Winter Construction Site Hazards & How to Prevent Them - Cold Stress

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Cold Fact: An average of 1,301 deaths per year from 1999 to 2011 were associated with exposure to excessive natural cold. CDC

Temperatures near or below freezing and strong winds can cause one's skin and internal body temperatures to fall. Wetness or dampness from body sweat contributes to heat loss. When the body can't warm itself, serious illness and injury may result, leading to permanent tissue damage or death. Types of cold stress that construction workers should be aware of include:

Trench foot This is caused by prolonged exposure to wetness and cold temperatures. It occurs when the body constricts the blood vessels to prevent heat loss. This shuts down circulation in the feet. Skin tissue begins to die because of a lack of oxygen and nutrients and a buildup of toxic products. Redness, swelling, numbness and blisters are signs. Workers with signs of trench foot should remove their boots and wet socks, dry their feet, avoid walking, keep their feet elevated and seek medical help.

Frostbite This is the freezing of skin and underlying tissue. It can cause permanent injury. In severe cases, it leads to amputation. Workers with frostbite may experience reddened skin that develops into gray or white patches in the fingers, toes, nose, or ear lobes. Other signs are Skin that becomes firm; tingling, aching or loss of feeling; and blisters. A worker with frostbite should be warmed immediately and get medical attention.

Hypothermia– This occurs when the normal body temperature (98.6°F) drops to less than 95°F. It can lead to unconsciousness and death. Uncontrollable shivering is an early sign of hypothermia. Additional signs include loss of coordination, confusion, slurred speech and slowed heart rate / breathing. A worker showing signs of hypothermia should be warmed by removing wet clothing and wrapping the worker entirely in layers of blankets and a vapor barrier (tarp or garbage bag). Emergency medical help should be sought. If medical help is more than 30 minutes away, place hot water bottles or hot packs in the armpits and sides of the chest and groin and feed the worker warm liquids.

Safe Work Practices for Cold Environments

- Eliminate or limit work as much as possible when extremely cold temperatures are present.
- Layer up on clothing and keep clothes dry. It is important to remove any wet clothing or boots and put on dry items when working in a cold environment.
- Take breaks in warm areas or vehicles as needed.
- Drink warm beverages to help warm up your core temperature. Site managers should be encouraging/providing their staff the opportunity to consume enough warm drinks to stay hydrated.
- Shielding work areas from drafts or wind to reduce wind chill.

- Monitor the condition of other workers around you. If you notice something could be wrong get them into a warm area and notify a supervisor.

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