

Heat Illness and Frostbite: *Symptoms and Treatment*

by Ken Lent 1/5/99

Heat Exhaustion: Cause

In a nutshell, when your body does not or cannot sweat enough to keep you cool, you will suffer heat exhaustion. Most instances of heat exhaustion occurs in the summer when you are working or exercising in 90 degree plus weather.

Heat Exhaustion: Symptoms

Bodily signs to notice when suffering heat exhaustion are : flushed skin excessively rosy or red, rarely but sometimes the opposite - pale skin; weakness, queasy stomach, clammy skin somewhat cool to touch, muscle cramps, dizziness.

Heat Exhaustion: Treatment

Immediately get the patient out of the sun and into the shade. Have the person lay down, and start sponging him down with cool water. Raise the feet by placing something under them. (Don't do this if the person has *heatstroke*) Ten minutes of this treatment should bring relief. Let the person rest until clammy skin and dizziness are gone.

Heat Stroke: Cause

Heat stroke occurs when heat exhaustion is not treated and the person pushes his activities in the heat to excess. This can become serious causing cardiac arrest or shock.

Heat Stroke: Symptoms

Heat stroke symptoms include: weak and rapid pulse, lack of perspiration, body temperature rises to 105 degrees or above, breathing becomes short and shallow, mental state is that of confusion, loss of consciousness is possible.

Heat Stroke: Treatment

Get the person into the shade immediately. Begin sponging the body to bring down its temperature. Try to have the person sip cool water, but only about three to four ounces every 15 minutes. Monitor the heart rate and breathing. If there is no response of the body temperature dropping, and mental state normalizing, call 911. Be prepared to administer CPR according to our LJSST field instruction application.

Frozen Skin: Different Stages of Frostbite

Frostbite has three stages which affect the skin. They are: frostnip, superficial frostbite, and deep frostbite. All stages occur when the skin and blood vessels are exposed to temperatures below 32 degrees Fahrenheit.

Frostnip and Frostbite Symptoms

Frostnip feels like a mild tingling sensation, and the skin will turn white and actually become softer than normal. Frostnip is easily treatable as there is no damage to the skin or underlying blood vessels. Treat by warm breath over the skin area, or warming the area by soaking in room temperature water.

With superficial frostbite, the skin will be numb, frozen, feel like wax to the touch, and may start to blister. Deep frostbite is very serious affecting the various levels of the skin, blood vessels, muscle, nerves, ligament and tendons, or even bone in severe cases. Blood clots or even gangrene may occur due to the rotting of the affected areas. There will be total numbness at this stage of frostbite, and as peculiar as it may sound, blisters are rare in the immediate stage of deep frostbite.

Frostbite: Treatment

The victim should be taken to the nearest Emergency Center. In any event, the treatment is as follows: Get the patient inside, whether into a tent or cabin in the woods, or back home if frostbite occurs close to your house. Begin to warm the skin by placing only slightly warm towels on it. *Do not use hot water. Hot water will burn any skin that has been damaged by frostbite.*

If you do not have towels, you may place the affected areas in water, that is no warmer than lukewarm, for about 20 minutes. If you are in a camping situation, and do not have towels or an immediate source of bathing water, cover the frostbite area with your warm hands or warm pad, glove, etc. Do not use dry heat such as a heating pad, or pad made hot over a fire. Do not rub snow on the affected areas or try to burst any blisters or attempt to rub the frostbite areas with your hands, as all these will further damage the skin and tissues. Also, since the frostbite area has lost all ability to feel anything, do not hold the area next to a fire as one will not be able to tell if the skin is burning.

If you can get the patient to drink a hot cup of water, tea, (even coffee is OK) then do so. Don't let them drink alcohol as it restricts blood flow to the capillaries. In the case of severe frostbite it is best to keep the area raised so that gravity pulling on the blood drain doesn't rupture more of the affected area.

Recovery may take three or four weeks. During this period swelling is common and the skin will be blue in appearance. Acting with fast treatment, even with severe frostbite, gives a good chance of total recovery of the frostbitten area. However, close observation is required to notice and/or treat infection. Gangrene may give no choice but to amputate an appendage or limb. An immediate supplement of antibiotic drugs, even though we recognize their long term drawbacks, should be administered. You can flush out the body later on after recovery. If herbs known to raise the immune system are available, take these as well. After recovery, don't be anxious to get back out into the cold again as the affected area will be prone to frostbite for many months. Make sure your healed areas are covered when you go out in a winter season.

Needless to say, prevention is the best way to treat frostbite. Make sure to stay dry and wear layered clothing. Be aware that wind makes the freezing factor much worse. Cover as much of any exposed body parts as possible (ear muffs, mittens, etc.); and apply a waterproof ointment, such as petroleum jelly, to any skin areas that might get exposure to the cold.