How Would You Treat Hands Like These?



Would you know what to do if a co-worker had frozen hands like these?

Step 1: Diagnose: Frozen, stiff and blackened fingers are a sure sign of frostbite.

Step 2: Treat: The best way to treat frostbite is to get the victim to a warm room and loosely cover the affected area until it warms up. Do NOT warm the affected area by rubbing it or directly exposing it to fire, a heat lamp or other heat source.

The Moral: There are different forms of cold stress and you need to be able to recognize the signs and symptoms of each so you know how to properly treat it.

COLD STRESS CAN KILL

WHAT'S AT STAKE

Being cold isn't just uncomfortable; it can cause serious injury and, in extreme cases, even kill you. In the U.S., approximately 700 people die of cold-related injuries each year—that's higher than the number of fatalities caused by floods and tornadoes.

These cold-related injuries, which are known as “cold stress” can happen at work.

WHO’S AT RISK

You’re at risk of cold stress if you work outdoors, in/near/above water or inside freezers or refrigerated facilities, including:

- Construction;
- Utilities;
- Mining;
- Oil and gas extraction;
- Transportation and truck driving;
- Agriculture;
- Lumber;
- Fishing;
- Mortuaries; and
- Food production and warehousing.

HOW COLD STRESS HAPPENS

Normal body temperature is 98.6° F. Minor and short-term decreases in body temperature are uncomfortable but generally not dangerous; but when core body temperature drops below 95.0° F, the body has trouble circulating blood. Result: The body becomes susceptible to cold stress. The longer the exposure to sub-95.0° F temperatures, the greater the danger.

HOW TO RECOGNIZE & TREAT COLD STRESS

If you work in cold conditions, you and your co-workers may be at risk of 4 kinds of cold stress. Make sure you know the signs and symptoms of each one so you can recognize and properly treat the condition:

1. Frostbite



Freezing of the extremities (fingers, toes, nose, earlobes, etc.) caused by loss of blood flow, which can cause tissue damage and amputation

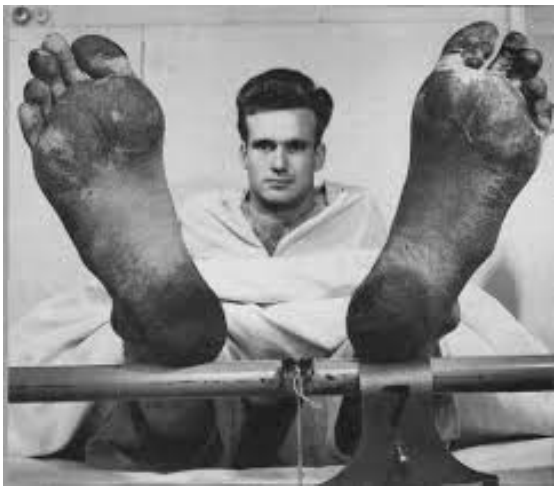
Frostbite Signs & Symptoms

- Bluish or pale, waxy skin
- Blackened skin (extreme cases)
- Blistering
- Numbness, tingling, stinging sensation

Frostbite First Aid Treatment

- Get into warm room ASAP
- Loosely cover affect area
- Give victim warm, sweetened (nonalcoholic) drinks
- Allow victim and affected area to warm up
- DO NOT rub affected area
- DO NOT directly expose the affected area to fire, heat lamp or other heat source that can cause burns
- DO NOT break blisters

2. Trench Foot (aka Immersion Foot)



Injury to the feet caused by prolonged exposure to cold and/or wet conditions which causes blood flow to the feet to shut down, potentially resulting in tissue damage and amputation

Trench Foot Signs & Symptoms

- Reddening
- Foot turns dark purple, blue or gray (extreme cases)
- Swelling
- Blistering
- Bleeding under the skin
- Numbness
- Tingling pain
- Leg cramps

Trench Foot First Aid Treatment

- Remove wet shoes, boots and socks
- Dry the feet
- DO NOT let the victim walk because it can cause tissue damage to the feet

3. Chilblains



Tissue damage, typically to the feet or hands that occurs when exposure to cold damages beds of capillary or small blood vessels in the skin

Chilblains Signs & Symptoms

- Reddening
- Inflammation
- Blistering
- Ulceration, i.e., formation of open sores (extreme cases)
- Itchiness

Chilblains First Aid Treatment

- Slowly warm skin
- Keep blisters/ulcers clean and covered
- Treat with corticosteroid creams
- DO NOT scratch the itch
- DO NOT break blisters

4. Hypothermia



The most dangerous form of cold stress that occurs when body temperature drops so low that the body can no longer replace lost body heat and uses up its stored energy. Possible result: Body

systems and functions shut down and the victim essentially freezes to death

Hypothermia Signs & Symptoms

Early Symptoms

- Shivering
- Fatigue
- Loss of coordination
- Confusion/Disorientation

Late Symptoms

- Shivering stops
- Blue skin
- Dilated pupils
- Slowed pulse & breathing
- Loss of consciousness

Hypothermia First Aid Treatment

- Call for immediate medical help
- Move victim to warm area or room
- Remove wet clothing
- Warm center of body—chest, neck, head, groin
- Have victim drink warm beverages without alcohol
- When body temperature increases, keep victim dry and wrapped in a warm blanket—including the head and neck
- Begin CPR if victim has no pulse

HOW COLD STRESS CAN BE AVOIDED

The key to protecting yourself against cold stress is being aware of the danger and taking steps to keep your core body temperature at or above the critical 95.0° F threshold.

- The company will do its part in achieving this goal by implementing appropriate engineering and work controls to minimize your exposure to work conditions that can lead to cold stress;
- By you also have to do your part and protect yourself.

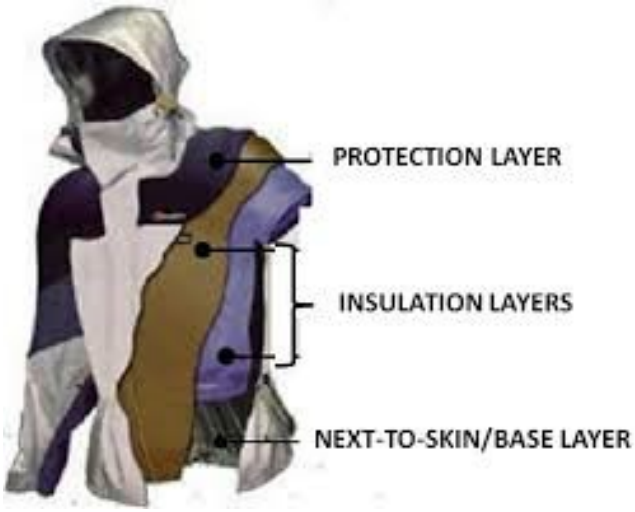
10 Ways to Protect Yourself When Working in the Cold:

1. Be aware of and follow all safe work procedures



2. Wear at least 3 layers of protective clothing:

- An inner layer of wool, silk or synthetics to insulate your body against moisture
- A middle layer of wool or synthetics for insulation in case the outer layer gets wet
- An outer layer to protect against wind and moisture and that's ventilated to prevent overheating



3. Wear a hat or hood to keep from escaping from your head



4. If necessary, wear a mask to protect your face and mouth



5. Wear insulated and water-proof gloves



6. Wear warm, insulated and, if necessary, water-proof boots or footwear



7. Take rest breaks to warm-up



8. Keep yourself hydrated by drinking water and warm beverages—but not alcohol



9. Keep an eye on your co-workers and how they’re faring in the cold



10. Make sure you know how to recognize and treat the 4 kinds of cold stress



COLD STRESS

LOW TEMPERATURE + WIND SPEED + WETNESS = INJURIES & ILLNESS

Working in a cold environment – like cold weather, cold water or an indoor freezer – can lead to serious injuries, illnesses and death.

FROSTBITE

DESCRIPTION: Freezing in the deep layers of the skin, usually on fingers, hands, feet, toes, ears and nose.

SYMPTOMS: Skin turns pale, hard and numb

WHAT TO DO:

- Move to a warm, dry area.
- Remove wet or tight clothing that may restrict flow of blood.
- Don't rub affected area – or you may cause damage.
- Gently put affected area in a warm 41°C (105°F) water bath and keep it there for 25 to 40 minutes. Don't pour water directly on skin.
- When normal feeling, movement and skin color return, dry and wrap affected area.
- Get medical help as soon as possible.

FIRST AID

If victim shows signs or reports symptoms of frostbite or hypothermia, get him out of the cold immediately – seek medical help from a doctor or trained first aid attendant.

IF TREATING VICTIM:

- Handle gently. Rough handling can cause heart beat irregularities and death.
- Don't give victim hot fluids unless he's fully alert and shows no sign of confusion.
- Remove wet clothing and cover with warm, dry clothes/blankets.
- Let victim shiver even if he's shivering violently.
- Don't massage victim's hands, arms, legs, feet or body.
- Don't put victim in warm bath or shower.
- Check victim's airway, breathing and circulation; give CPR if necessary.
- If victim's breathing is slow and shallow, give him oxygen.
- Keep treating victim even if he appears lifeless. Victim may still be alive and you may still be able to save his life.

HYPOTHERMIA

DESCRIPTION: When you become so cold that your body loses heat faster than it can produce it. Hypothermia is a killer. And it's sneaky. It often sets in so slowly that the victim dies without ever recognizing the danger.

SYMPTOMS:

MILD HYPOTHERMIA

- Shivering
- Grogginess, muddled thinking and abnormal behavior
- Breathing normal

MODERATE HYPOTHERMIA

- Violent shivering or shivering has stopped
- Inability to think and pay attention
- Slurred speech
- Poor body co-ordination
- Slow, weak pulse
- Slow, shallow breathing

SEVERE HYPOTHERMIA

- Shivering stopped
- Unconsciousness
- Dilated pupils
- Weak, irregular or non-existent pulse
- Little or no breathing

WHAT TO DO:

- Wear warm head covering.
- Wear layered clothing.
  First layer: Underwear, socks, glove liners and other clothing that lets skin breathe by allowing sweat to escape.
  Second layer: Insulating clothing that absorbs sweat but doesn't let heat out. Wool is ideal.
- Protect your hands and feet.
- Carry emergency supplies.
- Drink lots of non-alcoholic fluids.
- Pace yourself during vigorous activity.
- Try to heat the work area.

LITTLE DANGER (Caution)
freezing to exposed flesh within **1 hour**

DANGER
freezing to exposed flesh within **1 minute**

EXTREME DANGER
freezing to exposed flesh within **30 seconds**

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