INJURIES FROM COLD EXPOSURE

Hypothermia

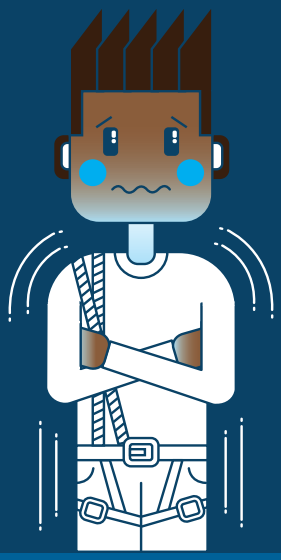
DEVELOPS WHEN CORE BODY TEMPERATURE FALLS BELOW 95 DEGREES.

WARNING SIGNS:

- **Mild:** Strong shivering, raised blood pressure, poor fine motor control, lethargy, apathy and mild memory loss.
- **Moderate or severe:** No shivering, very cold skin, reduced vital signs, impaired thinking, slurred speech, unconsciousness and impaired gross motor control.

CARE STEPS:

- Remove damp or wet clothing; wrap the body and head in warm, dry clothing or blankets.
- Bring the athlete into a warm shelter out of the wind and rain.
- Warm only the trunk and heat-transfer areas, such as armpits, chest and groin.
- Do not rewarm the extremities: cold blood may return to the core and lower core temperature, risking heart rhythm disturbances and death.
- Offer warm drinks and food.
- Avoid friction massage; it can worsen tissue damage when frostbite is present.
- For moderate or severe hypothermia, prioritize hospital transfer for rewarming.



Frostbite

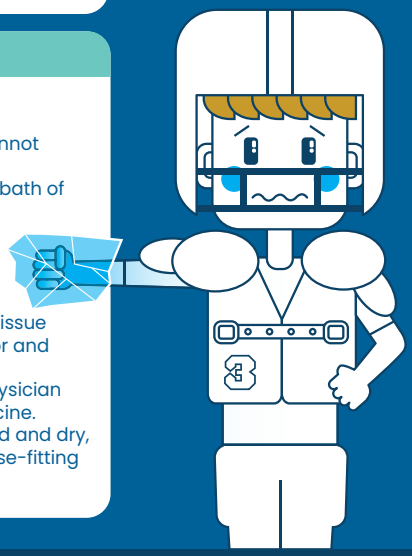
- BODY TISSUE FREEZES.
- A LOCAL REACTION TO COLD, DRY CONDITIONS, MADE WORSE WHEN SWEAT COOLS THE TISSUE.

WARNING SIGNS:

- **Mild:** Swelling, red or mottled gray skin, stiffness and brief tingling or burning sensations.
- **Deep:** Edema, mottled gray skin, hard tissue that does not spring back, blisters, numbness or lost sensation.

CARE STEPS:

- Check that hypothermia is not present.
- Rewarm tissue only if it cannot freeze again.
- Soak the tissue in a warm bath of gently moving water for 15 to 30 minutes.
- Rewarm the tissue slowly; keep water at or below 98 degrees.
- Thawing is finished when tissue is flexible and normal color and feeling have returned.
- Rewarming can hurt; a physician may prescribe pain medicine.
- Once the area is rewarmed and dry, cover the injury with a loose-fitting wound dressing.



Chilblain

- AN INJURY TO THE EXTREMITIES WITHOUT FREEZING.
- FOLLOWS PROLONGED EXPOSURE TO COLD, WET CONDITIONS.

WARNING SIGNS:

Small red bumps, swelling, soreness, itching and pain.

CARE STEPS:

- Take off wet or tight clothing.
- Wash gently, then dry the area.
- Raise the area and cover it in warm, loose, dry clothing or blankets.
- Leave blisters alone and avoid friction massage.
- Do not use lotions, creams or intense heat.
- Keep weight off the affected area.



Immersion Foot

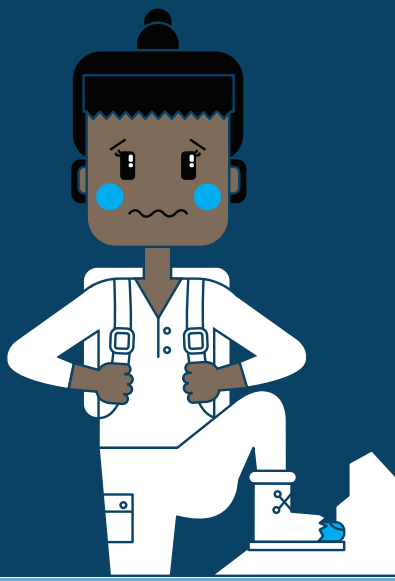
- AN INJURY TO THE EXTREMITIES WITHOUT FREEZING, ALSO CALLED "TRENCH FOOT."
- FOLLOWS LONG EXPOSURE TO COLD AND WET CONDITIONS.

WARNING SIGNS:

Burning, tingling, itching, lost sensation, blue or blotchy skin, swelling, pain or sensitivity, blisters, skin cracks and maceration.

CARE STEPS:

- Clean and dry the feet thoroughly.
- Use warm packs or soak the area in warm water for about five minutes.
- Wear clean, dry socks.
- Let footwear dry before reuse.



Keep warm, keep safe

- Choose insulated clothing that lets moisture evaporate.
- Wear layers you can adjust as weather conditions change.
- Use external heaters for warmth.
- Take frequent indoor breaks.
- Eat a well-balanced diet.
- Hydrate with water or a sports drink.
- Bring spare shoes, socks and gloves to replace wet items.
- Young, older, diabetic, female and African-American athletes need added precautions because their risk is higher.

Source: National Athletic Trainers' Association (revised 2023)