

Cold Truths About Winter Myths



By *Jamie Wells, M.D.* — January 22, 2019



Credit: Pixabay [1]

Since I dealt with my own gloveless hands burning from the freezing cold and bone-chilling wind in the early morning, it seems everyone I am encountering from then on is feeling the frigid weather and remarking about the pain they are enduring especially on uncovered areas. It is so brutal out there that the topic is unavoidable today. Let's debunk myths surrounding winter-related injury which in the extreme can cause significant morbidity and mortality.

The [National Health Statistics Reports](#) [2] generated by the United States Department of Health and Human Services attributed the annual death rate from weather-induced causes to be 2,000 per year between 2006-2010. Of those, 63% were due to excessive natural cold, hypothermia or both. Due to limitations of data collection on death certificates, this number is likely an underestimation.

What is hypothermia?

It is a dangerous, medically urgent condition where the body temperature has dropped too low as a result of very cold environments (e.g. weather, cold water) usually after a protracted period of time. Basically, the person is losing heat faster than he/she is able to generate it. Your organ systems can't work appropriately. There is an early phase where intervention is readily effective. Beyond a certain point, death can be a reality if aggressive action is not taken.

Who is most at risk?

Anyone in severe enough of conditions without appropriate precautions in place can suffer the consequences of hypothermia. Those at more likelihood of developing it include the most vulnerable in our population, including but not limited to the following:

- Extremes of ages (to explain further shortly)

- People who abuse substances, albeit alcohol or other drugs
- Hikers, hunters, homeless or those with occupations that place them outdoors for long periods.
- Those with medical conditions like cardiovascular or lung disorders, strokes, dementia and mental illness can compromise a person even further as can being profoundly underweight due to malnourishment or anorexia. Medications as well can interfere with a person's metabolism and ability to withstand stressors.
- Anyone with insufficient gear or home heating, wilderness adventurers, sports enthusiasts are all increasingly susceptible to problems.

Infants lose a lot of heat at birth per body surface area and can have issues—especially—with regulating their core temperature. It is also why they require appropriate clothing to stay warm and their living spaces need to be well-controlled. For this reason, the very young—in general—lose heat more rapidly than adults. Children may also be less inclined to come in from the cold when symptoms develop and can be defiant about wearing the appropriate gear.

As we age, we lose body fat required for protective insulation. Our immunity becomes less robust adversely impacting our resilience. At the same time, co-morbidities (aka diseases) arise. The elderly, in particular, for these and other reasons are at greater risk since there may be impediments to storing food, supplies and maintaining optimal heating or cooling especially during storms. Their indoor conditions can cause symptoms as well, regardless of the outdoor ones. They may also be unable to communicate their needs.

How do you know if someone has hypothermia?

Infants will often appear lethargic or very weak with cold, bright red skin and a poor cry. When a baby is thriving, he or she has a strong cry, is vigorous with supple skin and able to feed, void and stool normally and with relative ease. If any of these functions is off, then it is always ideal to seek medical care without delay. Speak to your pediatrician about appropriate levels of clothing for your baby as overbundling can do harm as well in the opposite extreme.

Adults early on will shiver, seem confused, have rapid heart and respiratory rates, experience poor coordination, hunger and be tired. As they worsen, they will stop shivering, become increasingly clumsy, slur speech, appear disoriented with impaired judgment. The danger here is they lack insight into the severity of their condition, so they don't seek help and can put themselves in harm's way. Fatigue intensifies as pulse and breathing weaken. Symptoms are gradual. Due to their lack awareness of this compromised state, they become more and more combative and disordered in their thinking. Losing consciousness and death can ensue without emergent intervention.

Symptoms can present differently in varying populations, so if it is a thought in your mind then seeking immediate medical care is your safest bet.

What is frostbite?

Frostbite ^[3] occurs when body tissues are harmed from such freezing and if severe enough amputation can result. The goal is to avoid ever progressing to this stage as that will best ensure

retention of a whole and healthy body.

What do you do if someone has hypothermia?

Call 911 to seek emergency medical services. Act early! The [Mayo Clinic provides excellent instructions here](#) [4] on first aid care while waiting for help to arrive including why being gentle is so important in hypothermia. Also, the Centers for Disease Control and Prevention (CDC) provide many fact sheets on [winter preparation and prevention here](#) [5].

How can you prevent harm?

Be proactive in the winter, especially when alerted of impending storms. Think about who you know who might require some assistance and monitoring to prepare and plan for if problems arise—the elderly, very young and those with disabilities and chronic medical conditions should immediately come to mind. Check to see that acceptable heating and cooling is in effect in yours and their homes. Be sure to wear appropriate clothing to keep you warm. Attempt to avoid getting stuck in situations that would expose you to large bodies of cold water or freezing conditions. Keeping wet clothes on and remaining in the cold will enhance your chances of hypothermia. Remove wet items when possible and get to a warmer location.

The [National Safety Council \(NSC\)](#) [6] whose mission is to eliminate preventable deaths at work, in homes, communities and on the road underscores the importance of safe driving, avoiding straining while shoveling, being aggressive with treatment of frostbite or signs of hypothermia, and carbon monoxide poisoning prevention.

- **Driving tips**

Be prepared to alter how you drive as the conditions can vary from sleet to snow to ice. Walking can be a challenge as injuries from falls with or without vehicles are quite common. Understand your vehicle's safety features and keep maintenance current – storing first aid kits is always advisable. Be sure to avoid running your car in a confined space like a garage given the risk of carbon monoxide poisoning. Efforts to wait out a storm are often the most sensible as getting stranded in unfamiliar terrain in the dark heightens your risk. For a more exhaustive guide, [click here](#) [7].

- **Snow blowing and shoveling precautions**

No matter the severity of the weather, people have perished or been injured by shoveling. Overexertion for those routinely sedentary poses a great risk of cardiac distress. The cold along with the cardiovascular system's response to it can strain the heart, even in the healthiest of adults. If you have any signs of chest pain or dizziness, stop the activity and seek immediate medical care. Properly maintain and employ safety measures with your snow blower to avoid blade lacerations or harm from handling fuel, for example.

- **Prevent freezing**

Use precautions to avoid frostbite and hypothermia - which arise in excessively low temperatures. Wind and wetness exacerbate these difficulties. Make sure to wear correct clothing that covers the tips of fingers, toes, ears and your nose. Know the weather and abbreviate your time outdoors in

severe cold. Frostbite does not spare covered skin while early evolution can be well-managed, late discovery can cause irreversible harm. Hypothermia can advance readily with death a possibility. Understand the signs and symptoms, how to prevent them and have a plan to seek emergent medical care if on a mountaintop or other sporty endeavor, for instance.

- **Sports safety**

Skiing or snowmobiling won't be happy excursions if recklessness -- in thought and action -- prevails. Lack of control at high speed precipitates unwanted impacts and subsequent injury. Understand how to ski safely while being aware of storms and routes. Though helmets have reduced head injuries, fatalities are still a risk on the mountain.

Take Home Message

Being sensible and fully informed will allow for the most enjoyable winter.

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Links

[1] <https://pixabay.com/en/woman-girl-winter-cold-person-1024998/>

[2] <http://www.cdc.gov/nchs/data/nhsr/nhsr076.pdf>

[3] <https://www.cdc.gov/disasters/winter/staysafe/frostbite.html>

[4] <http://www.mayoclinic.org/diseases-conditions/hypothermia/basics/treatment/con-20020453>

[5] <https://www.cdc.gov/disasters/winter/staysafe/hypothermia.html>

[6] <http://www.nsc.org/pages/home.aspx>

[7] <http://www.nsc.org/learn/safety-knowledge/Pages/news-and-resources-winter-your-car-and-you.aspx>