

# **Temperature Extremes**

## **A SAFETY TALK FOR DISCUSSION LEADERS**

This safety talk is designed for discussion leaders to use in preparing safety meetings.

Set a specific time and date for your safety meeting. Publicize your meeting so everyone involved will be sure to attend.

Review this safety talk before the meeting and become familiar with its content. Make notes about the points made in this talk that pertain to your workplace. You should be able to present the material in your own words and lead the discussion without reading it.

Seating space is not absolutely necessary, but arrangements should be made so that those attending can easily see and hear the presentation.

Collect whatever materials and props you will need ahead of time. Try to use equipment in your workplace to demonstrate your points.

### **DURING THE MEETING**

Give the safety talk in your own words. Use the printed talk merely as a guide.

The purpose of a safety meeting is to initiate discussion of safety problems and provide solutions to those problems. Encourage employees to discuss hazards or potential hazards they encounter on the job. Ask them to suggest ways to improve safety in their area.

Don't let the meeting turn into a gripe session about unrelated topics. As discussion leader, it's your job to make sure the topic is safety. Discussing other topics wastes time and can ruin the effectiveness of your safety meeting.

At the end of the meeting, ask employees to sign a sheet on the back of this talk as a record that they attended the safety meeting. Keep this talk on file for your records.

**Temperature Extremes**

When we think of temperature extremes we usually think of being too hot or too cold. And whether we are indoors or out, temperature extremes can do more than just make us uncomfortable. They can cause serious health problems.

While working we "burn off" the food we have eaten. But besides the heat we generate during this process, there is the heat of our surroundings. Since our bodies must stay close to 98.6 F, we need to rid ourselves of the excess heat. We do this in the form of perspiration.

Perspiration evaporating from our skin cools us, but in humid weather the process is slowed because of the already damp air. And if the perspiration process is not sufficient to keep our body temperatures down, heat-related disorders can occur.

In some instances heat stress results in mild disorders, including cramping in muscles that do the hardest work, weakness, dizziness caused by an inadequate blood supply to the brain, and prickly heat, a rash caused by clogged pores.

Although these disorders may be mild, they should be treated immediately. If these symptoms occur, notify your supervisor and move to a cooler, drier location.

**NOTE TO DISCUSSION LEADER:**

See how many of these symptoms group members can list.

Symptoms of heat exhaustion (caused by the body's inability to replace lost fluids) may include sweating, cool and clammy skin, pale or flushed complexion, weakness, dizziness, nausea, and weak pulse and shallow breathing.

When these symptoms occur, notify your supervisor immediately. If vomiting or loss of consciousness occurs, seek medical attention.

Heat stroke occurs when the body's cooling system breaks down. This is a medical emergency and can cause permanent damage to organs and even death.

**NOTE TO DISCUSSION LEADER:**

Employees should be given the opportunity to name the symptoms.

Symptoms include irritability; lack of sweating; high body temperature; hot, dry, flushed skin; weakness; confusion or hallucinations; loss of consciousness, coma or convulsions.

When heat stroke occurs, cool the victim with any possible means and call for emergency medical assistance.

**NOTE TO DISCUSSION LEADER:**

Ask for signs and comment on how to avoid heat stress. The following list will aid in the discussion.

To avoid heat stress you should wear light, loose-fitting clothing and the right personal protective equipment, such as cooling vests, insulated and reflective clothing, and gloves; work at a reasonable pace and rest when weakness, clumsiness, impatience or inability to concentrate becomes evident; drink plenty of water, plan ahead so that the heavy work is done while temperatures are coolest; and get used to the heat gradually by slowly increasing the time spent in the heat. The last step--acclimatization--must be repeated if you've been off the job for a week or more.

Just as a rise in body temperature can be harmful, so can a temperature decrease. Although the body has a process for warming itself, sometimes, because of extremely cold air, it loses heat faster than it can produce it. To keep warm, the outer blood vessels will constrict, directing warm blood to the organs. As a result, hands and feet will become cold. If the body temperature continues to drop, shivering will start. This is the body's way of generating heat. If the internal body temperature continues to fall, tissue or organ damage, and even death, can occur.

**NOTE TO DISCUSSION LEADER:**

See how much the group can tell you about these ailments before you list them.

**Ailments may include:**

- Chilblains, (painful swelling and sores on the hands and feet) caused by poor circulation and exposure to the cold.
- Wet/cold syndromes, such as trench foot and immersion foot, upon exposure to temperatures below 53 F and a mixture of cold and sweat. (Feet and legs become cold, pale and numb, and sweating stops; then feet become red and swollen; and blood vessel and nerve injuries are frequent.)
- Frostbite, occurring after exposure to very cold temperatures. (The skin becomes pale and glossy, blisters may appear, gangrene

may set in, and when the exposed areas are warmed, swelling may occur). These injuries may range from mild to severe and, in some instances, result in amputation or death. If these symptoms are observed, seek immediate medical attention. Do not rub affected areas, especially not with snow.

Hypothermia is the body's inability to keep its core temperature above 98 F. The blood vessels constrict and hands and feet become cold and, finally, numb. Severe shivering begins, and it is this shivering that marks the real first sign of hypothermia. At this point, if the body is not warmed, death could follow quickly.

**NOTE TO DISCUSSION LEADER:**

Ask the group to name some of the symptoms of hypothermia. The following list will help you: difficulty with speech, forgetfulness, chills and drowsiness. The next phase is cheiliosis and, finally, death.

It is important that hypothermia be treated before it reaches the critical stage. If any of these symptoms are observed, seek immediate medical attention. Remove the victim to a warm room and contact your supervisor.

**NOTE TO DISCUSSION LEADER:**

Ask the group members to list preventive measures. Workers should limit exposure as much as possible, follow doctor's orders (danger of frostbite increases if you have been ill), drink hot liquids, avoid alcohol, keep moving and exercise fingers and toes, avoid overexertion, rest and seek shelter from the wind periodically, refrain from smoking because it slows circulation, know the symptoms of cold-related disorders and wear proper clothing (thermal or woolen underwear, an insulating layer that holds in body heat, outer garments that repel wind and water, head and ear coverings, warm boots, and wool lined mittens or gloves).

Layers of clothing will permit adjustment to changing circumstances during the exposure--a decrease in wind or sun, or an increase in workload, for example. Make sure that clothing and footwear are not tight enough to cut off circulation. Keep clothing dry.

Now that we know what temperature extremes can affect us, it's important that we remember three things:

- Practice preventive measures--The adage, "An ounce of prevention is worth a pound of cure," was never more true. By protecting yourself you can avoid the inconvenience and discomfort.

- Know the warning signs--Your body has ways of telling you something is wrong, so listen to it. Learn to recognize the early signs and obtain first aid immediately, before serious injuries result.
- Get help--If it's needed, prompt and correct action could prevent pain, serious injury, and tragedy.