

MAINE PUBLIC HEALTH ALERT NETWORK SYSTEM



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****ADVISORY – Important Information****

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TO: All HAN Recipients
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SUBJECT: **Maine CDC/DHHS Advises Caution In Heat**
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Maine Center for Disease Control and Prevention (Maine CDC)
(Formerly Bureau of Health)

**Maine CDC/DHHS Advises Caution in Heat:
Keep Cool, Drink Adequate Fluids, and Lie Low**

GENERAL INFORMATION & STRATEGIES

High heat and humidity, such as what Maine is experiencing this week, make for hazardous conditions, especially when experienced for a prolonged period (3 days or more) in a geographical area such as New England where such conditions are rare and especially for people who are most susceptible to heat-related illnesses. Getting susceptible people to air conditioned space is the single most important strategy to prevent heat illness when high heat and humid conditions are expected for 3 days or more.

Heat-related illnesses and deaths are preventable, yet over the past 30 years more people have died in this country from heat than from hurricanes, lightning, tornadoes, floods, and earthquakes combined. Some of the deadliest heat waves have occurred in places at similar latitudes as Maine. For instance, over 700 died in a 1995 heat wave in Chicago, and 15,000 died in a 2003 heat wave in France. Analyses indicate that strategies listed in this health advisory have helped reduce illness and death during heat waves.

Mortality studies from heat waves indicate the most dangerous situation is an elderly person living alone with no air conditioning. It is therefore important for us to check on our neighbors, family and friends, especially those who are at high risk for heat-related illness and who live alone.

Heat combined with humidity is especially dangerous and is measured by the heat index, which provides a measurement of what the conditions feel like (in the shade), analogous to the wind chill factor (see Heat Index Chart at <http://www.weather.gov/om/heat/index.shtml>).

All Mainers should take some simple measures to prevent heat-related illness. However, those who are most susceptible include

- Older persons (65 years old and older),
- Infants and young children,
- People with a mental illness or who are under the influence of drugs or alcohol
- Those with chronic diseases such as heart conditions, diabetes, obesity, and high blood pressure,
- People with mobility restrictions,
- People who have to work or be physically active outside,
- Those living in poverty and who are homeless.

COMMUNITY STRATEGIES

Some measures communities and officials should consider if the heat index is 95 or above (which is expected throughout much of Maine this week):

- Open cooling centers. Work with organizations such as emergency management agencies, other government officials, the Red Cross, Area Agencies on Aging, Healthy Maine Partnerships, health organizations, and others to identify and promote air conditioned places for the public, known as cooling centers. In other states cooling centers are often located in local senior centers,

adult day service sites, health centers, libraries, churches, or businesses with air conditioning that do not mind providing chairs for others to come and sit to cool down.

- Register any cooling centers with 211.
- Extend the hours of places that provide opportunities to cool, such as pools and beaches.
- Make sure public events have as much shade, beverages, and other cooling measures available as possible.
- Check on elderly people living alone and others who are more vulnerable to heat's effects.
- Use communication channels to provide advice to the public on addressing the heat.
- Further information can be found in the U.S. EPA's Heat Events Guidebook for Communities at <http://www.epa.gov/heatisland/about/heatguidebook.html>

GENERAL STRATEGIES for all individuals include:

Keep Cool, Especially Using Air Conditioning and Cool Water

- Use air conditioning to cool down or go to an air-conditioned building such as a store, a public library, a restaurant, or a cooling center.
- If you don't have air conditioning in your home, open windows and shades on the shady side and close them on the sunny side to try to cool it down.
- An electric fan can be beneficial but not reliable to cool off once the temperatures hit above the mid-90s (near or above body temperature of 98.6 degrees).
- Use cool water - take a cool shower or bath.
- Wear loose, lightweight, light-colored clothing to help keep cool.
- Stay out of the sun as much as possible.
- Wear sunscreen and a ventilated hat (e.g., straw or mesh) when in the sun, even if it is cloudy.
- Never leave children, pets or those with special needs in a parked car, even briefly. Temperatures in the car can become dangerous within a few minutes.

Drink Fluids

- Drink more fluids regardless of your activity level.
- Avoid alcohol, caffeine and sugary drinks, since these actually cause you to lose more body fluid.
- If you are on fluid restrictions or on diuretics, ask your doctor how much fluids you should drink.

Lie Low - Rest Frequently

- Take regular breaks from physical activity – at least every hour.
- Avoid strenuous activity during the hottest part of the day (between 11 a.m. and 4 p.m.).

If you must be out in the heat and humidity:

- Try to limit your outdoor activity to morning and evening hours.
- Cut down on exercise. If you must exercise, drink two to four glasses of cool, nonalcoholic fluids each hour. A sports beverage can replace the salt and minerals you lose in sweat. If you are on a low-salt diet, talk with your doctor before drinking a sports beverage.

- Rest often in shady areas – at least every hour.
- Protect yourself from the sun by wearing a wide-brimmed hat (also keeps you cooler) and sunglasses and by putting on sunscreen of SPF 15 or higher (the most effective products say “broad spectrum” or “UVA/UVB protection” on their labels).

HEAT-RELATED ILLNESSES

It is important for us to recognize the early signs of heat-related illnesses and what to do about them. During normal weather, the body's internal thermostat produces perspiration that evaporates and cools the body. However, during periods of extreme heat and high humidity, evaporation is slowed and the body must work extra hard to maintain a normal temperature. If the body cannot cool itself, serious illness can result.

Heat-related illnesses include:

- *Heat stroke* occurs when the body is unable to regulate its temperature. Body temperatures can reach dangerous levels. Warning signs include hot, dry, red skin (no sweating), rapid pulse, high body temperature ($\geq 105^\circ \text{F}$), headache, loss of alertness, confusion, rapid and shallow breathing, and unconsciousness or coma. Emergency 911 should be called immediately. While waiting for assistance, cool the person rapidly with such methods as moving them to a shady or cooler area, using cool water, ice, fans, and loosening their clothing.
- *Heat exhaustion* typically occurs when people over-exert themselves in high heat and humidity. Symptoms include heavy sweating, fainting, vomiting, cold, pale, and clammy skin, dizziness, headache, nausea and weakness. Move the person to a cool place, have them drink fluids and rest, loosen their clothes, and cool them off with water or wet cloths. Heat exhaustion can quickly lead to heat stroke. So, if symptoms worsen or do not improve, get medical help.
- *Heat cramps* are muscle cramps in the abdominal area or extremities (e.g. arms and legs) that often occur in people who sweat a lot during strenuous activity and as a result their muscles lose salt and moisture. The cramps are often accompanied by heavy sweating and mild nausea. Move the person to a cool place to rest, and apply firm pressure to the cramping muscle. The person can also gently stretch the cramped muscle and hold it for 20 seconds, and then gently massage it. Have the person drink some cool beverages such as water or a sports drink. The person should seek medical attention if there is no improvement or if the person has underlying medical problems.
- *Dehydration* signs and symptoms include dry or sticky mouth, low or no urine output or very concentrated, dark urine, lack of tear drops, sunken eyes, and fatigue and lethargy.
- *Sunburn* damages the skin and causes the skin to become red, painful, and warm after sun exposure. Medical attention should be sought if the sunburn affects an infant or if there is fever, fluid-filled blisters, or severe pain. Otherwise, the person should avoid sun exposure, apply cold compresses or immerse the burned skin in cool water, apply moisturizing lotion to the burn.
- *Heat rash*, also known as prickly heat, is a skin irritation caused by excessive sweating during hot humid weather and is most common in young children. The rash looks like a red cluster of pimples or small blisters and is most common in the neck and upper chest and in creases such as in the elbow and groin. Move the person to a cooler place and keep the affected area dry. The person can also use talcum powder to increase comfort.

FMI:

US CDC Extreme Heat Prevention Guide

http://emergency.cdc.gov/disasters/extremeheat/heat_guide.asp

US EPA Heat Events Guidebook for Communities

<http://www.epa.gov/heatisland/about/heatguidebook.html>

US CDC/NIOSH Protecting Workers in Heat Events

<http://www.cdc.gov/niosh/topics/heatstress/>

OSHA Protecting Workers in Heat Stress

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=FACT_SHEETS&p_id=167

National Weather Service Heat Wave Guide

http://www.nws.noaa.gov/om/brochures/heat_wave.shtml

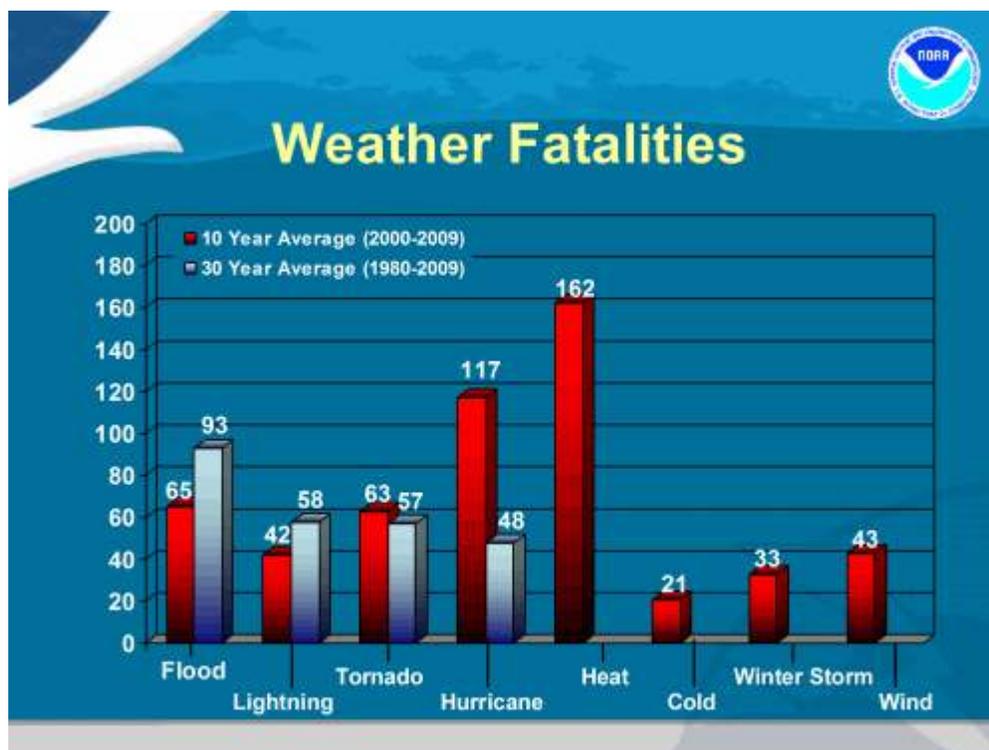
National Weather Service Heat Index Chart

<http://www.weather.gov/om/heat/index.shtml>

National Weather Service Weather Fatalities

<http://www.nws.noaa.gov/om/hazstats.shtml>

Federal Emergency Management Agency: <http://www.fema.gov/hazard/heat/background.shtm>



ELDERLY

Why Elderly People (those 65 and older) are at High Risk for Heat-Related Illness:

- Elderly people's physiology does not adjust as well as young people to sudden changes in temperature. They tend to have a decreased thirst sensation and do not feel the urge to drink as often as younger people, and they may have physical conditions that make it difficult to drink.
- They are more likely to have a chronic medical condition that upsets normal body responses to heat.
- They are more likely to take prescription medicines (such as diuretics and anti-cholinergic medications) that impair the body's ability to regulate its temperature or that inhibit perspiration.

What We Can Do (besides the General Strategies above):

- Visit or have contact with older adults at risk at least twice a day and watch them for signs of heat exhaustion or heat stroke.
- Provide access to an air conditioner, and if none is in the residence, transport the person to a store, public library, restaurant, senior center, or cooling center.
- Make sure older adults have access to an electric fan, though this is not reliable once the temperatures are above the mid-90s.
- Assure adequate fluid intake, avoiding those that contain caffeine, alcohol, or large amounts of sugar – these can cause more loss of body fluid.
- Make sure clothing is loose and lightweight.
- Assure access to cooling water – a bath, shower, wet towels.

Studies from heat waves show the highest risk factors for death and hospitalization are older age, living alone, lack of access to an air conditioner, and underlying medical conditions.

FMI:

US CDC Heat Stress in the Elderly: <http://www.bt.cdc.gov/disasters/extremeheat/elderlyheat.asp>

INFANTS/CHILDREN/YOUTH

Why Children are at High Risk for Heat-Related Illness:

- Children produce more heat (because of a greater surface area-to-body mass ratio) than adults.
- Children sweat less than adults.
- Children are less likely to drink adequate fluids during exercise and heat.
- Infants, and especially newborns, are at higher risk.
- Children who rarely exercise, are overweight or obese, have had a previous heat-related illness, drink caffeinated beverages, are developmentally delayed or have cognitive disabilities, or have underlying medical conditions (diabetes) are at higher risk.

What Parents of Infants and Young Children Can Do (besides the General Strategies above):

- Make sure infants and young children have access to air conditioning, lightweight clothing, adequate fluids, and cooling water. Infants and children up to 4 years of age are especially sensitive to the

effects of high temperatures and rely on others to regulate their environments and provide adequate liquids.

- Monitor for and recognize the signs and symptoms of heat-related illnesses and dehydration in children. Dehydration in young children early on can present as: decreased urine output, dry or sticky mouth, irritability, and fatigue.

What Coaches/Parents/Teachers Can Do (besides the General Strategies above):

- Reduce the intensity of physical activity lasting more than 15 minutes, especially if heat and humidity are both high.
- Realize that conditioned athletes may be more susceptible to heat stroke because they have a larger body mass.
- Require young athletes to take fluid breaks before practice and every 15 – 60 minutes during practice – even if they are not thirsty.
- Require young athletes to take regular shade and rest breaks, and encourage them to take additional rest and fluid breaks anytime they feel the need to do so.
- Recognize signs of heat illness and dehydration in children. Dehydration early on can present as: dry or sticky mouth, thirst, headache, dizziness, cramps, excessive fatigue.

FMI:

AAP Policy Statement <http://aappolicy.aappublications.org/cgi/content/full/pediatrics;106/1/158>

NATA Statement on Heat Illness <http://www.nata.org/statements/position/exertionalheatillness.pdf>

Mayo Clinic <http://www.mayoclinic.com/health/dehydration/SM00037>

PEOPLE WITH MENTAL ILLNESS

Why People with Mental Illness are at High Risk for Heat-Related Illness:

- Some medications used to treat mental illness such as anti-psychotics inhibit the body's ability to regulate its temperature, leaving it more susceptible to heat stroke.
- People with mental illnesses often live in impoverished conditions and without air conditioning, further increasing their risk.

What We Can Do (besides the General Strategies above):

- Stay in close contact (at least twice daily) with people with mental illness, and especially those taking anti-psychotic medications.
- Provide access to an air conditioner.
- Make sure they are drinking adequate fluids, and are avoiding those that contain caffeine, alcohol, or large amounts of sugar – these can cause more loss of body fluid.
- Make sure they are wearing lightweight and loose-fitting clothing.
- A fan can be beneficial but not reliable to cool one off once the temperatures hit the high 90s.
- Have the person take a cool shower or bath.

FMI:

NAMI Heat and Mental Illness

<http://www.nami.org/Template.cfm?Section=20065&Template=/ContentManagement/ContentDisplay.cfm&ContentID=355>
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