13 *Occlusio ani* The anus is temporarily occluded by adhesion and an epithelial plug, which may have been mistaken for an anal membrane. A separate anal membrane does not exist because the urorectal septum does not reach the cloacal membrane.

[416] E2.0.1.2.0.0.52 *Embryo gradus XXI [St.21]* Embryos of Carnegie Stage 21, which exhibit these features, are generally 22-24mm in length and about 51 days old. Embryos of Carnegie Stage 21 have scored totals of 30-39 developmental points (see footnote[407]).

[417] E7.0.1.21.0.0.1 *Motus singularis membri* *Isolated arm or leg movements* "may be rapid or slow and may involve extension, flexion, [lateral] and [medial] rotation or abduction or adduction of an extremity, without movements in other body parts. The amplitude can vary from small to very large." (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[418] E7.0.1.21.0.0.2 *Motus singularis extensionis capitis* *Isolated retroflexion of the head* is "usually carried out slowly but can also be fast and jerky. The displacement of the head can be small or large" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[419] E7.0.1.21.0.0.3 *Motus singularis rotationis capitis* *Isolated rotation of the head"* is carried out at a slow velocity and only exceptionally at a higher speed. The head may turn from a midline position to one side and back" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

	Urogenitalia	*Urogenital*
E7.0.1.21.0.0.12	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.21.0.0.13	Capsulae glomerulares metanephricae	Metanephric glomerular capsules
E5.6.3.1.1.0.3	Recanalisatio luminis ureteri	Recanalised ureteric lumen
	Endocrina	*Endocrine*
E7.0.1.21.0.0.14	Initium dissolutionis trunci sacci adenohypophysialis[112]	Beginning of fragmentation of stem of adenohypophysial pouch
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.21.0.0.15	Invasio thymi a vasis capillariis	Invasion of thymus by capillaries
	Neuralia et sensoria	*Neural and senses*
E7.0.1.21.0.0.16	Phasis zonarum quatuor differentiationis corticis cerebri	Four-zone phase of differentiation of cerebral cortex
E7.0.1.21.0.0.17	Lamina corticalis hemispherii cerebri	Cortical plate of cerebral hemisphere
E7.0.1.21.0.0.18	Adventus axonorum nervi optici ad diencephalon	Arrival of optic nerve axons at diencephalon
E5.16.3.1.4.0.30	Substantia propria corneae	Substantia propria of cornea
E7.0.1.21.0.0.19	Ductus cochlearis ventraliter	Cochlear duct pointing ventrad
E2.0.1.2.0.0.53	**EMBRYO GRADUS XXII [ST.22]**[420]	**STAGE 22 EMBRYO [ST.22]** ~53 days 23-28mm GL 40.5-46 developmental points
	Generalia	*General*
E7.0.1.22.0.0.1	Motus manus adtingentis faciem[421]	Hand-face-contact
E7.0.1.21.0.0.4	Expansio plexus vasculosi subcutanei capitis	Expansion of subcutaneous vascular plexus of head
E7.0.1.22.0.0.2	Reflexus contractionis perioralis totalis	Peri-oral mass reflex
E7.0.1.22.0.0.3	Reflexus contractionis facialis totalis	Facial mass reflex
E7.0.1.22.0.0.4	Responsum flexionis cervicalis contralateralis	Contralateral flexion response of neck
E7.0.1.22.0.0.5	Differentiatio partium canalicularum saccularum ductularumque chordae lacrimalis	Differentiation of canalicular, saccular and ductular parts of lacrimal cord
E7.0.1.22.0.0.6	Tragus	Tragus
E7.0.1.22.0.0.7	Antitragus	Antitragus
E7.0.1.22.0.0.8	Anulus periostealis humeri	Periosteal collar of humerus
	Alimentaria	*Alimentary*
E7.0.1.22.0.0.9	Rr. secundarii pediculi glandulae submandibularis	Secondary branches of submandibular stalk
E7.0.1.22.0.0.10	Rr. primarii pediculi glandulae parotideae	Primary branches of parotid stalk
E7.0.1.22.0.0.11	Stratum circulare tunicae muscularis intestini tenuis	Circular muscle layer of small intestine
E7.0.1.22.0.0.12	Villi definitivi duodeni	Definitive villi of duodenum
E7.0.1.22.0.0.13	Epitheliocyti penicillati solitarii; Enterocyti cum limbo microvilloso solitarii	Solitary brush cells; Solitary tuft cells; Solitary enterocyte with microvillous border; Solitary enterocyte with brush border
E7.0.1.22.0.0.14	Endocrinocyti gastrointestinales gastris et intestini tenuis	Entero-endocrine cells; Gastro-enteropancreatic cells; GEP endocrine cells of stomach and small intestine
E7.0.1.22.0.0.15	Corpuscula meconii in enterocytis	Meconium corpuscles in enterocytes
E7.0.1.22.0.0.16	Stratum longitudinale tunicae muscularis intestini tenuis	Longitudinal muscle layer of small intestine
E7.0.1.22.0.0.17	Stratum circulare tunicae muscularis coli	Circular muscle layer of colon
E7.0.1.22.0.0.18	Stratum longitudinale tunicae muscularis coli	Longitudinal muscle layer of colon
E7.0.1.22.0.0.19	Stratum circulare tunicae muscularis appendicis vermiformis	Circular muscle layer of appendix
E5.4.12.0.0.2.6	Canalis bilifer	Bile canal §Hering§
	Respiratoria	*Respiratory*
E7.0.1.22.0.0.20	Ductus brevis organi vomeronasalis	Short vomeronasal duct

[420] E2.0.1.2.0.0.53 *Embryo gradus XXII [St.22]* Embryos of Carnegie Stage 22, which exhibit these features, are generally 23-28mm in length and about 53 days old. Embryos of Carnegie Stage 22 have scored totals of 40.5-46 developmental points (see footnote[407]).

[421] E7.0.1.22.0.0.1 *Motus manus adtingentis faciem* *Hand-face-contact* is achieved when "the hand slowly touches the face, the fingers frequently extend and flex" but rarely enter the mouth (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

E7.0.1.22.0.0.21	Initium temporis pseudoglandularis pulmonis	Beginning of pseudoglandular period of lung
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.0.1.22.0.0.22	Glomeruli magni metanephrici	Large metanephric glomeruli
E5.6.4.2.1.2.2	Tuberculum sinuale	Sinus tubercle
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
	Endocrina	*Endocrine*
E5.4.2.0.0.1.19	Disjunctio gemmae parathyroideae superioris; Disjunctio gemmae parathyroideae sacco quarto	Superior parathyroid bud detached; Parathyroid bud detached from pouch 4
	Neuralia et sensoria	*Neural and senses*
E7.0.1.22.0.0.23	Capsula interna cerebri	Internal capsule of cerebrum
E7.0.1.22.0.0.24	Capsula externa cerebri	External capsule of cerebrum
E7.0.1.22.0.0.25	Claustrum	Claustrum
E7.0.1.22.0.0.26	Vagina nervi optici	Optic nerve sheath
E7.0.1.22.0.0.27	Stratum neurofibrarum retinae	Layer of nerve fibres of retina▲
E7.0.1.22.0.0.28	Stratum limitans internum retinae	Inner limiting layer of retina
E7.0.1.22.0.0.29	Condensatio sclerae	Scleral condensation
E7.0.1.22.0.0.30	Ductus cochlearis dorsaliter iterum	Cochlear duct again pointing dorsad
E2.0.1.2.0.0.54	**EMBRYO GRADUS XXIII [ST.23]**[422]	**STAGE 23 EMBRYO [ST.23]** ~56 days 27-31mm GL 48-60.5 developmental points
	Generalia	*General*
E7.0.1.23.0.0.1	Motus respirationis[423]	Breathing movements
E7.0.1.23.0.0.2	Motus adpertionis oris[424]	Jaw movements
E7.0.1.23.0.0.3	Motus porrectionis lentae corporis[425]	Stretching
E7.0.1.23.0.0.4	Motus singularis flexionis capitis[426]	Isolated anteflexion of the head
E7.0.1.23.0.0.5	Plexus vasculosus subcutaneus capitis paene completus	Nearly complete subcutaneous vascular plexus of head
E7.0.1.23.0.0.6	Conjunctio medialis et lateralis palpebrarum incipiens	Incipient medial and lateral fusion of eyelids
E7.0.1.23.0.0.7	Ossificatio tecti occipitalis	Ossifying occipital tectum
E5.0.2.2.3.0.4	Vertebrae cartilagineae	Cartilaginous vertebrae
E7.0.1.23.0.0.8	Centrum ossificationis primarium scapulae	Primary ossification centre of scapula▲
E7.0.1.23.0.0.9	Cavitatio articulationum coxae et genus	Cavitation of hip and knee joints
E7.0.1.23.0.0.10	Conjunctio processuum palatinorum pergens	Ongoing fusion of palatal shelves
	Alimentaria	*Alimentary*
E7.0.1.23.0.0.11	Glandula sublingualis	Sublingual gland
E7.0.1.23.0.0.12	Formatio palati secundarii pergens	Ongoing formation of secondary palate
E7.0.1.23.0.0.13	Ductus longus organi vomeronasalis	Long vomeronasal duct
E7.0.1.23.0.0.14	Rr. secundarii pediculi glandulae parotidae	Secondary branches of parotid stalk
E7.0.1.23.0.0.15	Papillae linguales fungiformes	Fungiform papillae of tongue
E7.0.1.23.0.0.16	Myoblasti leves vesicae biliaris	Smooth muscle myoblasts of gallbladder
E7.0.1.23.0.0.17	Cryptae primordialis intestini tenuis	Primordial crypts of small intestine
	Respiratoria	*Respiratory*
E5.5.3.0.2.0.1	Tempus pseudoglandulare pulmonis	Pseudoglandular period of lung
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte

[422] E2.0.1.2.0.0.54 *Embryo gradus XXIII [St.23]* Embryos of Carnegie Stage 23, which exhibit these features, are generally 27-31mm in length and about 56 days old. Embryos of Carnegie Stage 23 have scored totals of 48-60.5 developmental points (see footnote[407]).

[423] E7.0.1.23.0.0.1 *Motus respirationis Breathing movements "*consist of movement of the diaphragm (caudal direction), leading to movements of the thorax (inwards) and abdomen (outwards)" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[424] E7.0.1.23.0.0.2 *Motus adpertionis oris Jaw movements "*may be either slow or quick. The extent of jaw opening is variable" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[425] E7.0.1.23.0.0.3 *Motus porrectionis lentae corpor*is *Stretching "*is a complex motor pattern, which is always carried out at a slow speed and consists of the following components: forceful extension of the back, retroflexion of the head, and [lateral] rotation and elevation of the arms" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[426] E7.0.1.23.0.0.4 *Motus singularis flexionis capitis Isolated anteflexion of the head "*is only carried out at a slow velocity. The displacement of the head is small" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E5.6.4.2.1.7.6	Plica urethralis secundarius	Secondary urethral fold
E7.0.1.23.0.0.18	Meiosis oogoniorum	Oogonial meiosis
E7.0.1.23.0.0.19	Adventus ductuum paramesonephricorum junctorum ad sinum urogenitalem♀	Fused paramesonephric ducts meet urogenital sinus♀
	Endocrina	*Endocrine*
E7.0.1.23.0.0.20	Dissolutio trunci sacci adenohypophysis completa	Dissolution of stem of adenohypophysial pouch complete
E7.0.1.23.0.0.21	Glandula suprarenalis ad polum superiorem renis	Suprarenal gland at upper pole of kidney
	Haematolymphoidea	*Haematolymphoid*▲
E7.0.1.6.2.0.6	Haemangiogenesis vesiculae umbilicalis; Haemangiogenesis sacci vitellini	Umbilical vesicle haemangiogenesis▲; Yolk sac haemangiogenesis▲
E7.0.1.23.0.0.22	Nodi lymphatici profundi colli	Deep cervical lymph nodes
E7.0.1.23.0.0.23	Thymus lobulatus	Lobulated thymus
	Neuralia et sensoria	*Neural and senses*
E7.0.1.23.0.0.24	Phasis zonarum quinque differentiationis corticis cerebri	Five-zone phase of differentiation of cerebral cortex
E5.14.3.1.6.0.16	Fissura posterolateralis cerebelli; Fissura postnodularis	Posterolateral fissure of cerebellum; Postnodular fissure
E7.0.1.23.0.0.25	Strata tres cerebelli	Three-layered cerebellum
E7.0.1.23.0.0.26	Nn. peripherici in terminis digitorum membri superioris	Peripheral nerve bundles in tips of upper limb digits
E7.0.1.23.0.0.27	Completio corneae	Fully formed cornea
E4.0.3.3.1.0.10	Membrana pupillaris[306]	Pupillary membrane; Iridopupillary membrane
E7.0.1.22.0.0.26	Vagina nervi optici	Optic nerve sheath
E7.0.1.23.0.0.28	Ductus cochlearis ventraliter iterum	Cochlear duct again pointing ventrad
E5.16.3.1.4.0.7	Corpus vitreum secundarium	Secondary vitreous body
E7.1.0.0.0.0.1	**Tempora fetalia**	**Fetal periods**
E1.0.0.0.0.0.26	Fetogenesis[3]	Fetogenesis
	Insignia in temporibus fetalibus	*Features in fetal periods*
E2.0.1.3.0.0.3	**TEMPUS FETALE PRIMUM; FETUS HEBDOMADIS NONAE AD HEBDOMADEM TERTIAM DECIMAM**	**EARLY FETAL PERIOD; NINTH-THIRTEENTH WEEK FETUS**
E7.1.1.1.1.0.1	**Fetus hebdomadis nonae**[427]	**Ninth week fetus** 8-9 weeks ~35mm GL ~10g
	Generalia	*General*
E7.0.1.23.0.0.1	Motus respirationis[423]	Breathing movements
E7.0.1.23.0.0.2	Motus adpertionis oris[424]	Jaw movements
E7.0.1.23.0.0.3	Motus porrectionis lentae corporis[425]	Stretching
E7.0.1.23.0.0.4	Motus singularis flexionis capitis[426]	Isolated anteflexion of the head
E7.1.1.1.1.0.2	Flexura capitis circa gradus viginti duo	Head flexion on trunk about 22°
E7.1.1.1.1.0.3	Constrictio cervicalis amplior	Further constriction of neck
E7.1.1.1.1.0.4	Membrum superius sensibile tactui	Upper limb sensitive to touch
E7.1.1.1.1.0.5	Reflexus circumspectus	Squint reflex
E7.1.1.1.1.0.6	Conjunctio palpebrarum	Fusion of eyelids
E7.1.1.1.1.0.7	Primordium musculi orbicularis oculi	Primordium of orbicularis oculi
E7.1.1.1.1.0.8	Conjunctio epithelii conjunctivalis cum epithelio canaliculare	Fusion of conjunctival and canalicular epithelia
E7.1.1.1.1.0.9	Centra ossificationis primaria ilii et ossium metatarsalium	Primary ossification centres of ilium and metatarsals▲
E4.0.4.4.10.0.2	Cellula tendinocytoprogenetrix	Tendinocyte progenitor cell
	Alimentaria	*Alimentary*
E7.1.1.1.1.0.10	Conjunctio processuum palatinorum	Fusion of palatal shelves
E7.1.1.1.1.0.11	Formatio palati secundarii	Formation of secondary palate
E5.4.1.1.1.1.11	Ductus parotideus	Parotid duct
E7.1.1.1.1.0.12	Lumen in ramis terminalibus ductus parotidei	Lumen in terminal branches of parotid duct

[427] E7.1.1.1.1.0.1 *Fetus hebdomadis nonae* The *ninth week fetus* is between 8 and 9 weeks old, is about 35mm long [GL], weighs about 10 g and exhibits the features listed.

E7.1.1.1.1.0.13	Epithelium pseudostratificatum columnare ciliatum oesophagi	Pseudostratified ciliated columnar epithelium of oesophagus▲
E7.1.1.1.1.0.14	Vacuolae epitheliales oesophagi	Epithelial vacuoles of oesophagus▲
E7.1.1.1.1.0.15	Lamina muscularis mucosae oesophagi	Muscularis mucosae of oesophagus▲
E7.1.1.1.1.0.16	Exocrinocyti caliciformes intestini crassi	Goblet cells of large intestine
E7.1.1.1.1.0.17	Cryptae intestini crassi	Crypts of large intestine
E7.1.1.1.1.0.18	Formatio papillarum mesenchymalium coli	Formation of mesenchymal papillae of colon
E7.1.1.1.1.0.19	Gemmae glandulae mucosae vesicae biliaris	Buds of mucous glands of gallbladder
E7.1.1.1.1.0.20	Reductio herniae umbilicalis physiologicae	Reduction of physiological umbilical hernia
E7.1.1.1.1.0.21	Recanalisatio canalis analis	Recanalization of anal canal
	Respiratoria	*Respiratory*
E5.5.1.0.0.0.13	Septum nasi	Nasal septum
E5.5.3.0.2.0.1	Tempus pseudoglandulare pulmonis	Pseudoglandular period of lung
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.1.0.22	Descensus gonadae in abdomine	Descent of gonad in abdomen
E7.1.1.1.1.0.23	Conjunctio tuberculorum labioscrotalium	Fusion of labioscrotal swellings
E7.1.1.1.1.0.24	Conjunctio plicarum analium	Fusion of anal folds
E7.1.1.1.1.0.25	Raphe anogenitalis	Anogenital raphe
E5.7.3.1.0.0.5	Corpus perineale; Centrum perinei	Perineal body
	Endocrina	*Endocrine*
E7.1.1.1.1.0.26	Endocrinocyti gonadotropici partis distalis adenohypophysis	Gonadotropic cells of pars distalis of adenohypophysis
E7.1.1.1.1.0.27	Endocrinocyti thyrotropici partis distalis adenohypophysis	Thyrotropic cells of pars distalis of adenohypophysis
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.1.0.28	Defectio haemangiogenesis de vesicula umbilicale; Defectio haemangiogenesis de sacco vitellino	Umbilical vesicle haemangiogenesis eclipsed▲ ; Yolk sac haemangiogenesis eclipsed▲
E7.1.1.1.1.0.29	Expansio haematopoiesis hepaticae	Hepatic haematopoiesis extensive▲
E7.1.1.1.1.0.30	Abundantia erythroblastorum in hepate	Abundance of erythroblasts in liver
E7.1.1.1.1.0.31	Megakaryocyti in hepate	Megakaryocytes in liver
E7.1.1.1.1.0.32	Admodum pauci lymphocyti T et B in hepate	Very few T and B lymphocytes in liver
E7.1.1.1.1.0.33	Macroblasti numerosi in sanguine	Numerous circulating macroblasts
E7.1.1.1.1.0.34	Lymphocyti T in sanguine	Circulating T lymphocytes
E7.1.1.1.1.0.35	Lymphocyti T in thymo	T lymphocytes in thymus
E7.1.1.1.1.0.36	Subdivisio thymi ab septis mesenchymalibus	Subdivision of thymus by mesenchymal septa
E7.1.1.1.1.0.37	Pseudolobuli thymi	Pseudolobules of thymus
E7.1.1.1.1.0.38	Invasio thymi a cellulis haematopoieticis immaturis	Invasion of thymus by immature haematopoietic cells▲
	Neuralia et sensoria	*Neural and senses*
E5.14.3.1.6.0.11	Coalescentia primordiorum cerebellarium	Coalescence of cerebellar primordia
	Cutanea	*Cutaneous*
E7.1.1.1.1.0.39	Epithelium superficiale corporis trilaminare	Three-layered body surface epithelium
E7.1.1.1.2.0.1	**Fetus hebdomadis decimae**[428]	**Tenth week fetus** 9-10 weeks ~45mm GL ~20g
	Generalia	*General*
E7.1.1.1.2.0.2	Motus oscitationis[429]	Yawn
E7.1.1.1.2.0.3	Flexura capitis circa gradus quindecim	Head flexion on trunk about 15°
E7.1.1.1.2.0.4	Reflexus contractionis trunci totalis	Trunk mass reflex
E7.1.1.1.2.0.5	Membrum inferius sensibile tactui	Lower limb sensitive to touch
E7.1.1.1.2.0.6	Initium canalisationis chordae lacrimalis et canaliculorum	Beginning of canalization of lacrimal cord and canaliculi
E7.1.1.1.2.0.7	Conjunctio epithelii lacrimalis cum lamina meatale inferiore	Fusion of lacrimal epithelium and inferior meatal lamina

[428] E7.1.1.1.2.0.1 *Fetus hebdomadis decimae* The *tenth week fetus* is between 9 and 10 weeks old, is about 45mm long [GL], weighs about 20 g and exhibits the features listed.

[429] E7.1.1.1.2.0.2 *Motus oscitationis* The *yawn* "is similar to the yawn observed after birth: prolonged opening of the jaws followed by quick closure often with retroflexion of the head and sometimes elevation of the arms" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

E7.1.1.1.2.0.8	Initium cavitationis laminae meatalis inferioris	Beginning of cavitation of inferior meatal lamina
E7.1.1.1.2.0.9	Centra ossificationis primaria phalangium distalium	Primary ossification centres of distal phalanges▲
	Alimentaria	*Alimentary*
E7.1.1.1.2.0.10	Papillae linguales filiformes	Filiform papillae of tongue
E7.1.1.1.1.0.10	Conjunctio processuum palatinorum	Fusion of palatal shelves
E7.1.1.1.1.0.11	Formatio palati secundarii	Formation of secondary palate
E5.4.1.1.1.0.4	Sulcus labiogingivalis	Vestibular sulcus; Labiogingival sulcus
E7.1.1.1.2.0.11	Adventus gemmarum dentium permanentium	Appearance of permanent tooth buds
E7.1.1.1.2.0.12	Initium status campanalis dentium deciduorum	Early bell stage of deciduous teeth
E7.1.1.1.1.0.15	Lamina muscularis mucosae oesophagi	Muscularis mucosae of oesophagus▲
E5.4.5.0.1.2.1	Glandula pylorica	Pyloric gland
E7.1.1.1.2.0.13	Limbus microvillosus enterocytorum intestini tenuis	Microvillus border of enterocytes of small intestine
E7.1.1.1.2.0.14	Villi transientes intestini crassi	Transient villi of large intestine
E7.1.1.1.2.0.15	Meconium coloratum a bile	Bile-stained meconium
	Respiratoria	*Respiratory*
E5.5.1.0.0.0.13	Septum nasi	Nasal septum
E5.5.1.0.1.0.2	Gemma mucosae sinus maxillaris	Mucosal bud of maxillary sinus
E5.5.3.0.2.0.1	Tempus pseudoglandulare pulmonis	Pseudoglandular period of lung
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E5.6.3.1.2.0.21	Tubuli metanephrici colligentes; Ductus metanephrici colligentes	Collecting tubules of metanephros; Collecting ducts of metanephros; [CDs] §Bellini§
E7.1.1.1.2.0.16	Initium peripheric um conjunctionis tubulorum metanephricorum cum tubulis colligentibus	Peripheral commencement of fusion of metanephric tubules with collecting tubules
E7.1.1.1.1.0.22	Descensus gonadae in abdomine	Descent of gonad in abdomen
E7.1.1.1.2.0.17	Agnitio sexus phenotypici externi	External phenotypic sex identifiable
E5.6.4.2.1.2.2	Tuberculum sinuale[185]	Sinus tubercle
E5.7.4.0.1.1.1	Labium minus♀	Labium minus♀
E7.1.1.1.2.0.18	Conjunctio plicarum urethralium secundarium♂	Fusion of secondary urethral folds ♂
E5.7.4.0.1.2.1	Labium majus♀	Labium majus♀
E5.7.4.0.1.2.4	Scrotum ♂	Scrotum♂
E7.1.1.1.2.0.19	Commissura labiorum majorum posterior♀	Posterior commissure of labia majora ♀
E5.7.4.0.1.2.5	Raphe scroti♂	Raphe of scrotum♂
	Endocrina	*Endocrine*
E7.1.1.1.2.0.20	Endocrinocyti β, α, δ et PP solitarii partis endocrini pancreatis [430]	Solitary β, α, δ and PP cells of endocrine part of pancreas
E7.1.1.1.2.0.21	Endocrinocyti corticotropici partis distalis adenohypophysis	Corticotropic cells of pars distalis of adenohypophysis
E7.1.1.1.2.0.22	Endocrinocyti somatotropici partis distalis adenohypophysis	Somatotropic cells of pars distalis of adenohypophysis
E7.1.1.1.2.0.23	Accumulatio iodii in folliculis thyroideis	Iodide accumulation in thyroid follicles
E7.1.1.1.2.0.24	Formatio noradrenalini in medulla glandulae suprarenalis	Synthesis of noradrenalin in suprarenal medulla
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.2.0.25	Haemangiogenesis in vesicula umbilicale decrescens; Haemangiogenesis in sacco vitellino decrescens	Umbilical vesicle haemangiogenesis diminishing▲; Yolk sac haemangiogenesis diminishing▲
E7.1.1.1.2.0.26	Expansio haematopoiesis hepaticae	Hepatic haematopoiesis extensive▲
E7.1.1.1.2.0.27	Erythroblasti in hepate toto	Erythroblasts throughout liver
E7.1.1.1.1.0.31	Megakaryocyti in hepate	Megakaryocytes in liver
E7.1.1.1.1.0.33	Macroblasti numerosi in sanguine	Numerous circulating macroblasts
E7.1.1.1.1.0.34	Lymphocyti T in sanguine	Circulating T lymphocytes
E7.1.1.1.2.0.28	Plurimi lymphocyti T in thymo	T lymphocytes in thymus more numerous

[430] E7.1.1.1.2.0.20 *Endocrinocyti β, α, δ et PP solitarii partis endocrini pancreatis* The first endocrine cells of the pancreas develop before the pancreatic islets form Pro-insulin and the C-peptide required for its cleavage and thus the release of insulin can be demonstrated at this stage.

E7.1.1.1.2.0.29	Nodi lymphoidei bronchopulmonales, ileocolici, pelvici et inguinales	Bronchopulmonary, ileocolic, pelvic and inguinal lymph nodes
	Neuralia et sensoria	*Neural and senses*
E5.14.3.1.6.0.12	Eversio cerebelli	Eversion of cerebellum
E5.16.3.1.1.1.43	Stratum plexiforme internum retinae	Inner plexiform layer of retina
E7.1.1.1.2.0.30	Stratum ganglionare multipolare retinae	Ganglionic layer of retina
E5.16.3.1.1.1.45	Neuron ganglionare multipolare retinae	Retinal ganglion cell
E7.1.1.1.2.0.31	Scala tympani	Scala tympani
	Cutanea	*Cutaneous*
E7.1.1.1.1.0.39	Epithelium superficiale corporis trilaminare	Three-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections
E7.1.1.1.3.0.1	**Fetus hebdomadis undecimae**[431]	**Eleventh week fetus** 10-11 weeks ~60mm GL ~30g
	Generalia	*General*
E7.1.1.1.3.0.2	Motus suctionis et glutitionis[432]	Sucking and swallowing movements
E7.1.1.1.3.0.3	Flexura capitis circa gradum octo	Head flexion on trunk about 8°
E7.1.1.1.3.0.4	Responsum palmare flexorium	Palmar flexor response
E7.1.1.1.3.0.5	Responsum plantare flexorium	Plantar flexor response
E7.1.1.1.3.0.6	Formatio pontis nasi	Formation of nasal bridge
	Alimentaria	*Alimentary*
E7.1.1.1.1.0.11	Formatio palati secundarii	Formation of secondary palate
E7.1.1.1.3.0.7	Plexus nervosus myentericus oesophagi	Myenteric plexus of oesophagus §Auerbach§
E7.1.1.1.3.0.8	Mucocyti superficiales, exocrinocyti cervicales et exocrinocyti principales gastris	Superficial mucous cells, gland neck cells and principal cells of stomach
E5.4.5.0.1.4.1	Sphincter pylori	Pyloric sphincter
E7.1.1.1.3.0.9	Gemmae cryptae cum luminibus intestini tenuis	Crypt buds of small intestine with lumina
E5.4.6.0.1.3.4	Cellula panethensis; Exocrinocytus cum granulis acidophilis	Paneth cell §Paneth§
E7.1.1.1.3.0.10	Cryptae et villi appendicis vermiformis	Crypts and villi of appendix
E7.1.1.1.3.0.11	Plicae epitheliales longitudinales coli	Longitudinal epithelial folds of colon
E7.1.1.1.3.0.12	Tubuli glandulae mucosae vesicae biliaris	Tubules of mucous glands of gallbladder
E7.1.1.1.3.0.13	Contractiones gastris	Contractions of stomach
	Respiratoria	*Respiratory*
E5.5.1.0.0.0.13	Septum nasi	Nasal septum
E5.5.1.0.1.0.3	Sulcus sinus maxillaris	Sulcus of maxillary sinus
E5.5.3.0.2.0.1	Tempus pseudoglandulare pulmonis	Pseudoglandular period of lung
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
	Urogenitalia[433]	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E5.7.3.0.4.0.1	Bulbus sinuvaginalis	Sinuvaginal bulb
	Endocrina	*Endocrine*
E7.1.1.1.3.0.15	Cytodifferentiatio neurohypohysis	Cytodifferentiation of neurohypophysis
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.2.0.25	Haemangiogenesis in vesicula umbilicale decrescens; Haemangiogenesis in sacco vitellino decrescens	Umbilical vesicle haemangiogenesis diminishing▲; Yolk sac haemangiogenesis diminishing▲
E7.1.1.1.2.0.26	Expansio haematopoiesis hepaticae	Hepatic haematopoiesis extensive▲
E7.1.1.1.3.0.16	Deminutio macroblastorum in sanguine	Circulating macroblasts decreasing
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.1.1.0.34	Lymphocyti T in sanguine	Circulating T lymphocytes
E7.1.1.1.2.0.28	Plurimi lymphocyti T in thymo	T lymphocytes in thymus more numerous

[431] E7.1.1.1.3.0.1 *Fetus hebdomadis undecimae* The *eleventh week fetus* is between 10 and 11 weeks old, is about 60mm long [GL], weighs about 30 g and exhibits the features listed.

[432] E7.1.1.1.3.0.2 *Motus suctionis et glutitionis* In *Sucking and swallowing movements,"*rhythmical bursts of jaw opening and closing at a rate of about one per second may be followed by swallowing, indicating that the fetus is drinking amniotic fluid. Swallowing consists of displacements of the tongue and/or larynx" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

[433] *Urogenitalia* In the eleventh week fetus substantial amounts of urine are passed into the amniotic cavity.

E7.1.1.1.3.0.18	Lymphocyti T in medulla ossium	T lymphocytes in bone marrow
	Cutanea	*Cutaneous*
E7.1.1.1.1.0.39	Epithelium superficiale corporis trilaminare	Three-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections
E7.1.1.1.4.0.1	**Fetus hebdomadis duodecimae**[434]	**Twelfth week fetus** 11-12 weeks ~75mm GL ~50g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E7.1.1.1.4.0.3	Flexura parva capitis	Slight flexion of head on trunk
E7.1.1.1.4.0.4	Cutis paenetota sensibilis tactui	Most skin sensitive to touch
E7.1.1.1.4.0.5	Reflexus sardonicus	Sneer reflex
E7.1.1.1.4.0.6	Reflexus occlusionis labiorum	Lip closure reflex
E7.1.1.1.4.0.7	Oscitatio	Mouth opening
E7.1.1.1.4.0.8	Glutitio	Swallowing
E7.1.1.1.4.0.9	Halitus	Gasping
E7.1.1.1.4.0.10	Centra ossificationis primaria calcanei	Primary ossification centres for calcaneus▲
E7.1.1.1.4.0.11	Myotubuli in omnibus musculis	Myotubes in all skeletal muscles
E7.1.1.1.4.0.12	Completio buccarum	Completion of cheeks
E7.1.1.1.4.0.13	Obliteratio coelomata umbilicalis	Obliteration of umbilical coelom▲
	Alimentaria	*Alimentary*
E7.1.1.1.4.0.14	Encapsulatio organi juxtaoralis	Encapsulation of juxta-oral organ
E7.1.1.1.4.0.15	Formatio exophytica juxtaoralis	Juxta-oral exophytic formation
E7.1.1.1.4.0.16	Completio conjunctionis processuum palatinorum cum septo nasi	Completion of fusion between palatal shelves and nasal septum
E5.4.6.0.1.3.6	Glandula submucosa duodenalis	Duodenal submucosal gland §Brunner§
E7.1.1.1.4.0.17	Ramificatio cryptarum intestini tenuis	Branching of crypts of small intestine
E5.4.9.0.3.0.12	Taeniae coli	Taeniae coli▲
E7.1.1.1.4.0.18	Stratum longitudinale tunicae muscularis recti	Longitudinal muscle coat of rectum
E7.1.1.1.4.0.19	Acini exocrini pancreatis	Pancreatic exocrine acini
E7.1.1.1.4.0.20	Guttula glycogeni et adipis in hepatocytis	Glycogen and lipid droplets in hepatocytes
	Respiratoria	*Respiratory*
E7.1.1.1.4.0.21	Prominentiae concharum nasalium	Prominences of nasal conchae
E7.1.1.1.4.0.22	Sulci sinuum maxillarium et cellularum ethmoidalium	Sulci of maxillary sinus and ethmoidal cells
E5.5.3.0.2.0.1	Tempus pseudoglandulare pulmonis	Pseudoglandular period of lung
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.1.4.0.23	Approximatio gonadarum ad aperturam superiorem pelvis	Gonad approaching pelvic brim
E7.1.1.1.4.0.24	Processus vaginalis peritonei incipiens	Incipient vaginal process of peritoneum
E7.1.1.1.4.0.25	Primordium glandulae vesiculosae; Primordium glandulae seminalis; Primordium vesiculae seminalis	Primordium of seminal gland; Primordium of seminal vesicle
E7.1.1.1.4.0.26	Primordia gemmarum prostatae	Primordia of prostatic buds
	Endocrina	*Endocrine*
E7.1.1.1.4.0.27	Endocrinocyti prolactinici partis distalis adenohypophysis	Prolactin cell of pars distalis of adenohypophysis
E7.1.1.1.4.0.28	Vasopressinum et oxytocinum in neurohypophyse	Vasopressin and oxytocin in neurohypophysis
E7.1.1.1.4.0.29	Crescentia folliculorum thyroideorum	Growth of thyroid follicles

[434] E7.1.1.1.4.0.1 *Fetus hebdomadis duodecimae* The *twelfth week fetus* is between 11 and 12 weeks old, is about 75mm long [GL], weighs about 50 g and exhibits the features listed.

[435] E7.1.1.1.4.0.2 *Motus rotationis fetus* *Rotational movements of the fetus* "occur around [its] sagittal or transverse axis. A complete change in position around the transverse axis, usually with a backward somersault, is achieved by a complex general movement, including alternating leg movements which resemble neonatal stepping. Rotation around the longitudinal axis can either be the result of leg movements with hip rotation, or result from rotation of the head, followed by trunk rotation" (de Vries JIP, Visser GHA, Prechtl HFR, The emergence of fetal behaviour. I. Quantitative aspects. Early Human Development 1982;7:301-322).

	Cardiovascularia	*Cardiovascular*
E7.1.1.1.4.0.30	Primordia tunicarum vasorum sanguineorum	Primordia of tunicae of blood vessels
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.4.0.31	Haemangiogenesis vesiculae umbilicalis minima; Haemangiogenesis sacci vitellini minima	Umbilical vesicle haemangiogenesis minimal▲; Yolk sac haemangiogenesis minimal▲
E7.1.1.1.4.0.32	Superantia haematopoiesis hepaticae	Hepatic haematopoiesis predominant▲
E7.1.1.1.4.0.33	Haematopoiesis in medulla ossium	Haematopoiesis in bone marrow; Intramedullary haematopoiesis▲
E7.1.1.1.4.0.34	Lymphocyti T, B et nulli in medulla ossium	T, B and null lymphocytes in bone marrow
E7.1.1.1.4.0.35	Deminutio rapida erythroblastorum in sanguine	Number of circulating macroblasts decreasing precipitously
E7.1.1.1.4.0.36	Incrementum normoblastorum in sanguine	Number of circulating normoblasts increasing
E7.1.1.1.4.0.37	Deminutio erythroblastorum in sanguine	Erythroblasts in blood decreasing
E7.1.1.1.4.0.38	Deminutio amplitudinis corpuscularis mediae	Mean corpuscular volume [MCV] decreasing
E7.1.1.1.4.0.39	Haemoglobina fetalis subiens embryonicam	Fetal haemoglobins replacing embryonic haemoglobins▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.1.4.0.40	Lymphocyti B in sanguine	Circulating B lymphocytes
E7.1.1.1.4.0.41	Acervationes lymphocytorum in splene; Acervationes lymphocytorum in liene	Lymphocyte aggregates in spleen
E7.1.1.1.4.0.42	Lymphocyti T numerosi in thymo	Numerous T lymphocytes in thymus
E7.1.1.1.4.0.43	Cortex et medulla thymi	Cortex and medulla of thymus
E5.12.1.2.2.0.10	Corpuscula thymica	Thymic corpuscles §Hassall§
E7.1.1.1.4.0.44	Cellulae interdigitantes medullae thymi	Interdigitating cells in medulla of thymus
E5.12.2.5.0.0.8	Fossula tonsillae	Tonsillar pit
	Neuralia et sensoria	*Neural and senses*
E5.14.2.0.0.1.26	Intumescentia cervicalis	Cervical enlargement
E5.14.2.0.0.1.25	Intumescentia lumbosacralis	Lumbosacral enlargement
E5.14.2.0.0.1.24	Conus medullaris	Medullary cone
E5.15.8.0.0.0.13	Cauda equina	Cauda equina
E5.13.2.0.0.4.7	Filum terminale	Filum terminale; Terminal filum
E5.14.3.1.6.0.19	Fissura prima cerebelli	Primary fissure of cerebellum; Preclival fissure
E7.1.1.1.4.0.45	Phasis prima sexties stratificati cerebelli	First six layered phase of cerebellum
E5.16.3.1.1.1.12	Proneuron bacilliferum; Neuron immaturum bacilliferum	Rod cell proneuron; Immature rod cell
E5.16.3.1.1.1.18	Proneuron coniferum; Neuron immaturum coniferum	Cone cell proneuron; Immature cone cell
E7.1.1.1.4.0.46	Formatio foveae centralis retinae incipiens	Development of retinal fovea starts
	Cutanea	*Cutaneous*
E7.1.1.1.1.0.39	Epithelium superficiale corporis trilaminare	Three-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections
E7.1.1.1.5.0.1	**Fetus hebdomadis tertiae decimae**[436]	**Thirteenth week fetus** 12-13 weeks ~90mm GL ~75g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E7.1.1.1.5.0.2	Caput erectum	Head erect
E7.1.1.1.5.0.3	Reflexus contractionis corporalis imminutus	Reduced mass reflex
E7.1.1.1.5.0.4	Centra ossificationis primaria phalangium proximalium	Primary ossification centres for proximal phalanges▲
	Alimentaria	*Alimentary*
E7.1.1.1.5.0.5	Plicae circulares intestini tenuis	Circular folds of small intestine
E7.1.1.1.5.0.6	Exocrinocyti caliciformes appendicis vermiformis	Goblet cells of appendix
E7.1.1.1.5.0.7	Stratum longitudinale tunicae muscularis appendicis vermiformis	Longitudinal muscle coat of appendix
E7.1.1.1.5.0.8	Gemmae insulae pancreaticae	Pancreatic islet buds
	Respiratoria	*Respiratory*

[436] E7.1.1.1.5.0.1 *Fetus hebdomadis tertii decimae* The *thirteenth week fetus* is between 12 and 13 weeks old, is about 90mm long [GL], weighs about 75 g and exhibits the features listed.

E7.1.1.1.5.0.9	Sulci sinus maxillaris, cellularum ethmoidalium et sinus sphenoidalis	Sulci of maxillary sinus, ethmoidal cells and sphenoidal sinus
E7.1.1.1.5.0.10	Continuatio temporis pseudoglandularis pulmonis	Pseudoglandular period of lung continues
E7.1.1.1.5.0.11	Initium temporis canalicularis pulmonis	Canalicular period of lung begins
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.1.5.0.12	Cortex et medulla renalis	Renal cortex and medulla
E7.1.1.1.5.0.13	Gonadae juxta aperturam superiorem pelvis	Gonads near pelvic brim
E7.1.1.1.5.0.14	Processus vaginalis peritonei	Vaginal process of peritoneum
E5.7.3.0.4.0.2	Lamina vaginae	Vaginal plate
E7.1.1.1.5.0.15	Differentiatio glandulae vesiculosae; Differentiatio glandulae seminalis; Differentiatio vesiculae seminalis	Seminal gland differentiating; Seminal vesicle differentiating
E7.1.1.1.5.0.16	Differentiatio gemmarum prostatae	Prostatic buds differentiating
	Cardiovascularia	*Cardiovascular*
E7.1.1.1.5.0.17	Differentiatio tunicarum vasorum sanguineorum	Layers of blood vessel walls differentiating
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.4.0.32	Superantia haematopoiesis hepaticae	Hepatic haematopoiesis predominant▲
E7.1.1.1.5.0.18	Incrementum haematopoiesis in medulla ossium	Haematopoiesis in bone marrow increasing▲; Medullary haematopoiesis increasing▲
E7.1.1.1.4.0.37	Deminutio erythroblastorum in sanguine	Erythroblasts in blood decreasing
E7.1.1.1.5.0.19	Superantia normoblastorum in sanguine commentium postea	Circulating normoblasts predominant hereafter
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.1.5.0.20	Lymphocyti B et T in sanguine	Circulating B and T lymphocytes
E7.1.1.1.5.0.21	Lymphocyti T plurimi in thymo	Very numerous T lymphocytes in thymus
E7.1.1.1.5.0.22	Immigratio blastorum cellularum interdigitantium nodi lymphoidei	Immigration of blast cells of interdigitating cells of lymph node
E5.4.2.0.0.1.9	Cryptae tonsillae	Tonsillar crypts
E5.12.2.4.1.0.9	Lobulatio splenis	Lobulation of spleen
E7.1.1.1.5.0.23	Arteriola centralis splenis	Central arteriole of spleen
	Neuralia et sensoria	*Neural and senses*
E7.1.1.1.5.0.24	Myelinisatio in medulla spinale incipiens	Myelination in spinal cord beginning
E7.1.1.1.5.0.25	Expansio intumescentiae cervicalis	Expansion of cervical enlargement
E7.1.1.1.5.0.26	Expansio intumescentiae lumbosacralis	Expansion of lumbosacral enlargement
E5.14.3.1.6.0.20	Fissura secunda cerebelli	Secondary fissure of cerebellum; Postpyramidal fissure
E7.1.1.1.4.0.45	Phasis prima sexties stratificati cerebelli	First six layered phase of cerebellum
E7.1.1.1.5.0.27	Phasis zonarum sex differentiationis corticis cerebri[437]	Six-zone phase of differentiation of cerebral cortex
E7.1.1.1.5.0.28	Glioblastus radialis retinae	Radial glioblast of retina
E7.1.1.1.5.0.29	Neuron amacrinum retinae	Amacrine cell of retina
E7.1.1.1.5.0.30	Neuron bipolare retinae	Bipolar cell of retina
E5.16.3.1.4.0.29	Sinus venosus sclerae	Scleral venous sinus
E7.1.1.1.5.0.31	Lamina limitans corneae posterior	Posterior limiting lamina of cornea
E7.1.1.1.5.0.32	M. sphincter pupillae	Sphincter pupillae
E7.1.1.1.5.0.33	Vagina bulbi	Fascial sheath of eyeball
E7.1.1.1.5.0.34	Meatus acusticus externus obturatus	Plugged external acoustic meatus
E7.1.1.1.5.0.35	Membrana tympanica praesumptiva	Presumptive tympanic membrane
E7.1.1.1.5.0.36	Epithelium tubotympanicum vestiens ossicula et chordam tympani	Tubotympanic epithelium envelops ossicles and chorda tympani
E7.1.1.1.5.0.37	Scala vestibuli	Scala vestibuli
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections

[437] E7.1.1.1.5.0.27 *Phasis zonarum sex differentiationis corticis cerebri* The cytoarchitecture of the neopallium does not have the adult pattern until 32 weeks.

E2.0.1.3.0.0.4	**TEMPUS FETALE INTERMEDIUM; FETUS TRIMESTRI SECUNDI**	**INTERMEDIATE FETAL PERIOD; SECOND TRIMESTER FETUS**
E7.1.1.2.1.0.1	**Fetus hebdomadis sextae decimae** [438]	**Sixteenth week fetus** 15-16 weeks ~135mm GL ~200g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E7.1.1.2.1.0.2	Lanugo capitis	Lanugo on head
E7.1.1.2.1.0.3	Reflexus praehensionis	Grasp reflex
E7.1.1.2.1.0.4	Canaliculi et saccus lacrimalis et ductus nasolacrimalis maturi	Mature lacrimal sac and canaliculi and nasolacrimal duct
E7.1.1.2.1.0.5	Adventus unguium pedis	Appearance of toe nails
E7.1.1.2.1.0.6	Adventus adipis fusci	Appearance of brown fat
E7.1.1.2.1.0.7	Centrum ossificationis primarium ischii	Primary ossification centre for ischium▲
E7.1.1.2.1.0.8	Primordia tonsillarum	Primordia of tonsils
	Alimentaria	*Alimentary*
E7.1.1.2.1.0.9	Lamina muscularis mucosae gastris	Muscularis mucosae of stomach
E7.1.1.2.1.0.10	Lamina muscularis mucosae recti	Muscularis mucosae of rectum
E7.1.1.2.1.0.11	Epitheliocytus penicillatus intestini tenuis	Brush cell of small intestine; Tuft cell of small intestine
E7.1.1.2.1.0.12	Enterocytus intestini tenuis cum limbo microvilloso	Enterocyte of small intestine with microvillous border; Enterocyte of small intestine with brush border
E7.1.1.2.1.0.13	Noduli lymphoidei solitarii intestini tenuis	Solitary lymphoid nodules of small intestine
E7.1.1.2.1.0.14	Noduli lymphoidei aggregati submucosi intestini tenuis	Aggregated lymphoid nodules of small intestine §Peyer§
E7.1.1.2.1.0.15	Textus lymphoideus appendicis vermiformis	Lymphoid tissue of appendix
E7.1.1.2.1.0.16	Portio terminalis glandulae mucosae vesicae biliaris	Terminal part of mucous gland of gallbladder
	Respiratoria	*Respiratory*
E7.1.1.2.1.0.17	Sulci sinus maxillaris, cellularum ethmoidalium et sinuum sphenoidalis frontalisque	Sulci of maxillary sinus, ethmoidal cells and sphenoidal and frontal sinuses
E7.1.1.2.1.0.18	Finis temporis pseudoglandularis pulmonis	Pseudoglandular period of lung ends
E7.1.1.2.1.0.19	Continuatio temporis canalicularis pulmonis	Canalicular period of lung continues
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.1.5.0.13	Gonadae juxta aperturam superiorem pelvis	Gonads near pelvic brim
E7.1.1.1.5.0.14	Processus vaginalis peritonei	Vaginal process of peritoneum
E7.1.1.2.1.0.20	Folliculi primordiales in ovario	Primordial follicles in ovary
E7.1.1.2.1.0.21	Uterus	Uterus
E5.7.3.0.4.0.3	Vagina	Vagina
E7.1.1.2.1.0.22	Glandula vesiculosa; Glandula seminalis; Vesicula seminalis	Seminal gland; Seminal vesicle
E7.1.1.1.5.0.16	Differentiatio gemmarum prostatae	Prostatic buds differentiating
	Endocrina	*Endocrine*
E7.1.1.2.1.0.23	Endocrinocytus corticotropicus partis intermediae adenohypophysis	Corticotropic cell of pars intermedia of adenohypophysis
E4.0.3.5.0.3.22	Thyrocytus C	C thyrocyte; C cell; Parafollicular cell
E7.1.1.2.1.0.24	Secretio medullae suprarenalis	Secretion of suprarenal medulla
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.1.4.0.32	Superantia haematopoiesis hepaticae	Hepatic haematopoiesis predominant▲
E7.1.1.1.5.0.18	Incrementum haematopoiesis in medulla ossium	Haematopoiesis in bone marrow increasing▲; Medullary haematopoiesis increasing▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes

[438] E7.1.1.2.1.0.1 *Fetus hebdomadis sextae decimae* The *sixteenth week fetus* is between 15 and 16 weeks old, is about 135mm long [GL], weighs about 200 g and exhibits the features listed.

E7.1.1.2.1.0.25	Incrementum lymphocyti B et T in sanguine	Circulating B and T lymphocytes increasing
E7.1.1.1.5.0.21	Lymphocyti T plurimi in thymo	Very numerous T lymphocytes in thymus
E7.1.1.2.1.0.26	Cortex et medulla nodorum lymphoideorum	Cortex and medulla of lymph nodes
E7.1.1.2.1.0.27	Zonae thymodependentes nodorum lymphoideorum	Thymus-dependent zones of lymph nodes
E7.1.1.2.1.0.28	Cellulae interdigitantes maturae nodi lymphoidei	Mature interdigitating cells of lymph node
E7.1.1.2.1.0.29	Cellulae dendriticae nodulares nodi lymphoidei	Nodular dendritic cells of lymph node
E7.1.1.2.1.0.30	Nodi lymphoidei poplitei, cubitales, mesenterici et gastroomentales	Primary popliteal, cubital, mesenteric and gastro-omental lymphoid nodes
E7.1.1.2.1.0.31	Immigratio lymphocytorum B et T in pulpas praesumptivas rubras et albas splenis	Immigration of B and T lymphocytes into presumptive red and white pulps of spleen
E7.1.1.2.1.0.32	Noduli lymphoidei primarii tonsillarum palatinarum	Primary lymphoid nodules of palatine tonsils
	Neuralia et sensoria	*Neural and senses*
E7.1.1.2.1.0.33	Initium myelinisationis in radicibus ventralibus; Initium myelinisationis in radicibus motoriis	Myelination in ventral roots begins; Myelination in motor roots begins
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.1.1.1.5.0.27	Phasis zonarum sex differentiationis corticis cerebri[437]	Six-zone phase of differentiation of cerebral cortex
E7.1.1.2.1.0.35	Neuron bacilliferum immaturum	Immature rod cell
E7.1.1.2.1.0.36	Neuron coniferum immaturum	Immature cone cell
E7.1.1.2.1.0.37	Fovea centralis retinae constituta	Fovea centralis retinae established
E7.1.1.2.1.0.38	Membrana tectoria ductus cochlearis	Tectorial membrane of cochlear duct
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections
E7.1.1.2.1.0.39	Cristae dermales cutis manus	Dermal ridges of hand
E5.17.1.0.1.0.10	Glandulae sudoriferae	Sweat glands
E5.17.1.0.3.0.6	Glandulae sebaceae	Sebaceous glands
E7.1.1.2.2.0.1	**Fetus hebdomadis vicesimae**[440]	**Twentieth week fetus** 19-20 weeks ~185mm GL ~450g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E7.1.1.2.2.0.2	Lanugo corporis	Lanugo on body
E7.1.1.2.2.0.3	Initium vernicis caseosae	Vernix caseosa beginning
E7.1.1.2.2.0.4	Reflexus protrusionis labiorum	Lip protrusion reflex
E7.1.1.2.2.0.5	Reflexus sufflationis labiorum	Lip pursing reflex
E7.1.1.2.2.0.6	Parvae contractiones thoracis	Weak chest contractions
E7.1.1.2.2.0.7	Reflexus abdominalis	Abdominal reflex
E7.1.1.2.2.0.8	Centrum ossificationis primarium pubis	Primary ossification centre for pubis▲
E7.1.1.2.2.0.9	Myofibrae in omnibus musculis	Myofibres in all muscles▲
	Alimentaria	*Alimentary*
E7.1.1.2.2.0.10	Epithelium squamosum stratificatum non cornificatum oesophagi	Nonkeratinized stratified squamous epithelium in oesophagus▲
E7.1.1.2.2.0.11	Insulae epithelii ciliati oesophagi	Islands of ciliated epithelium in oesophagus▲
E7.1.1.2.2.0.12	Ramificatio glandularum gastricarum propriarum	Branching of gastric glands proper
E7.1.1.2.2.0.13	Glandulae cardiales	Cardial glands
E7.1.1.2.2.0.14	Endocrinocyti G in gastre	Gastrin-producing cells in stomach
E7.1.1.2.2.0.15	Lamina muscularis mucosae intestini tenuis	Muscularis mucosae of small intestine
E7.1.1.2.2.0.16	Lamina muscularis mucosae appendicis vermiformis	Muscularis mucosae of appendix
E7.1.1.2.2.0.17	Cellulae panethenses transientes appendicis vermiformis	Transient paneth cells of appendix
E5.4.6.0.1.3.8	Epitheliocytus microplicatus	Microfold cell; M cell; Dome epithelial cell
E7.0.1.19.0.0.12	Lamina muscularis mucosae coli	Muscularis mucosae of colon
E7.1.1.2.2.0.18	Defectio villorum recti	Villi disappearing from rectum

[439] E7.1.1.2.1.0.34 *Phasis secunda sexies stratificati cerebelli* The second variety of six-layered phases of histogenesis of the cerebellum (q.v.) persists until near the end of the second postnatal year, when the external germinal layer disappears.

[440] E7.1.1.2.2.0.1 *Fetus hebdomadis vicesimae* The *twentieth week fetus* is between 19 and 20 weeks old, is about 185mm long [GL], weighs about 450g and exhibits the features listed.

	Respiratoria	*Respiratory*
E7.1.1.2.1.0.17	Sulci sinus maxillaris, cellularum ethmoidalium et sinuum sphenoidalis frontalisque	Sulci of maxillary sinus, ethmoidal cells and sphenoidal and frontal sinuses
E7.1.1.2.1.0.19	Continuatio temporis canalicularis pulmonis	Canalicular period of lung continues
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.2.2.0.19	Ovarium juxta aperturam superiorem pelvis	Ovary near pelvic brim
E7.1.1.2.2.0.20	Oocyti primarii septuagies centena millia	Seven million primary oocytes
E7.1.1.2.2.0.21	Testis juxta anulum inguinalem profundum	Testis at deep inguinal ring
E7.1.1.1.5.0.14	Processus vaginalis peritonei	Vaginal process of peritoneum
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.2.2.0.22	Deminutio haematopoiesis in hepate	Hepatic haematopoiesis decreasing▲
E7.1.1.1.5.0.18	Incrementum haematopoiesis in medulla ossium	Haematopoiesis in bone marrow increasing▲; Medullary haematopoiesis increasing▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.2.2.0.23	Lymphocyti numerosi in sanguine[441]	Numerous circulating lymphocytes
E7.1.1.1.5.0.21	Lymphocyti T plurimi in thymo	Very numerous T lymphocytes in thymus
E7.1.1.2.2.0.24	Regiones lymphocytorum B et T noduli lymphoidei	B and T lymphocyte regions of lymph node
E7.1.1.2.2.0.25	Accumulatio lymphocytorum circa arteriam centralem splenis	Accumulation of lymphocytes around central artery of spleen
	Endocrina	*Endocrine*
E5.4.15.0.3.0.15	Insula pancreatica initialis[162]	Early pancreatic islet
	Neuralia et sensoria	*Neural and senses*
E5.14.3.1.6.0.21	Fissura horizontalis cerebelli	Horizontal fissure of cerebellum; Great horizontal fissure
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.1.1.1.5.0.27	Phasis zonarum sex differentiationis corticis cerebri[437]	Six-zone phase of differentiation of cerebral cortex
E7.1.1.2.2.0.26	Primordia segmentorum externorum neuronorum bacilliferum et coniferum	Primordia of outer segments of rods and cones
E7.1.1.2.2.0.27	Neuron horizontale retinae	Horizontal cell of retina
E7.1.1.2.2.0.28	Stratum plexiforme externum retinae	Outer plexiform layer of retina
E7.1.1.2.2.0.29	Initium myelinisationis in radicibus dorsalibus; Myelinisationis in radicibus posterioribus	Myelination in dorsal roots begins; Myelination in posterior roots begins
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.1.2.0.32	Projectiones globulares peridermales	Globular peridermal projections
E7.1.1.2.2.0.30	Epidermis cornificans	Epidermis cornifying
E7.1.1.2.2.0.31	Toruli tactiles manus	Tactile elevations of hand; Epidermal ridges of hand
E7.1.1.2.2.0.32	Cristae cutis pedis	Dermal ridges of foot
E7.1.1.2.2.0.33	Primordia gemmarum glandulae mammariae	Primordia of mammary gland sprouts
E7.1.1.2.3.0.1	**Fetus hebdomadis vicesimae quartae[442]**	**Twenty-fourth week fetus** 23-24 weeks ~220mm GL ~900g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E5.17.1.0.3.0.7	Vernix caseosa	Vernix caseosa
E7.1.1.2.3.0.2	Deminutio lanuginis	Lanugo decreasing

[441] E7.1.1.2.2.0.23 *Lymphocyt numerosii in sanguine* The number of lymphocytes in unit volume of blood increases to reach a plateau value by mid-gestation, while the number of neutrophils remains low until late gestation, when a dramatic increase in the number and proportion of mature neutrophils coincides with the selective trans-placental transfer of maternal antibodies. In due course the passive immunity conferred by maternal antibodies is replaced by active immunity conferred by antibodies synthesized by the infant. A relatively vulnerable period may intervene between the loss of passive immunity and the acquisition of active immunity which may be mitigated by the transfer of maternal antibodies via breast milk.

[442] E7.1.1.2.3.0.1 *Fetus hebdomadis vicesimae quartae* The *twenty-fourth week fetus* is between 23 and 24 weeks old, is about 220mm long [GL], weighs about 900g and exhibits the features listed.

E7.1.1.2.3.0.3	Centra ossificationis primaria tali et phalangium mediarum	Primary ossification centres for talus and middle phalanges▲
	Respiratoria	*Respiratory*
E7.1.1.2.1.0.17	Sulci sinus maxillaris, cellularum ethmoidalium et sinuum sphenoidalis frontalisque	Sulci of maxillary sinus, ethmoidal cells and sphenoidal and frontal sinuses
E7.1.1.2.1.0.19	Continuatio temporis canalicularis pulmonis	Canalicular period of lung continues
E5.5.3.0.2.0.11	Pneumocytus typi II	Type II pneumocyte
E5.5.3.0.3.0.4	Pneumocytus typi I	Type I pneumocyte
E7.1.1.2.3.0.4	Initium temporis saccularis pulmonis	Saccular period of lung beginning
E7.1.1.2.3.0.5	Initium secretionis surfactantis pulmonis	Secretion of pumonary surfactant beginning
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.2.2.0.19	Ovarium juxta aperturam superiorem pelvis	Ovary near pelvic brim
E7.1.1.2.3.0.6	Ingressio testis in anulum inguinalem profundum	Entry of testis into deep inguinal ring
E7.1.1.1.5.0.14	Processus vaginalis peritonei	Vaginal process of peritoneum
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.2.2.0.22	Deminutio haematopoiesis in hepate	Hepatic haematopoiesis decreasing▲
E7.1.1.1.5.0.18	Incrementum haematopoiesis in medulla ossium	Haematopoiesis in bone marrow increasing▲; Medullary haematopoiesis increasing▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.2.3.0.7	Lymphocyti in sanguine commeantes	Circulating lymphocyte number plateaus
E7.1.1.1.5.0.21	Lymphocyti T plurimi in thymo	Very numerous T lymphocytes in thymus
E7.1.1.2.3.0.8	Lymphocyti in splene; Lymphocyti in liene	Lymphocytes in spleen
E7.1.1.2.3.0.9	Regiones lymphocytorum B et T splenis	B and T lymphocyte regions of spleen
E7.1.1.2.3.0.10	Nodulus lymphoideus splenis primarius	Primary lymphoid nodule of spleen
	Endocrina	*Endocrine*
E5.4.15.0.3.0.16	Insula pancreatica definitiva[163]	Definitive pancreatic islet
	Neuralia et sensoria	*Neural and senses*
E7.1.1.2.3.0.11	Conus medullaris ad vertebram sacralem primam [S1]	Conus medullaris at S1; Medullary cone at S1
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli[439]	Second six-layered phase of cerebellum
E7.1.1.1.5.0.27	Phasis zonarum sex differentiationis corticis cerebri[437]	Six-zone phase of differentiation of cerebral cortex
E7.1.1.2.3.0.12	Initium myelinisationis in nervis cranialibus III ad XII	Myelination in cranial nerves III-XII beginning
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.2.3.0.13	Lapsio projectionum globularium peridermalium	Shedding of globular peridermal projections
E7.1.1.2.3.0.14	Toruli tactiles pedis	Tactile elevations of foot; Epidermal ridges of foot
E7.1.1.2.3.0.15	Extensio et divisio gemmarum glandulae mammariae	Mammary gland sprouts elongating and branching
E2.0.1.3.0.0.5	**TEMPUS FETALE SERUM; FETUS TRIMESTRI TERTII**	**LATE FETAL PERIOD; THIRD TRIMESTER FETUS**
E7.1.1.3.1.0.1	**Fetus hebdomadis duodetrigesimae**[443]	**Twenty-eighth week fetus** 27-28 weeks ~270mm GL ~1500g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E5.17.1.0.3.0.7	Vernix caseosa	Vernix caseosa
E7.1.1.2.3.0.2	Deminutio lanuginis	Lanugo decreasing
E7.1.1.3.1.0.2	Disjunctio palpebrorum	Eyelids open
	Respiratoria	*Respiratory*
E7.1.1.2.1.0.17	Sulci sinus maxillaris, cellularum ethmoidalium et sinuum sphenoidalis frontalisque	Sulci of maxillary sinus, ethmoidal cells and sphenoidal and frontal sinuses
E7.1.1.3.1.0.3	Tempus sacci terminalis; Tempus sacculare	Terminal sac stage; Saccular stage

[443] E7.1.1.3.1.0.1 *Fetus hebdomadis duodetrigesimae* The *twenty-eighth week fetus* is between 27 and 28 weeks old, is lean, red and wrinkled, its movements are infrequent and sluggish and its cries feeble. It is about 270mm long [GL], weighs about 1500g and exhibits the features listed.

E7.1.1.3.1.0.4	Secretio surfactantis pulmonis	Secretion of pulmonary surfactant
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.2.2.0.19	Ovarium juxta aperturam superiorem pelvis	Ovary near pelvic brim
E7.1.1.3.1.0.5	Testis in canale inguinale	Testis in inguinal canal
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.2.2.0.22	Deminutio haematopoiesis in hepate	Hepatic haematopoiesis decreasing▲
E7.1.1.3.1.0.6	Erythroblasti hepatici acervatim	Hepatic erythroblasts in clusters
E7.1.1.3.1.0.7	Expansio haematopoiesis in medulla ossium	Haematopoiesis in bone marrow extensive; Medullary haematopoiesis extensive ▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.1.5.0.21	Lymphocyti T plurimi in thymo	Very numerous T lymphocytes in thymus
E7.1.1.3.1.0.8	Incrementum lymphocytorum in splene; Incrementum lymphocytorum in liene	Lymphocytes in spleen increasing
	Neuralia et sensoria	*Neural and senses*
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.1.1.1.5.0.27	Phasis zonarum sex differentiationis corticis cerebri[437]	Six-zone phase of differentiation of cerebral cortex
E7.1.1.3.1.0.9	Myelinisatio in nervis cranialibus III ad XII	Myelination in cranial nerves III-XII
E7.1.1.3.1.0.10	Myelinisatio in tractibus pyramidalibus in pedunculis cerebralibus	Myelination in pyramidal tracts in cerebral peduncles
E7.1.1.3.1.0.11	Formatio segmentorum externorum neuronorum bacilliferorum et coniferorum	Formation of outer segments of rods and cones
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.3.1.0.12	Lapsio projectionum globularium peridermalium	Shedding of globular peridermal projection
E7.1.1.3.1.0.13	Papilla mammaria inversa et canalisatio gemmarum	Nipple inverted and sprouts canalizing
E7.1.1.3.2.0.1	**Fetus hebdomadis trigesimae secundae**[444]	**Thirty-second week fetus** 31-32 weeks ~300mm GL ~2100g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E5.17.1.0.3.0.7	Vernix caseosa	Vernix caseosa
E7.1.1.2.3.0.2	Deminutio lanuginis	Lanugo decreasing
E7.1.1.3.2.0.2	Reflexus pupillaris luci	Pupillary light reflex
	Alimentaria	*Alimentary*
E7.1.1.3.2.0.3	Canaliculi intracellulares exocrinocytorum parietales glandularum gastricum	Intracellular canaliculi of parietal cells of gastric glands
	Respiratoria	*Respiratory*
E7.1.1.2.1.0.17	Sulci sinus maxillaris, cellularum ethmoidalium et sinuum sphenoidalis frontalisque	Sulci of maxillary sinus, ethmoidal cells and sphenoidal and frontal sinuses
E7.1.1.3.2.0.4	Continuatio temporis saccularis pulmonis	Saccular period of lung continues
E7.1.1.3.2.0.5	Initium temporis alveolaris pulmonis	Alveolar period of lung begins
E7.1.1.3.1.0.4	Secretio surfactantis pulmonis	Secretion of pulmonary surfactant
	Urogenitalia	*Urogenital*
E7.0.1.16.0.0.16	Bifurcatio aliarum ampullarum uretericarum in blastemati metanephrogenico	Further bifurcation of ureteric ampullae in metanephrogenic blastema
E7.1.1.1.3.0.14	Conjunctio tubulorum metanephricorum cum tubulis colligentibus	Fusion of metanephric tubules with collecting tubules
E7.1.1.2.2.0.19	Ovarium juxta aperturam superiorem pelvis	Ovary near pelvic brim
E7.1.1.3.2.0.6	Testis juxta anulum inguinalem superficialem	Testis at superficial inguinal ring
	Haematolymphoidea	*Haematolymphoid*▲
E7.1.1.3.2.0.7	Haematopoiesis in hepate minima	Hepatic haematopoiesis minimal▲
E7.1.1.3.2.0.8	Erythroblasti hepatici in insulis/acervationibus residuis	Hepatic erythroblasts in small clusters

[444] E7.1.1.3.2.0.1 *Fetus hebdomadis trigesimae secundae* The *thirty-second week fetus* is between 31 and 32 weeks old, is paler and smoother, is about 300mm long [GL], weighs about 2100g and exhibits the features listed.

E7.1.1.3.2.0.9	Superantia haematopoiesis in medulla ossium	Haematopoiesis in bone marrow predominant▲; Medullary haematopoiesis predominant▲
E7.1.1.1.3.0.17	Granulocyti immaturi in sanguine	Circulating immature granulocytes
E7.1.1.3.2.0.10	Lymphocyti numerosi in splene; Lymphocyti numerosi in liene	Numerous lymphocytes in spleen
	Neuralia et sensoria	*Neural and senses*
E7.1.1.3.2.0.11	Strata definitiva corticis cerebri	Definitive layers of cerebral cortex
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.1.1.3.2.0.12	Differentiatio retinae non completa[445]	Differentiation of retina incomplete
	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.3.2.0.13	Desquamatio cellularum squamosarum peridermalium	Shedding of peridermal squamous cells
E7.1.1.3.2.0.14	Desquamatio cellularum squamosarum cornificatarum	Shedding of cornified squamous cells
E7.1.1.3.3.0.1	**Fetus hebdomadis trigesimae sextae**[446]	**Thirty-sixth week fetus** 35-36 weeks ~325mm GL ~3000g
	Generalia	*General*
E7.1.1.1.4.0.2	Motus rotationis fetus[435]	Rotational movements of the fetus
E7.1.1.3.3.0.2	Vernix caseosa copiosa	Vernix caseosa abundant
E7.1.1.2.3.0.2	Deminutio lanuginis	Lanugo decreasing
E7.1.1.3.3.0.3	Reflexus praehensionis fortis	Strong grasp reflex
E7.1.1.3.3.0.4	Ungues in apicus phalangium distalium	Nails at fingertips
E7.1.1.3.3.0.5	Circumferentiae abdominis et capitis aequales	Abdominal circumference equals head circumference
E7.1.1.3.3.0.6	Longitudo aequalis pedis atque femoris ossificati	Foot length [FL] equals length of ossified femur
	Alimentaria	*Alimentary*
E7.1.1.3.3.0.7	Defectio villorum coli	Villi disappearing from colon
	Respiratoria	*Respiratory*
E5.5.1.0.1.0.4	Diverticulum sinus maxillaris[166]	Diverticulum of maxillary sinus
E7.1.1.3.3.0.8	Sulci cellularum ethmoidalium et sinuum sphenoidalium frontaliumque	Sulci of ethmoidal cells and of sphenoidal and frontal sinuses
E7.1.1.3.2.0.4	Continuatio temporis saccularis pulmonis	Saccular period of lung continues
E7.1.1.3.3.0.9	Continuatio temporis alveolaris pulmonis	Alveolar period of lung continues
E7.1.1.3.3.0.10	Secretio maxima surfactantis pulmonis	Maximum secretion of pulmonary surfactant
	Urogenitalia	*Urogenital*
E7.1.1.3.3.0.11	Finis ramificationis ampullarum uretericarum	Branching of ureteric ampullae ends
E7.1.1.2.2.0.19	Ovarium juxta aperturam superiorem pelvis	Ovary near pelvic brim
E7.1.1.3.3.0.12	Ingressio testis in scrotum	Entry of testis into scrotum
	Haematolymphoidea[447]	*Haematolymphoid*▲
E7.1.1.3.3.0.13	Deminutio relativa granulocytorum immaturorum in sanguine	Proportion of circulating immature granulocytes decreasing
E7.1.1.3.3.0.14	Incrementum granulocytorum maturorum in sanguine	Circulating mature granulocytes increasing
E7.1.1.3.2.0.10	Lymphocyti numerosi in splene; Lymphocyti numerosi in liene	Numerous lymphocytes in spleen
	Neuralia et sensoria	*Neural and senses*
E7.1.1.3.2.0.11	Strata definitiva corticis cerebri	Definitive layers of cerebral cortex
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.1.1.3.3.0.15	Conus medullaris in plano vertebrae lumbalis quartae [L4]	Conus medullaris at level of LIV
E7.1.1.3.3.0.16	Myelinisatio in tractibus pyramidalibus in ponte	Myelination in pyramidal tracts in pons
E7.1.1.3.2.0.12	Differentiatio retinae non completa[445]	Differentiation of retina incomplete

[445] E7.1.1.3.2.0.12 *Differentiatio retinae non completa* The retina is not fully differentiated until some 5 to 13 months after birth.

[446] E7.1.1.3.3.0.1 *Fetus hebdomadis trigesimae sextae* The *thirty-sixth week fetus* is between 35 and 36 weeks old, is about 325mm long [GL], weighs about 3000g and exhibits the features listed.

[447] *Haematolymphoidea* In the thirty sixth week fetus maternal antibodies transfer across the placenta.

	Cutanea	*Cutaneous*
E7.1.1.1.5.0.38	Epithelium superficiale corporis multilaminare	Multi-layered body surface epithelium
E7.1.1.3.2.0.13	Desquamatio cellularum squamosarum peridermalium	Shedding of peridermal squamous cells
E7.1.1.3.2.0.14	Desquamatio cellularum squamosarum cornificatarum	Shedding of cornified squamous cells
E7.1.1.3.3.0.17	Initium papillae mammariae inversae et alveolorum glandularium	Nipple inverted and glandular alveoli beginning
E7.2.0.0.0.0.1	**Insignia neonati maturi**[448]	**Features of mature neonate** ~335mm GL ~3350g
	Generalia	*General*
E5.17.1.0.3.0.7	Vernix caseosa	Vernix caseosa
E7.2.0.0.0.0.2	Lanugo parca	Scanty lanugo; Scanty primary hair
E7.2.0.0.0.0.3	Initium formationis pilorum definitivorum	Formation of secondary hair beginning
E7.2.0.0.0.0.4	Reflexus cervicalis tonicus	Tonic neck reflex
E7.1.1.2.1.0.3	Reflexus praehensionis	Grasp reflex
E7.2.0.0.0.0.5	Reflexus indagationis	Search reflex; Rooting reflex
E7.2.0.0.0.0.6	Reflexus labii	Lip reflex
E7.2.0.0.0.0.7	Reflexus glutitionis	Swallowing reflex
E7.2.0.0.0.0.8	Reflexus suctionis	Sucking reflex
E7.2.0.0.0.0.9	Absentia reflexuum superficialium	Absence of superficial reflexes
E7.2.0.0.0.0.10	Reflexus tremefactionis	Startle reflex
E7.2.0.0.0.0.11	Responsum plantare extensorium	Extensor plantar response
E7.1.1.1.5.0.4	Centra ossificationis primaria phalangium proximalium	Primary ossification centres for proximal phalanges▲
E7.1.1.3.3.0.5	Circumferentiae abdominis et capitis aequales	Abdominal circumference equals head circumference
E7.2.0.0.0.0.12	Fonticulus anterior	Anterior fontanelle
E7.2.0.0.0.0.13	Fonticulus mastoideus; Fonticulus posterolateralis	Mastoid fontanelle
E7.2.0.0.0.0.14	Fonticulus posterior	Posterior fontanelle
E7.2.0.0.0.0.15	Fonticulus sphenoidalis; Fonticulus anterolateralis	Sphenoidal fontanelle
E7.2.0.0.0.0.16	Formatura capitis	Moulding of head
E7.2.0.0.0.0.17	Centra epiphysialia juxta genu et in humero proximale	Epiphysial centres at knee and in proximal humerus▲
E7.2.0.0.0.0.18	Centra ossificationis primaria calcanei, tali et fortasse cuboidei	Primary ossification centres of calcaneus, talus and possibly cuboid▲
E7.2.0.0.0.0.19	Absentia processus mastoidei et meatus acustici externi ossei	Absence of mastoid process and bony external acoustic meatus
	Alimentaria	*Alimentary*
E7.2.0.0.0.0.20	Corpus adiposum buccae	Buccal fat pad §Bichat§
E7.2.0.0.0.0.21	Apex linguae non completus	Apex of tongue undeveloped; Tip of tongue undeveloped
E7.2.0.0.0.0.22	Hepar relative magnum	Liver relatively large
	Respiratoria	*Respiratory*
E5.5.1.0.1.0.4	Diverticulum sinus maxillaris[166]	Diverticulum of maxillary sinus
E5.5.1.0.1.0.7	Diverticula cellularum ethmoidalium[167]	Diverticula of ethmoidal cells
E7.2.0.0.0.0.23	Sulci sinuum sphenoidalium et frontalium	Sulci of sphenoidal and frontal sinuses
E7.2.0.0.0.0.24	Margo inferior laryngis ad vertebram cervicalem quartam [C4]	Lower border of larynx at C4
E7.2.0.0.0.0.25	Ramificatio pulmonalis imperfecta	Pulmonary branching incomplete
E7.2.0.0.0.0.26	Tempus alveolare pulmonis imperfectum	Alveolar period of lung incomplete
E7.2.0.0.0.0.27	Mutationis arteriae pulmonis gradus unus	Stage one of pulmonary arterial modification
	Urogenitalia	*Urogenital*
E7.2.0.0.0.0.28	Vesica urinaria partim in cavitate abdominale	Bladder partly in abdomen
E7.2.0.0.0.0.29	Testis in scroto	Testis in scrotum
E7.2.0.0.0.0.30	Ovaria in apertura pelvis superiore	Ovaries at pelvic brim
E7.2.0.0.0.0.31	Oocyti primarii decies centena milia	One million primary oocytes

[448] E7.2.0.0.0.0.1 *Insigna neonati maturi* The movements of the *mature neonate* are active and sustained and its cries are lusty. It is about 335mm long [GL] or 50cm long [CH], weighs about 3350g and exhibits the features listed. Such an infant has an age of about 38 weeks post fertilization or 40 menstrual weeks (See footnotes [5] and [9]).

E7.2.0.0.0.0.32	Praeputium usualiter adhaerens peni	Prepuce usually adherent
	Endocrina	*Endocrine*
E7.2.0.0.0.0.33	Glandula suprarenalis relative magna[217]	Suprarenal gland relatively large
	Cardiovascularia	*Cardiovascular*
E7.2.0.0.0.0.34	Cor relative magnum	Heart relatively large
E7.2.0.0.0.0.35	Obturatio functionalis foraminis ovalis cordis	Functional closure of foramen ovale of heart
E7.2.0.0.0.0.36	Obturatio functionalis ductus arteriosi	Functional closure of ductus arteriosus
E7.2.0.0.0.0.37	Contractio arteriarum umbilicalium	Contraction of umbilical arteries
E7.2.0.0.0.0.38	Obturatio ductus venosi incipiens	Closure of ductus venosus begins
	Haematolymphoidea	*Haematolymphoid*▲
E7.2.0.0.0.0.39	Numerosi granulocyti maturi in sanguine[441]	Numerous circulating mature granulocytes
	Neuralia et sensoria	*Neural and senses*
E7.2.0.0.0.0.40	Conus medullaris in plano vertebrae lumbalis tertiae [L III]	Conus medullaris at level of L III
E7.1.1.3.2.0.11	Strata definitiva corticis cerebri	Definitive layers of cerebral cortex
E7.1.1.2.1.0.34	Phasis secunda sexies stratificati cerebelli [439]	Second six-layered phase of cerebellum
E7.2.0.0.0.0.41	Myelinisatio in tractibus pyramidalibus in capsulis internis	Myelination in pyramidal tracts in internal capsules
E7.1.1.3.2.0.12	Differentiatio retinae non completa[445]	Differentiation of retina incomplete
E7.2.0.0.0.0.42	Accommodatio lentis absens	Accommodation of lens absent
E7.2.0.0.0.0.43	Liquor amnioticus in aure media	Amniotic fluid in middle ear
E7.2.0.0.0.0.44	Absentia cellularum mastoidearum	Mastoid cells absent
	Cutanea	*Cutaneous*
E7.2.0.0.0.0.45	Epithelium stratificatum superficiale; Epidermis	Multi-layered surface epithelium; Epidermis
E7.1.1.3.2.0.14	Desquamatio cellularum squamosarum cornificatarum	Shedding of cornified squamous cells
E7.2.0.0.0.0.46	Papilla mammaria eversa	Nipple everted
E7.2.0.0.0.0.47	Mammae protrudentes; Gynaecomastia neonatorum	Breasts protruding; Neonatal gynaecomastia▲
E7.2.0.0.0.0.48	(Mammae secretantes lactem neonatorum)	(Breasts secreting witch's milk)
	Nomina dysmorphica[449]	**Dysmorphia terms**
	Nomina generalia	*General terms*
E8.0.0.0.0.0.1	Collectiones anomaliarum	Collections of anomalies
E8.0.0.0.0.0.2	Conjunctio anomaliarum	Association of anomalies
E8.0.0.0.0.0.3	Sequentia anomaliarum	Sequence of anomalies
E8.0.0.0.0.0.4	Syndroma embryologicum	Developmental syndrome
E8.0.0.0.0.0.5	Mosaicismus	Mosaicism
E8.0.1.0.0.0.1	**Embryogenesis dysmorphicarum**	**Embryogenesis of dysmorphias**
E8.0.1.0.0.0.2	Aberratio	Aberration
E8.0.1.0.0.0.3	Ectopia	Ectopia
E5.14.3.5.5.0.32	Heterotopia	Heterotopia
E8.0.1.0.0.0.4	Concrescentia	Congrescence
E8.0.1.0.0.0.5	Hamartoma	Hamartoma
E8.0.1.0.0.0.6	Hyperplasia	Hyperplasia
E8.0.1.0.0.0.7	Hypertrophia	Hypertrophy

[449] *Nomina dysmorphica* Previous embryological terminologies have included a substantial list of dysmorphias. Here, however, dysmorphias have been been distributed between the systems and a representative selection has been listed at the end of each. Furthermore, dysmorphology has developed into a separate discipline and developed its own literature (see, for example, the special issue on Elements of morphology: standard terminology Am J Med Genet Part A 149A:1-127). The treatment is as yet incomplete, but for details see the individual papers: Carey JC. Editorial comment: Am J Med Genet Part A 2009;149A:1; Allanson JE, Biesecker LG, Carey JC, Hennekam RCM. Elements of morphology: introduction. Am J Med Genet Part A 2009;149A:2–5; Allanson JE, Cunniff C, Hoyme HE, McGaughran J, Muenke M, Neri G. Elements of morphology: standard terminology for the head and face.Am J Med Genet Part A 2009;149A:6–28; Hall BD, Graham JM Jr., Cassidy SB, OpitzJM. Elements of morphology: standard terminology for the periorbital region.Am J Med Genet Part A 2009;149A:29–39; Hunter A, Frias J, Gillessen-Kaesbach G, HughesH, Jones K, Wilson L. Elements of morphology: standard terminology for the ear. Am J Med Genet Part A 2009;149A:40–60; Hennekam RCM, Cormier-Daire V, Hall J,Méhes K, Patton M, Stevenson R. Elements of morphology: standard terminology for the nose and philtrum.Am J Med Genet Part A 2009;149A:61–76; Carey JC, Cohen MM Jr., Curry CJR, Devriendt K, Holmes LB, Verloes A. Elements of morphology: standard terminology for the lips, mouth, and oral region.Am J Med Genet Part A 2009;149A:77–92; Biesecker LG, Aase JM, Clericuzio C, Gurrieri F, Temple IK, Toriello H. Elements of morphology: standard terminology for the hands and feet. Am J Med Genet Part A 2009;149A:93–127.

There is also the Winter-Baraitser Dysmorphology Database [WBDD] http://www.lmdatabases.com/. WBDD currently contains information on over 4450 dysmorphic, multiple congenital anomaly and mental retardation syndromes. It includes single gene disorders and sporadic conditions, as well as those caused by environmental agents. While it mainly contains information about non-chromosomal multiple congenital anomaly syndromes, it also includes information about distinctive microdeletion syndromes and those resulting from uniparental disomy. WBDD contains over 44000 fully searchable references, linked to the appropriate syndromes.

E8.0.1.0.0.0.8	Multiplicatio	Multiplication
E8.0.1.0.0.0.9	Status accessorius	Accessory organs
E8.0.1.0.0.0.10	Status supernumerarius	Supernumerary organs
E8.0.1.0.0.0.11	Suspensio embryologicum	Developmental arrest
E8.0.1.0.0.0.12	Agenesis	Agenesis
E8.0.1.0.0.0.13	Anomalia separationis	Separation defect
E8.0.1.0.0.0.14	Aplasia	Aplasia
E8.0.1.0.0.0.15	Atresia	Atresia
E8.0.1.0.0.0.16	Dysraphia	Dysraphia
E8.0.1.0.0.0.17	Hypoplasia	Hypoplasia
E8.0.1.0.0.0.18	Persistentia vestigii	Persistence of vestige
E8.0.1.0.0.0.19	Suspensio migrationis	Suppressed migration