



TEAMSTERS SAFETY & HEALTH FACTS

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WORKING IN COLD ENVIRONMENTS -UPS TEAMSTERS-

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Working in Cold Environments

Cold stress can be prevented. What constitutes cold stress, and its effects, can vary across different areas of the country. **In regions relatively unaccustomed to winter weather, near freezing temperatures are considered factors for cold stress.** Whenever temperatures drop decidedly below normal and as wind speed increases, heat can more rapidly leave the body which may result in symptoms of cold stress. Body heat is generated from food and muscular activity and regulated mainly through sweating to maintain a constant body temperature. When body temperature drops even a few degrees below its normal temperature of 98.6°F (37°C), the blood vessels constrict, decreasing peripheral blood flow to reduce heat loss from the surface of the skin resulting in cold stress to the body. Shivering generates heat by increasing the body's metabolic rate which is the body's first attempt at combating cold stress symptoms.

Extreme cold weather is a dangerous situation that can bring on health emergencies for outdoor workers and those who work in an area that is poorly insulated or without heat. **Prolonged exposure to freezing temperatures can result in health problems such as chilblains, trench foot, frostbite, and hypothermia.** Additionally, working in cold conditions may lead to declining cognitive function and dexterity or worsen musculoskeletal injuries and vascular disorders. Workers, both indoors and outdoors, need to be especially mindful of environmental cold stress, its effects on the body, proper prevention techniques, and treatment of cold-related disorders.

The four environmental conditions that cause cold-related stress are:

- **low temperatures**
- **high/cool winds**
- **dampness, and**
- **cold water.**

Wind chill, a combination of temperature and velocity, is a crucial factor for employers and employees to evaluate when working outside. For example, when the actual air temperature is 40°F and wind velocity is 35 mph, the exposed skin receives conditions equivalent to the still-air temperature being 11°F! A dangerous situation of rapid heat loss may arise for any individual exposed to high winds and cold temperatures.

Major Risk Factors for Cold-Related Stresses

- Working in extreme outdoor or indoor cold environments without adequate protective equipment.
- Wearing inadequate or wet clothing.
- Consuming alcohol, nicotine, caffeine, recreational drugs, or medication that inhibits the body's response to cold or impairs judgment.
- Experiencing symptoms of the common cold or having certain diseases such as diabetes, heart disease, hypertension, vascular disorders, anemia, fibromyalgia, and hypothyroidism.
- Aging or poor physical condition.
- Becoming exhausted or immobilized, especially due to injury or entrapment, which may speed up the effects of cold weather.

Harmful Effects of Cold Stress

Chilblains

Chilblains are the painful inflammation of small blood vessels in the skin that occur in response to repeated exposure to cold but nonfreezing temperatures. Small blood vessels in the skin may become permanently damaged by cold temperatures, resulting in redness, and itching during additional exposures.

What are they symptoms of chilblains?

Symptoms of chilblains include redness, itching, possible blistering, inflammation, and possible ulceration in severe cases.

First Aid

- Avoid scratching
- Slowly warm the skin
- Use corticosteroid creams to relieve itching and swelling
- Keep blisters and ulcers clean and covered

Chilblains usually clear up within one to three weeks, especially if the weather gets warmer. You may have recurrences seasonally for years. The best approach to avoid Chilblains is to limit your exposure to cold conditions, if possible, and cover exposed skin by wearing the appropriate personal protective equipment (PPE). Chilblains don't usually result in permanent injury, but the condition can lead to infection, which may cause severe damage if left untreated.

Immersion/Trench Foot

Trench foot is a non-freezing injury of the feet caused by prolonged exposure to wet and cold conditions. It can occur in temperatures as high as 60°F if feet are constantly wet. Injury occurs because wet feet lose heat 25-times faster than dry feet. [[CDC/NIOSH](#)]

What are they symptoms of trench foot?

Reddening skin, tingling, pain, swelling, leg cramps, numbness, and blisters.

First Aid

- Call 911 immediately in an emergency; otherwise seek medical assistance as soon as possible.
- Remove wet shoes/boots and wet socks.
- Dry the feet and avoid working on them.
- Keep affected feet elevated and avoid walking. Get medical attention.

Frostbite

Frostbite is caused by the freezing of the skin and tissues. Frostbite can cause permanent damage to the body, and in severe cases can lead to amputation. The risk of frostbite is increased in people with reduced blood circulation and among people who are not dressed properly for extremely cold temperatures.

What are the symptoms of frostbite?

Reddened skin develops gray/white patches in the fingers, toes, nose, or ear lobes; tingling, aching, a loss of feeling, firm/hard, and blisters may occur in the affected areas.

First Aid

- Follow the recommendations described below for hypothermia.
- Protect the frostbitten area, e.g., by wrapping loosely in a dry cloth and protect the area from contact until medical help arrives.
- DO NOT rub the affected area, because rubbing causes damage to the skin and tissue.
- Do not apply snow or water. Do not break blisters.
- DO NOT try to re-warm the frostbitten area before getting medical help, for example, do not use heating pads or place in warm water. If a frostbitten area is rewarmed and gets frozen again, more tissue damage will occur. It is safer for the frostbitten area to be rewarmed by medical professionals.
- Give warm sweetened drinks if alert (no alcohol).

Hypothermia

Hypothermia occurs when the normal body temperature (98.6°F) drops to less than 95°F. Exposure to cold temperatures causes the body to lose heat faster than it can be produced. Prolonged exposure to cold will eventually use up the body's stored energy. The result is hypothermia, or abnormally low body temperature. Hypothermia is most likely at very cold temperatures, but it can occur even at cool temperatures (above 40°F) if a person becomes chilled from rain, sweat, or immersion in cold water.

What are the symptoms of hypothermia?

An important mild symptom of hypothermia is uncontrollable shivering, which should not be ignored. Although shivering indicates that the body is losing heat, it also helps the body to rewarm itself.

Moderate to severe symptoms of hypothermia are loss of coordination, confusion, slurred speech, heart rate/breathing slow, unconsciousness and possibly death. Body temperature that is too low affects the brain, making the victim unable to think clearly or move well. This makes hypothermia particularly dangerous because a person may not know what is happening and won't be able to do anything about it.

First Aid

- Call 911 immediately in an emergency:
- Move the worker to a warm, dry area.
- Remove any wet clothing and replace with dry clothing. Wrap the entire body (including the head and neck) in 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.

Employer Responsibilities in Preventing Cold-Related Disorders

Engineering Controls in the workplace through a variety of practices help reduce the risk of cold-related injuries.

- Use an on-site source of heat, such as radiant heaters, or contact warm plates.
- Shield work areas from drafty or windy conditions.
- **Ensure permanent and temporary walking working surfaces are kept, clean, dry, and free of water, snow, and ice.**
- Provide a heated shelter for employees who experience prolonged exposure to equivalent wind-chill temperatures of 20°F or less.
- Use thermal insulating material on equipment handles when temperatures drop below 30°F (-1°C).

Safe Work Practices, such as changes in work schedules and practices, are necessary to combat the effects of exceedingly cold weather.

- Allow a period of adjustment (acclimatization) to the cold before embarking on a full work schedule.
- **Provide workers with the proper tools and equipment to do their jobs.**
- Develop work plans that identify potential hazards and the safety measures that will be used to protect workers.
- Permit employees to set their own pace and take extra work breaks when needed.
- Schedule outdoor maintenance and repair jobs for warmer months.
- Schedule jobs that expose workers to the cold weather in the warmer part of the day.
- Assign helpers or relief workers for long, demanding jobs.
- Provide warm areas for use during break period.
- Provide warm liquids (no alcohol) to workers.

- Monitor workers who are at risk of cold stress.
- **Monitor the weather conditions during a winter storm**, have a reliable means of communicating with workers and being able to stop work or evacuate when necessary. The National Oceanic and Atmospheric Administration (NOAA) provides multiple ways to stay informed about winter storms. If you are notified of a winter storm watch, advisory or warning, follow instructions from your local authorities: NOAA Weather Radio.
- **Acclimatize new workers and those returning after time away from work** by gradually increasing their workload, and allowing more frequent breaks in warm areas, as they build up a tolerance for working in the cold environment.
- Have a means of **communicating with workers, especially those in remote areas**.
- Ensure that employees remain hydrated.
- Establish a buddy system for working outdoors.
- Educate employees to the symptoms of cold-related stresses

Personal Protective Clothing is an important step in fighting the elements including the use of adequate layers of insulation from cold weather conditions. There is no OSHA requirement for employers to provide workers with *ordinary* clothing, skin creams, or other items, used solely for protection from weather, such as winter coats, jackets, gloves, parkas, rubber boots, hats, raincoats, ordinary sunglasses, and sunscreen (29 CFR 1910.132(h)(4)). Regardless of this, many employers provide their workers with winter weather gear such as winter coats/jackets and gloves. The US Department of Labor recommends workers wear at least three layers of clothing¹:

- An inner layer of wool, silk or synthetic (polypropylene) to keep moisture away from the body. Thermal wear, wool, silk or polypropylene, inner layers of clothing will hold more body heat than cotton.
- 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.
- Avoid tight clothing which reduces blood circulation. Wear an insulated coat/jacket (water resistant if necessary).
- Wear a knit mask to cover face and mouth (if needed).
- Choose a hat that will cover your ears as well. A hat will help keep your whole body warmer. Hats reduce the amount of body heat that escapes from your head.
- Insulated gloves (water resistant if necessary), to protect the hands.
- Insulated and waterproof boots to protect the feet against cold and dampness.

Pay special attention to protecting the feet, hands, face, and head. Up to 40 percent of body heat can be lost when the head is exposed. Keep a change of clothing available in case work garments become wet.

¹ United States Department of Labor. Occupational Health and Safety Administration. Winter Weather. <https://www.osha.gov/winter-weather/preparedness#dress>

Train Workers at a minimum on the following topics:

- Cold Stress:
 - How to recognize the symptoms of cold stress, prevent cold stress injuries and illnesses.
 - The importance of self-monitoring and monitoring coworkers for symptoms.
 - First aid and how to call for additional medical assistance in an emergency.
 - How to select proper clothing for cold, wet, and windy conditions.

- Other winter weather related hazards that workers may be exposed to, for example, slippery roads and work surfaces, windy conditions, and downed power lines
 - How to recognize these hazards
 - How workers will be protected: engineering controls, safe work practices and proper selection of equipment, including personal protective equipment

Potential symptoms for severe cases of cold stress often go undetected until the victim's health is endangered. Knowing the facts on cold exposure and following a few simple guidelines can ensure that this season is a safe and healthy one.

For more information, please contact the Teamsters Safety and Health Department at www.teamstersafety.org or 202-624-6960.

Some information contained in this document has been adopted from the US Occupational Safety and Health Administration.

See page 7 for applicable UPS National Master Agreement language

UPS National Master Agreement

Language applicable to working in cold environments

(Please refer to your local supplement, rider, or addendum for additional language, if applicable)

- **Article 18, Preamble**

- The Employer and the Union agree that the safety of the employees and the general public is of utmost importance.

- **Article 18, Section 6, Building Heat**

- Centers will be heated, where practical. On a facility-by-facility basis, to include temporary facilities, the Employer will evaluate whether additional ventilation or heat is needed for purposes of safety and health. This will include clerical work areas outside of office structures in the UPS facilities. Should any employee(s) have concerns with respect to ventilation or heat issues, they shall be addressed by the appropriate local CHSP Committee. Should the local CHSP Committee not satisfactorily address the issue, a grievance may be filed and would be sent directly to the National Safety and Health Grievance Committee.

- **Article 18, Section 11, Mirrors**

- All vehicles shall be equipped with regular mirrors and a convex mirror. New feeder road equipment shall be equipped with heated mirrors. Any feeder road equipment not presently equipped shall be equipped with heated mirrors when the mirrors require replacement.

- **Article 18, Section 15, Heaters and Defrosters**

- The Employer shall install and maintain heaters and defrosters on all trucks and all safety equipment required by law. Complaints regarding heaters or defrosters not being in proper working order shall be addressed pursuant to the red-tagging procedures under Article 18, Section 2. All new step van package cars will be manufactured with a minimum of 44,000 BTU heaters. In extreme cold climates concerns over in cab conditions may be brought before the local Safety and Health Committee for review and resolution.

- **Article 18, Section 20.3, Climatic Conditions Committee**

- The National UPS/IBT Safety and Health Committee is also responsible for the Climatic Conditions Committee, formulated to review severe climatic conditions that may seriously affect employees in different geographic areas. The Committee shall have the authority to resolve factual issues before it and its decision will be final and binding. Cases that are deadlocked by the committee shall be referred to the National Grievance Committee.