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Cold stress

Explain dangers

When you're cold, blood vessels in your skin, arms, and legs constrict, decreasing the blood flow to your extremities. This helps your critical organs stay warm, but you risk frostbite in your extremities.

WIND CHILL

The wind accelerates heat loss. For example, when the air temperature is -30°C ,

- with 16 km/h wind (a flag will be fully extended) your skin can freeze in about a minute
- with 48 km/h wind your skin can freeze in 30 seconds.

FROSTBITE

This means that your flesh freezes. Blood vessels are damaged and the reduced blood flow can lead to gangrene. Frostbitten skin looks waxy and feels numb. Once tissue becomes hard, it's a medical emergency.

Treatment

- Get medical aid.
- Warm area with body heat—do not rub.
- Don't thaw hands and feet unless medical aid is distant and there's no chance of refreezing. Body parts are better thawed at a hospital.

HYPOTHERMIA

This means your core temperature drops.

Moderate symptoms

- shivering
- blue lips and fingers
- slow breathing and heart rate
- disorientation and confusion
- poor coordination.

Severe symptoms

- unconsciousness
- heart slowdown to the point where pulse is irregular or hard to find
- no shivering
- no detectable breathing
- resembles death—assume casualty is alive.

Treatment

- Hypothermia can kill—get medical aid immediately.
- Carefully remove casualty to shelter. (Sudden movement can upset heart rhythm.)
- Keep casualty awake.
- Remove wet clothing and wrap casualty in warm covers.
- Apply direct body heat—rewarm neck, chest, abdomen, and groin, but not extremities.
- If conscious, give warm, sweet drinks.

Identify controls

Here's how to control cold stress:

- Wear several layers of clothing rather than one thick layer to capture air as an insulator.
- Wear synthetic fabrics next to the skin to "wick" away sweat.
- If conditions require, wear a waterproof or wind-resistant outer layer.
- Wear warm gloves.
- Wear hats and hoods. You may need a balaclava.
- Tight-fitting footwear restricts blood flow. You should be able to wear either one thick or two thin pairs of socks.
- If your clothing gets wet at 2°C or less, change into dry clothes immediately and get checked for hypothermia.
- If you get hot while working, open your jacket but keep your hat and gloves on.
- Take warm, high-calorie drinks and food.