

Safety Manual > Hot Environments

F. Hot Environments

When the rate of heat transfer from the body by convection, radiation, and sweat evaporation is not adequate, then warming of the body occurs. Excessive warming of the body can lead to heat stroke which can be fatal unless treated promptly and properly. Other consequences of heat stress include heat exhaustion, heat cramps, and heat rashes. All employees who work in hot environments shall be trained in the recognition of heat stress warning signs and the appropriate emergency treatments should symptoms occur.

1. Heat Cramps

Heat cramps are the least severe of the three heat-related illnesses. They are often the first signal that the body is having trouble with the heat. Heat cramps are painful muscle spasms that usually occur in the legs and abdomen. If a person has heat cramps, take them to a cool place, loosen clothing, and give cool water or a commercial sports drink. Allow the person to drink about one glass of liquid every 15 minutes. With rest and fluids, the person should recover quickly and be able to resume activity. Keep the person drinking fluids and watch for any further signs of heat-related illness.

2. Heat Exhaustion

Heat exhaustion is more serious than heat cramps. Symptoms include cool, moist, pale or flushed skin, headache, nausea, dizziness, weakness and exhaustion. As with heat cramps, get the person to a cool place and loosen the victim's clothing. Give plenty of fluids to a heat exhaustion victim. Apply cool, wet compresses to cool the person.

3. Heat Stroke

Heat stroke is the most severe heat condition. It develops when the body systems become overwhelmed by heat and begin to stop functioning. Heat stroke is a serious medical emergency. The signals include red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing. Work to cool the person, as in the other two heat-related illness, but also call for medical help. Refusing water, vomiting and changes in consciousness indicate the person's condition is worsening. Get medical attention immediately. If the person vomits, do not give any more fluids and put him on his side. This prevents the possibility of the person choking on his vomit. Watch for breathing problems and keep the victim lying down. Cool the body as much as possible. Place cool, wet cloths or ice packs on the victim's wrists, ankles, on the groin area, armpits and neck to cool the large blood vessels. Do not apply rubbing alcohol.

4. Heat Rashes

Heat rashes are the most common problem in hot work environments. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Prickly heat occurs in skin that is persistently wetted by sweat, and heat rash papules may become infected if they are not treated. In most cases, heat rashes will disappear when the affected individual returns to a cool environment.

5. Training

See appendix