



# City Safe

A Guide To Assist In Training  
Employees About:

November /  
December  
2006

## Working in Cold Conditions

Number 31

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*City Safe is a publication of the League of Kansas Municipalities and the Kansas Municipal Insurance Trust for the purpose of educating and informing cities about loss control methods and risk management. Contents herein are not intended to provide specific legal or medical advice. Readers should seek advice on specific concerns from a qualified professional.*

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Very cold temperatures, like very hot ones, can be hazardous to your health – even deadly. You can be exposed to hazards from the cold when you’re inside as well as out. It’s very cold, for instance, in food storage areas.

A lot of the problems associated with cold can be prevented by proper dress and some sensible practices. Knowing the symptoms of danger and how to treat them can keep problems that do occur from becoming disasters.

## General Hazards

The most common hazard in the cold is frostbite. This occurs when your body doesn’t get enough heat and tissues freeze. Body parts most often affected by frostbite are the nose, ears, cheeks, fingers, and toes. In very bad cases, frostbite can cause permanent tissue damage and loss of movement in the affected body parts. In the worst cases, you could become unconscious and stop breathing. Severe cases could even lead to heart failure.

Another cold hazard is hypothermia. In this case, you are exposed to cold so long that your body temperature gets dangerously low. Like frostbite, the worst-case results are unconsciousness and death.

With both cold hazards, you’re more at risk if you’re older, overweight, have allergies, or poor circulation. Other factors that raise the risk are smoking, drinking, and taking medications such as sedatives.

## Identifying Hazards



It’s very important to know the symptoms of frostbite and hypothermia so that you can do something before it’s too late.

Frostbite can occur from being in a cold area or from touching an object whose temperature is below freezing. In many cases, people don’t have any idea that it’s happening. That’s why

you have to be familiar with the symptoms. Frostbite victims usually start by feeling uncomfortably cold, then numb. Sometimes they also get a tingling, aching feeling or a brief pain. A frostbite victim's skin goes from white to grayish-yellow to reddish-violet to black. It may also blister. Obviously, you don't want to have to go through all the symptoms of frostbite. So when you feel numbness, take action.

Hypothermia can also take you by surprise because you can get it even when the temperatures are above freezing. Windy conditions, physical exhaustion, and wet clothing can all make you more prone to hypothermia. With hypothermia, you first feel cold, and then have pain in the extremities. You'll shiver, which is how the body tries to raise its temperature. Other symptoms include numbness, stiffness (especially in the neck, arms, and legs), poor coordination, drowsiness, slow or irregular breathing/heart rate, slurred speech, cool skin, and puffiness in the face. A hypothermia victim may also seem confused and disoriented. It's not unusual for the person to seem apathetic about getting out of the cold.

As you can see, many of these symptoms are not unusual and can mean different things. If you're exposed to very cold conditions, take these symptoms seriously and take steps to relieve them.

## **Protection Against Hazards**

The best way to deal with cold problems is to prevent them from the start. The most sensible approach is to limit exposure to cold, especially if it's windy or humid.

If you know you're going to be in cold conditions, don't bathe, smoke, or drink alcohol just before going out.

- Dress for the conditions in layers of loose, dry clothes. The most effective mix is cotton or wool underneath, with something waterproof on top.
- Dry or change your clothes if you get wet.
- Be sure to cover your hands, feet, face, and head. A hat is critical because you can lose up to 40% of your body heat if your head isn't covered.
- Keep moving when you're in the cold.
- Take regular breaks in warm areas and go where it's warm any time you start to feel cold or numb. Drink something warm, as long as it doesn't contain alcohol or caffeine.

## **Safety Procedures**

As you know, prevention doesn't always work. It is important to know what to do if you or someone you're with shows symptoms of cold problems.

The first thing to do is to get where it's warm. Get out of any frozen, wet, or tight clothes and into warm clothes or blankets. Drink something warm, decaffeinated, and nonalcoholic.

For hypothermia, call for medical help and keep the person covered with blankets or something similar. Don't use hot baths, electric blankets, or hot-water bottles. Give artificial respiration, if necessary, and try to keep the person awake and dry.

For frostbite, first be aware of the don'ts:

- Don't rub the body part or apply a heat lamp or hot water bottle.
- Don't go near a hot stove.
- Don't break any blisters.
- Don't drink caffeine.

Do warm the frozen body part quickly with sheets, blankets, or warm (not hot) water. Once the body part is warm, exercise it with one exception: Don't walk on frostbitten feet.

If in doubt, get medical attention. It's a good idea to elevate the frozen body part and cover it with sterile cloths before travel.



## Wrap Up

It's dangerous to underestimate the health hazards you're exposed to in the cold. But if you take some precautions before you're exposed and know what symptoms can spell trouble, you substantially reduce your risk. Use your checklist as a reminder and as a source of first-aid advice if the worst happens.

## Suggested Discussion Questions

1. What are the two major hazards of working in the cold?
2. What happens when you get frostbite?
3. What are the symptoms of frostbite?
4. What happens when you get hypothermia?
5. What are the symptoms of hypothermia?
6. What are some of the ways you can prevent problems in the cold?
7. How do you treat a hypothermia victim?

8. How do you treat a frostbite victim?
9. What don't you do for a frostbite victim?
10. Are there any other questions?

# Staying Safe in the Cold Checklist

## Prevent problems.

- Limit exposure to cold, especially if it's windy or humid
- Be especially careful if you're older, overweight, have allergies, or poor circulation
- Be especially careful if you smoke, drink, or take medications
- Be aware that problems can arise in above-freezing temperatures
- Be aware that problems can arise from touching a subfreezing object
- Don't bathe, smoke, or drink alcohol before going into the cold

## Wear layers of loose, dry clothing.

- Cotton or wool underlayers and waterproof top layer work best
- Be sure to cover head, hands, feet, and face
- Dry or change wet clothing immediately
- Keep moving in the cold
- Take regular breaks in warm areas
- Move to a warm area if you feel very cold or numb
- Drink a warm nonalcoholic decaffeinated beverage

## Know symptoms of frostbite.

- Feeling uncomfortably cold
- Feeling numb, tingling, aching, or brief pain
- Skin going from white to grayish-yellow to reddish-violet to black
- Skin blisters
- Unconsciousness

## **Act quickly if frostbite strikes.**

- Don't rub body part, apply heat lamp, or hot water bottles
- Don't go near a hot stove
- Don't break blisters
- Warm frozen body part(s) quickly with sheets, blankets or warm (not hot) water
- Exercise the warmed body part(s) (don't walk on feet)
- Elevate the frozen body part(s) and cover with sterile cloths before moving
- Get medical attention if needed

## **Know symptoms of hypothermia.**

- Feeling cold and shivering
- Pain in extremities with numbness and/or stiffness
- Poor coordination
- Slow or irregular breathing or heart rate
- Slurred speech and drowsiness
- Cool skin
- Puffy face
- Confusion

## **Act quickly if hypothermia strikes.**

- Call for medical help
- Give artificial respiration if needed
- Move into warm area removing frozen, wet, or tight clothes
- Bundle in warm clothes or blankets
- Drink something warm (no caffeine or alcohol)

*The above story was originally printed in City Safe's predecessor publication, Teach Tools, in October 1998.*

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## **What to do When Your Brakes Fail**

Having your brakes fail while you are driving is a dangerous and horrifying experience, especially when you are traveling on an interstate highway or other high-speed roadway.

The National Safety Council has these tips for coping with brake failure:

At the first sign of trouble, try not to panic. Instead, work your vehicle into the right lane and then toward the shoulder or, if possible, toward an exit. If it is necessary to change lanes, do so smoothly and carefully, watching your mirrors and the traffic around you very closely.

Remember to use your directional signal to indicate your intentions to other drivers. When you reach the right lane, turn on your emergency hazard lights.

Let the car slow down gradually by taking your foot off the gas pedal. Simply steer as your vehicle slows and shift the car into a lower gear to let the engine help slow the car.

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***Regional Supervision Training  
February / March 2007***

***“Work Comp Training”***

***Afternoon Workshops  
each taught at four sites:***

***Dodge City, February 1st  
Bonner Springs, February 8th  
Coffeyville, February 15th  
Haysville, March 1st***

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Once off the traveled roadway, shift into neutral and gradually apply the hand brake until the vehicle stops. If that brake has also failed, direct the car onto a soft shoulder or rub the wheel against a curb which will help you to slow down. Get the car off the roadway and to a safe place to avoid stopping traffic or being involved in a rear-end collision.

When safely off the road, put out reflective triangles beside and behind your vehicle to alert other drivers; keep your emergency flashers going.

You will need professional assistance. Raise your hood and tie something white to the radio antenna or hang it out the window so police officers or tow truck operators will know you need help. Don't stand behind or next to your vehicle; if possible, stay away from the vehicle and wait for help to arrive.

All interstate highways and major roads are patrolled regularly. Also, some highways have special "call-for-help" phones and, of course, if you have a CB radio or cellular mobile phone you can call from your vehicle.

It is inadvisable to walk on an interstate. However, if you can see a source of help and are able to reach it on foot, try the direct approach by walking but keep as far from traffic as possible.

A final caution: Do not be tempted to drive your vehicle, no matter how slowly, without brakes! Call for help to get your disabled vehicle towed and then have the brakes repaired by a qualified mechanic.

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