



COLD STRESS AWARENESS TOOLBOX TALK



What is Cold Stress?

Cold stress happens when the body loses heat faster than it can produce it, reducing core temperature and impairing normal function. A healthy person's core temperature is normally 97.7–99.5 °F.

Hypothermia begins when the core drops below 95 °F, and frostbite occurs when tissue temperatures fall below 31 °F. Factors like low air temperatures, wind chill, wet clothing, or direct contact with cold surfaces increase the risk of cold stress.

Even temperatures around 50 °F can become hazardous during prolonged exposure.

Recognizing Cold Stress

Early signs include shivering, numbness or tingling in the fingers and toes, pale or waxy skin, fatigue, and mild confusion. As cold stress worsens, shivering may become uncontrolled, speech slurs, coordination declines, and in severe cases, hypothermia can set in.

Frostbite may appear first as tingling or numbness, then hardening of the skin, and eventually blisters if untreated.

Trench foot occurs from prolonged exposure to cold, wet conditions and begins with tingling and swelling, progressing to numbness and pain when warming.

Exposure time matters.

- Temperatures between 32 - 50 °F, light activity can usually be sustained for 2 - 4 hours safely.
- Between 20 - 32 °F, safe exposure without proper insulation is only 30 - 60 minutes.
- Below 20 °F, even brief exposure of 15 - 30 minutes without proper gear can be dangerous.



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Prevention Strategies

Proper clothing is critical. Wear a moisture-wicking base layer, an insulating mid-layer such as fleece or wool, and a windproof, waterproof outer shell. Protect extremities with insulated gloves, boots, thermal socks, hats, and face protection. Hand warmers or battery-heated gloves can help in extreme conditions.

Stay dry - wet clothing accelerates heat loss.

Plan activity to limit exposure. Rotate workers and schedule warm-up breaks every 30-60 minutes in cold, windy conditions.

Maintain caloric intake and drink warm, non-caffeinated fluids to help your body generate heat.

Emergency Response

If someone shows signs of cold stress, move them immediately to a warm, dry area, remove wet clothing, and provide insulated layers.

Rewarm the person gradually, avoiding direct heat on frostbitten areas.

Monitor core temperature if possible and seek medical attention immediately for hypothermia or severe frostbite.

Discussion / Engagement Questions:

Ask your team:

- Which tasks today will expose us to extreme cold?
- Are all clothing layers appropriate for today's forecast?
- How can we monitor each other for early signs of cold stress?

RATTLIR Takeaway

Cold stress can strike fast! By understanding temperatures, exposure limits, and proper protective measures, you can strike before it bites – keeping yourself and your team safe before an incident occurs.