

# Weathering the Heat in Alaska

## **What is the public health problem?**

Exposure to excessive heat can cause illness, injury and death. Approximately 400 people in the U.S. die each year from exposure to heat due to weather conditions, and many more people die from health conditions that are exacerbated by exposure to excess heat. Most heat-related deaths occur during the summer months. The elderly, the very young, and people with chronic health problems are most at risk. By knowing who is at risk and what prevention measures to take, heat-related illness can be prevented.

## **How many people have died from heat-related illnesses in the past?**

From 1979 –1999, excessive heat exposure caused 8,015 deaths in the United States. During this period, more people in this country died from extreme heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined.

## **How many heat-related deaths have there been in Alaska?**

In the past 10 years, Alaska has only recorded one death due to a heat-related illness.

## **Then why is this a problem in Alaska?**

In Alaska, we are not accustomed to high temperatures for any length of time. Some of our communities experience some days of high heat in the mid summer each year, but it is usually quickly followed by moderate temperatures or rain. This year, we've seen prolonged periods of high temperatures with little relief. Alaskans typically spend much of the winter waiting for summer to arrive, then spend our long days and bright nights out enjoying what warm weather is available. Prolonged heat can be a problem in Alaska simply because we are not used to it and can get overwhelmed by it easily.

## **What happens to the body as a result of exposure to extreme heat?**

People suffer heat-related illness when the body's temperature control system is overloaded. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage the brain or other vital organs. Several factors affect the body's ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, youth (age 0-4), obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, and prescription drug use and alcohol use.

## **Who is at greatest risk for heat-related illness?**

Those at greatest risk for heat-related illness include infants and children up to four years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications.

## **How can people protect their health when temperatures are extremely high?**

Remember to keep cool and use common sense. Drink plenty of fluid, replace salts and minerals, wear appropriate clothing and sunscreen, pace yourself, stay cool indoors, schedule outdoor activities carefully, use a buddy system, monitor those at risk, and adjust to the environment.

## **How much should I drink during hot weather?**

During hot weather you will need to drink more liquid than your thirst indicates. Increase your fluid intake, regardless of your activity level. During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool (non-alcoholic) fluids each hour.

**What is the best clothing for hot weather?**

Wear as little clothing as possible when you are at home. Choose lightweight, light-colored, loose-fitting clothing. In the hot sun, a wide-brimmed hat will provide shade and keep the head cool. If you must go outdoors, be sure to apply sunscreen 30 minutes prior to going out and continue to reapply according to the package directions. Sunburn affects your body's ability to cool itself and causes a loss of body fluids. It also causes pain and damages the skin.

**What should I do if I work in a hot environment?**

Pace yourself. If you are not accustomed to working or exercising in a hot environment, start slowly and pick up the pace gradually. If exertion in the heat makes your heart pound and leaves you gasping for breath, STOP all activity. Get into a cool area or at least in the shade, and rest, especially if you become lightheaded, confused, weak, or faint.

**What is heat stroke?**

Heat stroke is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

**What are the warning signs of a heat stroke?**

Warning signs of heat stroke vary but may include the following:

An extremely high body temperature (above 103°F); Red, hot, and dry skin (no sweating); rapid, strong pulse; throbbing headache; dizziness; nausea; confusion; unconsciousness

**What should I do if I see someone with any of the warning signs of heat stroke?**

If you see any of these signs, you may be dealing with a life-threatening emergency. Have someone call for immediate medical assistance while you begin cooling the victim. Do the following:

Get the victim to a shady area.

Cool the victim rapidly, using whatever methods you can.

Monitor body temperature and continue cooling efforts until the body temperature drops to 101-102°F.

If emergency medical personnel are delayed, call the hospital emergency room for further instructions.

Do not give the victim alcohol to drink.

Get medical assistance as soon as possible.

**What is heat exhaustion?**

Heat exhaustion is a milder form of heat-related illness that can develop after several days of exposure to high temperatures and inadequate or unbalanced replacement of fluids. Those most prone to heat exhaustion are elderly people, those with high blood pressure, and those working or exercising in a hot environment.

**What are the warning signs of heat exhaustion?**

The warning signs of heat exhaustion include the following: Heavy sweating, Paleness, Muscle cramps, Tiredness, Weakness, Dizziness, Headache, Nausea or vomiting, Fainting.

The skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke. See medical attention if symptoms worsen or last longer than one hour.

**What steps can be taken to cool the body during heat exhaustion?**

Drink cool, nonalcoholic beverages; rest; take a cool shower or bath; wear lightweight clothing; seek a cool area – air conditioned building or shade.

**What are heat cramps and who is affected?**

Heat cramps are muscle pains or spasms – usually in the abdomen, arms, or legs – that may occur in association with strenuous activity. People who sweat a lot during strenuous activity are prone to heat cramps. This sweating depletes the body's salt and moisture. The low salt level in the muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion. If you have heart problems or are on a low-sodium diet, seek medical attention for heat cramps.

**What should I do if I have heat cramps?**

If medical attention is not necessary, take the following steps:

- Stop all activity and sit quietly in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous activity for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention for heat cramps if they do not subside in 1 hour.

**What is heat rash?**

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather. It can occur at any age but is most common in young children. Heat rash looks like a red cluster of pimples or small blisters. It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

**What is the best treatment for heat rash?**

The best treatment for heat rash is to provide a cooler, less humid environment. Keep the affected area dry. Dusting powder may be used to increase comfort, but avoid using ointments or creams -- they keep the skin warm and moist and may make the condition worse.