



District Health Department #10



## Report to the Boards of Health

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*Mid-Michigan District Health Department, Wednesday, January 24, 2018*

*Central Michigan Health Department, Wednesday, January 24, 2018*

*District Health Department #10, Friday, January 26, 2018*

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## **Cold Weather Dangers**

Temperature fluctuations have become standard during Michigan winters. Exposure to extreme cold can cause illness and injury; it is important to be aware of the forecast and be prepared. It does not need to be freezing for cold exposure to occur. Moisture, humidity, and wind all cause body heat to be lost. The extremities, particularly the hands and feet, are most effected by the cold since they are the furthest away from the body's core and flow of blood.

According to The Ohio State University Extension Agricultural Safety Program, in order to prevent cold exposure:

- Wear several layers of loose clothing.
  - Layering provides better insulation. Layers can also be removed if you become too hot.
- Avoid tight clothing as it reduces blood circulation.
  - Warm blood needs to be circulated to the extremities.
- When choosing clothing, be aware that some clothing may restrict movement resulting in a hazardous situation.
- Boots should be waterproof and insulated.
- By wearing a hat, you will keep your whole body warmer.
  - It reduces the amount of body heat that escapes from your head.
- Make sure to protect the ears, face, hands, and feet in extremely cold weather.
- Move into warm locations periodically. Limit the amount of time outside on extremely cold days.
- Carry cold weather gear, such as extra socks, gloves, hats, jacket, blankets, a change of clothes, and a thermos of hot liquid.
  - Keep extra gear in your vehicle in case of emergencies.
- Include a thermometer and chemical hot packs in your first aid kit.
- When working, avoid touching cold metal surfaces with bare skin.

**Hypothermia** occurs when the body cools down when a person is exposed to cold temperatures for too long and the body temperature drops below normal. If the body temperature gets too low, typically under 95°, for too long, it can be fatal. Signs in adults and children are uncontrollable shivering, exhaustion, confusion, fumbling hands, memory loss, slurred speech, and drowsiness. Infants typically have bright red, but cold, skin as well as very low energy. Start warming the person up by getting them to a warm room, removing any wet clothes, and warming the center of the body first if possible. Do this by applying hot packs or an electric blanket around the chest, neck, head, and groin. You can also use layers of dry blankets, clothes, towels, sheets, or skin-to-skin contact. Provide warm beverages, but not alcohol, if the person is awake and alert. Get the person to medical attention as soon as possible.

**Frostnip** is freezing of the top layers of skin. It typically heals completely and affects the cheeks, earlobes, fingers, and toes. Signs of frostnip are numbness, hard rubbery feeling in the top surface of the skin, and skin looking white and waxy. If this is occurring, warm the area gently by blowing warm air on it or place it against a warm part of the body. DO NOT rub the area as this can damage it.

**Frostbite**, however, is actual freezing of the tissue. The ice crystals forming in the tissue destroys it, which can lead to the loss of skin, part of a finger, toe, ear, foot, etc. Superficial frostbite includes all layers of the skin and deep frostbite can freeze through muscle and bone. Most often, frostbite effects ears, nose, fingers, and toes. Signs frostbite is occurring includes skin that is white and feels hard and wooden all the way through, not just the top skin layer. The area is also numb.

Anyone with these signs and symptoms should get to a warm area. The affected body parts should be put in warm, but not hot, water (105°-110° F) until the skin becomes flushed. Only do this if you are sure you can keep the tissue warm. Wrap the tissue in sterile gauze, keeping fingers and toes separated. Seek medical attention, especially if normal sensation has not returned within 30 minutes.

### Healthy Living Recommendations

1. To prevent cold weather ailments, dress properly and do not stay out in the extreme cold for extended amounts of time.
2. While there is no specific standard addressing cold environments, employers must provide employees a workplace free of recognized hazards, which are likely to cause serious physical harm or death.
  - a. Employers should train workers how to prevent cold related illness and injury, and provide resources at the worksite such as wind barriers and heaters.
3. Dress children appropriately for play and school. Decisions to close school are made at the local level and are not strictly defined.

### Resources

- The Ohio State University Extension Agricultural Safety Program. Cold Weather Exposure. Agricultural Tailgate Safety Training. Retrieved January 14, 2018 from [http://nasdonline.org/static\\_content/documents/129/d001677.pdf](http://nasdonline.org/static_content/documents/129/d001677.pdf)
- The Centers for Disease Control and Prevention (July, 2016). Cold Stress. The National Institute for Occupational Safety and Health (NIOSH). <https://www.cdc.gov/niosh/topics/coldstress/resources.html>

**AVOID\*SPOT\*TREAT FROSTBITE & HYPOTHERMIA**

In cold temperatures, your body begins to lose heat faster than it can be produced, which can lead to serious health problems.

**AVOID**

When the weather is extremely cold, try to stay indoors. If you must go outside, dress properly and know who is at high risk for hypothermia or frostbite.

**When going outside be sure to wear:**

- A SCARF OR GAIT MASK THAT COVERS FACE & MOUTH
- A HAT
- A WATER-RESISTANT COAT
- MITTENS OR GLOVES
- SEVERAL LAYERS OF LOOSE-FITTING CLOTHING
- WATER-RESISTANT BOOTS

When going outside in winter make sure body parts most often affected by frostbite are covered in warm, dry clothing.

**NOSE EARS TOES CHEEKS CHIN FINGERS**

**Know who is at high risk:**

- Older adults without proper food, clothing or heating.
- People who are outdoors for long periods (farmers, laborers, etc.)
- People who drink alcohol or use illicit drugs.
- Babies sleeping in cold rooms.

**SPOT**

**FROSTBITE**  
A certain number of minutes of frostbite exposure from frostbite to frostbite.

**Signs & Symptoms:**  
- Redness or pain in cold areas may be the first sign of frostbite.  
**Other signs include:**  
- a white or grayish-yellow skin tone  
- skin that feels numb or tingly  
- numbness

**HYPOTHERMIA**  
Hypothermia often occurs at very cold temperatures, but can occur at milder temperatures (below 50°F) if you are wet (from rain, snow or cold water) and become chilled.

**Signs & Symptoms:**  
**Adults:**  
- shivering  
- confusion  
- feeling tired  
- memory loss  
- slowed speech  
- slurred words  
**Infants:**  
- bright red, cold skin  
- very few shivers

If a person's temperature is below 95° get medical attention immediately.

**TREAT**

If a person is experiencing hypothermia or frostbite...

- SEEK MEDICAL ATTENTION AS SOON AS POSSIBLE
- GET THEM INTO A WARM ROOM OR SHELTER
- REMOVE ANY WET CLOTHING
- WARM THEM UNDER DRY LAYERS OF CLOTHING
- PLACE AREAS AFFECTED BY FROSTBITE IN WARM-TO-TOUCH WATER

**FROSTBITE CAUTION**

Since skin may be numb, victims of frostbite can harm themselves further. Use caution when treating frostbite and:

- UNLESS NECESSARY, DO NOT WALK ON FEET OR TOES WITH FROSTBITE
- DO NOT USE A FIREPLACE, HEAT LAMP, RADIATOR, OR STOVE FOR WARMING
- DO NOT USE A HEATING PAD OR ELECTRIC BLANKET FOR WARMING
- DO NOT RUB OR MASSAGE AREAS WITH FROSTBITE

<http://www.osu.edu/extension>  
[www.osu.edu/extension](http://www.osu.edu/extension)

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention