

# 5

## minute safety talk



## Cold Weather Safety

While most people think of dangerous cold during long winters in northern states, the reality is that cold-related illness, both hypothermia and frostbite, occur throughout the year, in every state. In one three-year period, the state of New Mexico had the 4th highest rate of death from hypothermia.

Hypothermia is defined as a core body temperature less than 95° F or 35° C. Today, we are going to discuss primary hypothermia, defined as low core temperature caused by an external cold stressor.

This problem commonly occurs during extremely cold temperatures where outdoor enthusiasts get surprised and can't find shelter or motorists get stranded on rural roads and cannot maintain a warm car. But just as common is a person with social or medical problems who cannot protect himself or herself in less severe weather. Risk factors include alcohol use, advanced age, mental illness, or homelessness.

As the body's temperature drops, a predictable pattern of signs and symptoms develop. First, the body attempts to generate heat by shivering, which raises the heart rate and respiratory rate. Brain function is affected early and people may become ataxic and sedated. This can progress to confusion, which causes a lot of people to act as if they are too warm. When the temperature further drops, the heart rate slows, the blood pressure drops, and pulses become very hard to feel. Shivering eventually stops and the brain slows to a coma-like state. It is during this severe hypothermia, defined as a core temperature less than 28° C that patients are at greater risk of ventricular tachycardia. Mortality rates at this stage are near 40%.

### Hypothermia Signs & Symptoms

It may be difficult to recognize people who are suffering from mild hypothermia. Some clues may be persistent shivering, difficulty walking, and mild confusion. If you suspect someone is getting too cold, move him or her to a warm environment as soon as possible. Remove all wet clothing to prevent further heat loss via conduction. If clothes are dry, leave them on and add more layers of insulation. Place warm packs near the patient's skin at the axilla and groin. These actions alone may be all that is needed for someone

with mild symptoms. If the symptoms are more significant, such as arrhythmia, hypotension, or coma, emergent transfer to a hospital is required.

Frostbite is the cold-related injury of isolated parts of the body due to the tissue freezing and then rewarming. It commonly affects the fingers and toes but can occur in any part of the body that is unprotected. Less commonly known risk factors include nicotine use and exposure to chronic hand or arm vibration.

### Frostbite Signs & Symptoms

Initial symptoms include stiffness, pallor, and pain, which may become severe when the area is rewarmed. Occasionally, blisters and swelling appear and indicate a more significant injury.

Treatment includes moving the person to a warm environment and transporting them to a medical facility where staff will rewarm the frostbitten area by soaking it in warm water. The extent of the injury can rarely be determined immediately. Close medical follow up is imperative to maximize recovery.

Remember, illness and injury related to cold temperatures can occur at seemingly mild temperatures in unexpected situations. Those at risk may not realize the danger they are in. The key is recognizing the symptoms of hypothermia or frostbite early and getting the person to a warmer environment with appropriate medical care.