

Monthly Safety Blast

Produced by the Southwest Center for Agricultural Health, Injury Prevention and Education

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Cold Weather Safety

It's getting closer to that time year again when many agricultural, forestry and commercial fishing workers will be faced with a change in weather. The change in weather could put many of these workers at risk for cold stress, and they need to be educated and trained on what to do if an emergency happens.

Prolonged exposure to freezing or cold temperatures may cause serious health problems, such as hypothermia. In extreme cases, including cold water immersion, exposure can lead to death. Danger signs include uncontrolled shivering, slurred speech, clumsy movements, fatigue and confused behavior. If these signs are observed, call for emergency help.

What is hypothermia?

Hypothermia occurs when body heat is lost faster than it can be replaced and the normal body temperature (98.6°F) drops to less than 95°F. Hypothermia is most likely to occur at very cold temperatures, but it can occur even at cool temperatures (above 40°F), if a person becomes chilled from rain, sweat, or submersion in cold water.

What are the symptoms of hypothermia?

- Mild symptoms:
 - An exposed worker is alert.
 - He or she may begin to shiver and stomp the feet in order to generate heat.
- Moderate to Severe symptoms:
 - As the body temperature continues to fall, symptoms will worsen and shivering will stop.
 - The worker may lose coordination and fumble with items in the hand, become confused and disoriented
 - He or she may be unable to walk or stand, pupils become dilated, pulse and breathing become slowed, and loss of consciousness can occur. A person could die if help is not received immediately.

What can be done for a person suffering from hypothermia?

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Move the person to a warm, dry area.
- Remove wet clothes and replace with dry clothes, cover the body (including the head and neck) with layers of blankets; and with a vapor barrier (e.g. tarp, garbage bag). Do **not** cover the face.
- If medical help is more than 30 minutes away:
 - Give warm sweetened drinks if alert (no alcohol), to help increase the body temperature. Never try to give a drink to an unconscious person.
 - Place warm bottles or hot packs in armpits, sides of chest, and groin. Call 911

- for additional rewarming instructions.
- If a person is not breathing or has no pulse:
 - Call 911 for emergency medical assistance immediately.
 - Treat the worker as per instructions for hypothermia, but be very careful and do not try to give an unconscious person fluids.
 - Check him/her for signs of breathing and for a pulse. Check for 60 seconds.
 - If after 60 seconds the affected worker is not breathing and does not have a pulse, trained workers may start rescue breaths for 3 minutes.
 - Recheck for breathing and pulse, check for 60 seconds.
 - If the worker is still not breathing and has no pulse, continue rescue breathing.
 - Only start chest compressions per the direction of the 911 operator or emergency medical service.
 - Reassess patient's physical status periodically.

Employers should train workers how to prevent and recognize cold stress illnesses and injuries and how to apply first aid treatment. Workers should be trained on the appropriate engineering controls, personal protective equipment and work practices to reduce the risk of cold stress.

Dressing properly is extremely important in preventing cold stress. The type of fabric worn also makes a difference. Cotton loses its insulation value when it becomes wet. Wool, silk and most synthetics, on the other hand, retain their insulation even when wet. The following are recommendations for working in cold environments:

- Wear at least three layers of loose fitting clothing. Layering provides better insulation. Do not wear tight fitting clothing.
 - An inner layer of wool, silk or synthetic to keep moisture away from the body.
 - A middle layer of wool or synthetic to provide insulation even when wet.
 - An outer wind and rain protection layer that allows some ventilation to prevent overheating.
- Wear a hat or hood to help keep your whole body warmer. Hats reduce the amount of body heat that escapes from your head.
- Use a knit mask to cover the face and mouth (if needed).
- Use insulated gloves to protect the hands (water resistant if necessary).
- Wear insulated and waterproof boots (or other footwear).

Safety Tips for Workers

- Your employer should ensure that you know the symptoms of cold stress.
- Monitor your physical condition and that of your coworkers.
- Dress properly for the cold.
- Stay dry in the cold because moisture or dampness can increase the rate of heat loss from the body.
- Keep extra clothing (including underwear) handy in case you get wet and need to change.
- Drink warm sweetened fluids (no alcohol).
- Use proper engineering controls, safe work practices, and personal protective equipment (PPE) provided by your employer.

Take the [cold weather safety quiz](#) to test your knowledge!

Resources:

- <http://www.cdc.gov/niosh/topics/coldstress/>
- <https://www.osha.gov/>

Disclaimer: The facts and information listed above are merely suggestions for your safety, but are in no way a comprehensive and exhausted list of all actions needed to insure your safety.

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