



# COLORADO ACADEMY OF FAMILY PHYSICIANS

2224 S. Fraser St., Unit 1, Aurora, CO 80014  
Phone: 303-696-6655 Toll-Free: 800-468-8615 Fax: 303-696-7224

## **Living Healthy: Extreme Cold**

Colorado weather can change quickly. Knowing about the wind chill and the symptoms of frostbite and hypothermia can be helpful, if not lifesaving!

### **The Effects of Wind Chill**

Wind chill is the effect of wind and temperature combined together, the more wind, the more intense the cold will be. This is because both the cold and the wind effect heat loss from the body. It is important to understand wind chill and know the effects extreme cold can have on a person's health. For example, if it is 10 degrees below zero with almost no wind, it would take about 30 minutes of exposure before a healthy person develops frostbite. However, if it is 10 degrees below zero with winds at 30 mph, the wind chill would make it feel like it is 39 degrees below zero and a healthy person could get frostbite in just 10 minutes. The colder temperatures experienced with wind chill also put people more at risk for another malady - frostbite.

### **Frostbite**

Frostbite is an injury to the body that is caused by freezing, leading to loss of feeling and color to the exposed area of the body. It usually occurs to fingers, toes, cheeks, ears or the nose. Frostbite often causes permanent damage and can even lead to the need for an amputation. You can recognize it as skin that has changed colors - it may look white, grey or yellow and will often feel numb, hard and waxy. People with poor circulation, people who are not dressed warmly enough or who have areas of skin exposed to very cold weather can be at risk.

To treat frostbite, go inside to a warm area as soon as possible. Dry the affected area if it is wet. Re-warm the affected area with skin-to-skin contact. For example, hold your hands around another person's frostbitten toes or put frostbitten fingers under your armpits. If available, soak the affected area in warm water, NOT hot water. Do NOT massage the area. Do NOT warm the affected areas near an oven, space heater, heating pad or other heat source because frostbite causes numbness and these types of heat sources can burn the damaged tissue. Seek medical care as soon as possible. If the person also might have hypothermia- seek medical care emergently.

The best way to prevent frostbite is to cover all areas of the body when in extreme cold using mittens, face masks, warm boots and socks. If a person has poor circulation, they should spend less time outside in extreme cold and check their fingers, toes, etc. often to make sure they are staying warm and look normal. Be aware of the effect of wind chill and avoid the extreme cold when possible.

### **Hypothermia**

Hypothermia is caused when the body is exposed to cold temperatures for too long and can no longer maintain a normal temperature. Hypothermia can be very dangerous because when it occurs it can affect

the brain, making it difficult to think straight. This means people with hypothermia can have a difficult time getting themselves out of the cold environment causing their problems. Adults with hypothermia will be shivering and tired. They may have memory loss, confusion and poor coordination. If you have a thermometer, measure the person's temperature- if it is below 95 degrees, this is a medical emergency- get anyone with suspected hypothermia emergent medical care. Infants with hypothermia will have bright red skin, feel cold, and will be lethargic.

### **Who is at risk?**

Older people with limited access to food, warmth and clothing - especially those with dementia; infants; people doing outdoor activities such as hunting, hiking, and camping; and people using drugs or alcohol, especially with outdoor activities or limited access to heating.

A person experiencing hypothermia needs medical attention immediately. While seeking emergency medical care, keep the person in a warm environment. Take any wet clothing off the person and wrap them in warm dry clothes or blankets. Warm up the center of their body first, holding them close and using your body heat to warm them while surrounding yourselves with blankets- or use an electric blanket if you have one. If they are awake enough to drink, let them drink warm liquids, but not alcohol.

How can it be prevented? If you help care for infants or the elderly, make sure the environments they live in are warm enough and that they have warm clothes available- a good rule is that infants or the elderly probably need one more layer of clothing than you do to stay warm. If you enjoy activities in the cold, avoid alcohol, caffeine and drugs, as these impair your ability to react to the cold. Make sure you have adequate layers and can get back to a warm shelter promptly if weather changes. Keep in mind that wind chill can make things much colder and the colder the weather, the much sooner you can get hypothermia.

By:Carolynn Francavilla Brown, MD

Adapted from: Extreme Cold: A Prevention Guide to Promote Your Personal Health and Safety; Available at: <http://www.bt.cdc.gov/disasters/winter/guide.asp>

This information is provided as a public service by the Colorado Academy of Family Physicians. For more information on asthma, COPD, or other diseases and conditions, visit the American Academy of Family Physicians' consumer website at [www.familydoctor.org](http://www.familydoctor.org)