



## TRENCH FOOT

### KEYWORDS

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**ABSTRACT** *Trench foot is a medical condition caused by prolonged exposure of the feet to damp, unsanitary, and cold conditions. It is one of many immersion foot syndromes. The use of the word trench in the name of this condition is a reference to trench warfare, mainly associated with World War I which started in 1914.*

#### CASE PRESENTATION

*In the community posting at anagaputhur we came across MR.X 45 years old male, who was presented with history of pain in the leg numbness, swelling past 4 days the condition was revealed trench foot*

#### INTRODUCTION

Trench Foot is a condition caused by prolonged exposure to damp, cold, unsanitary conditions. The foot become numbs, changes color, swells and starts to smell due to damage to the skin, blood vessels and nerves in the feet.

It can take three to six months to fully recover and prompt treatment is essential to prevent gangrene and possible foot amputation.

The medical term for this condition is Non Freezing Cold Injury (NFCI) and it is also known as Immersion Foot.

#### DEFINITION

Trench foot, also known as immersion foot and nonfreezing cold injury, develops when your feet are kept in damp, cold, unsanitary conditions for a prolonged period.

#### HISTORY:

Trench foot was first noted in Napoleon's army in 1812. It was during the retreat from Russia that it became prevalent, and was first described by French army surgeon Dominique Jean Larrey.

It was a particular problem for soldiers in trench warfare during the winters of World War I, World War II, and the Vietnam War.

Trench foot made reappearance in the British Army during the Falklands War in 1982. The causes were the cold, wet conditions and insufficiently waterproof DMS boots.

Some people were even reported to have developed trench foot at the 1998 and 2007 Glastonbury Festivals, the 2009 and 2013 Leeds Festivals as well as the 2012 Download Festival, as a result of the sustained cold, wet, and muddy conditions at the events.



#### CAUSES

##### Trench Foot is caused by prolonged

- Exposure to damp, cold conditions and
- Poor environmental hygiene.
- Unlike frostbite, it doesn't require freezing temperatures. It can develop in temperatures up to sixteen degrees Celsius (sixty degrees Fahrenheit) and can even affect people indoors.
- Any wet environment, be it from excessive sweating to wearing damp socks and shoes can cause Immersion Foot.
- Another factor was pressure from standing still in one position for long periods, which can impede blood flow through the feet.
- Poor foot hygiene also played a role in the development of trench foot.
- As with other cold-related injuries of the hands and feet, the reduction of blood flow to the extremities from constriction of blood vessels after exposure to cold temperatures leads to skin changes.

#### PATHOPHYSIOLOGY

When the exposure is prolonged, the reduced flow of oxygen and nutrients to the feet can eventually cause tissue and nerve damage. In trench foot, injury occurs because wet feet lose heat 25 times faster than dry feet.

The blood vessels constrict in an attempt to keep warm by reducing blood flow to the extremities. This reduces the amount of oxygen and nutrients to the feet which can result in tissue and nerve damage.

Blisters may develop and then break; leaving dead skin and tissue that begins to peel off. Untreated trench foot can lead to gangrene.

#### SYMPTOMS

Trench foot can affect the toes, the heel, or the entire foot. Symptoms include:

S.NO	BOOK PICTURE	CLIENT PICTURE
1	Tingling and/or itching sensation	Present
2	Pain	Present
3	Swelling	Present
4	Foot odour	Present
5	Cold feet	Present

6	Blanching of the skin and/or red blotches	Absent
7	Numbness	Present
8	Prickly or heavy feeling in the foot	Absent
9	Bleeding under the skin	Present

### MANAGEMENT

Prompt treatment is vital to prevent permanent tissue damage from Immersion Foot:



**Thoroughly clean and dry the feet:** use an anti-bacterial, anti-fungal dressing and air the feet regularly

**2) Gently re-warm the feet to improve circulation:** warm the feet for approximately five minutes at a time either by soaking in warm (not hot) water or using heat packs. Make sure you test the temperature first to avoid the risk of burning especially while the sensation is reduced.

**3) A Potassium Permanganate foot bath:** can help draw fluid out of the affected area.

**4) Amputation:** in severe cases where gangrene has set in, amputation is required.

When treating trench foot the main thing that you want to do is keep your feet dry. There are steps in which to treat trench foot, which include:

- Change your socks each day so you are only wearing socks that are clean and dry. You should also not wear your socks when sleeping or resting. This is especially important for people who sweat a lot.
- If you start to see symptoms of trench foot or your feet are cold and wet you should soak them in warm water that ranges in temperature from one hundred two to one hundred ten degrees Fahrenheit for at least five minutes. After taking it out of the water make sure that you dry the foot completely, especially between your toes. If you do not want to soak them you can use a warm pack. Doing either of these will help to restore circulation to your foot. Just make sure that the water is not extremely hot as this can do more harm than good. You just want to warm your foot up.
- Elevate your feet to help reduce swelling
- When you have trench foot try to stay off the foot as much as possible, especially if there are open areas.
- If you have just the beginning symptoms of trench foot you should check your foot very closely to see if there are any wounds. You should do this once a day
- If you notice any symptoms of trench foot you should see your physician immediately to prevent it from spreading and cause long term damage or even loss of your foot. This is especially true if you have any ulcers or blisters that are infected to make sure that the infection does not spread. Make sure that if your feet become wet or you are sweating excessively causing your socks to become wet, change your socks and

footwear immediately. Do not walk around for a long time before doing this as it can cause trench foot and the problems associated with this medical condition.

- If you know you may be exposed to cold wet feet and/or socks such as going boating, fishing, on marches if you are a soldier, etc, have an extra pair of dry shoes and socks with you so you can change into them. You can also get special socks that will pull moisture away from your skin. When possible wear sandals or flip-flops to allow the sweat to evaporate from your skin, especially in hot conditions that could cause your feet to sweat.
- If you are experiencing pain you can take over-the-counter pain medications or have your physician give you a prescription for a pain medication. Trench foot is treatable but it can be a long, slow, and painful process but it all depends on how serious the condition is. Remember that in order to prevent this medical condition you need to make sure that your feet are kept dry but if they become wet make sure that you get them dry as soon as possible. Do not just change your footwear and leave on your socks, even if they are just slightly damp. To avoid any serious problems see your physician immediately for treatment

### PREVENTION

Prevention is better than cure as Trench Foot can be extremely painful and it can take up to six months to fully recover.

- 1) Wear clean, dry socks:** change socks daily or more frequently if in damp conditions.
- 2) Use Polypropylene sock liners:** specially designed to draw moisture away from the feet
- 3) Don't wear socks in bed:** allow the feet to "air"
- 4) Keep feet clean:** wash and dry feet daily
- 5) Apply talcum powder or Vaseline:** to the feet to keep moisture away
- 6) Ensure shoes fit well:** avoid shoes that are too loose or too tight
- 7) Ensure footwear is dry:** it may help to alternate shoes/boots daily to ensure they dry out fully
- 8) Avoid synthetic materials:** e.g. rubber and vinyl
- 9) Control excessive perspiration:** use drying agents like aluminium chloride or with extreme cases Botox may help. Always talk to your doctor before undergoing any treatment.

### NURSING INTERVENTION:-

Check vital signs

Advice adequate rest

Advice to take adequate fluids

Advice to take medication properly

Educate about hygiene - environment and personal hygiene

Educate about foot care

Educate about complication

Educate about home remedies

### SUMMARY

Mr.X was cooperative with health personnel. He was recovering from his symptoms and problems .he didn't develop any complications.

### CONCLUSION

Prevention of disease is of fundamental importance. So after getting the disease prevention of complication is very important. The community has to be educated more about the prevention and spread of disease

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