Public Health Emergency Preparedness and Response Program

Hot Weather

Extreme Heat

Heat is the leading cause of weather-related deaths in the United States. Heat-related illnesses and deaths are preventable. Extreme heat is defined as summer temperatures that are hotter or more humid than average.

Health Impacts of Exposure to Extreme Heat

Exposure to heat can cause sunburn, heat cramps, heat exhaustion, heat stroke and death.

Heat stroke

Heat stroke occurs when the body is unable to regulate its temperature. During heat stroke, the body's temperature rises rapidly. Heat stroke is the most dangerous form of heat-related illness. Heat stroke is a severe medical emergency.

Signs and symptoms of heat stroke: red, hot and dry skin; no sweating; dizziness; throbbing headache; nausea; vomiting; confusion; a body temperature above 103°F; a strong, rapid pulse; unconsciousness.

First aid for heat stroke: Call 9-1-1. Heat stroke is a medical emergency. Move the person to a cool area. Help lower the person's temperature with cool, wet cloths or a cool bath. Do not give the person anything to drink.

Heat exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt that comprises sweat. Heat exhaustion can develop after several days of exposure to high temperatures and inadequate replacement of fluids. The elderly, people with high blood pressure, and people working or exercising in a hot environment are prone to heat exhaustion.

Signs and symptoms of heat exhaustion: cool, pale, clammy skin; excessive sweating; faint or dizzy; nausea; vomiting; muscle cramps and a rapid, weak pulse.

First aid for heat exhaustion: Get to a cool place; drink water (if fully conscious); take a cool shower or use cold compresses. If symptoms get worse, last longer than one hour, or the person is vomiting, get medical help right away.

Vulnerable Populations

Heat affects everyone differently. Groups at higher risk of heat-related illness include infants and young children; outdoor workers; athletes; pregnant people; people without access to air conditioning; people experiencing homelessness; people over 65 years of age; and people with chronic conditions, such as asthma, heart disease, mental illness, substance-use disorders, obesity, or poor circulation.

Prevention of Heat-Related Illness

- Drink plenty of fluids. Increase fluid intake and drink before you are thirsty.
- Avoid high sugar, highly caffeinated, or alcoholic drinks.
- Replace salt and minerals by drinking a low-sugar sports drink.
- Wear lightweight, light-colored, loose-fitting clothing.
- Schedule outdoor activities carefully. Avoid the hottest part of the day. Rest often. Seek shaded or water activities.
- Pace yourself. Pay attention to how you are feeling. Take breaks in cooler spaces.
- Reduce outdoor exercise in the heat.
- Take a cool bath or shower.
- Wear sunscreen. Protect yourself with a wide-brimmed hat and sunglasses. Sunburn can make you dehydrated.

- Check on people who are at-risk at least twice a day. Closely monitor babies, children and others at high risk.
- If indoor temperatures are in the high 90s, fans will not prevent heat-related illness. Seek cooler shelter.
- Stay cool indoors during extremely hot weather. Stay in air-conditioned spaces as much as possible or visit cooling centers. Even a few hours in a cooler location can help your body stay cooler when you go back to the heat.

HeatRisk & Public Health Recommendations

HeatRisk is a tool designed by the NWS and CDC to provide timely information and guide decision-making to prepare and plan for extreme heat. HeatRisk forecasts incorporate the duration of heat events, local conditions, overnight lows, and time of year. HeatRisk is divided into four color-coded categories of risk: minor, moderate, major and extreme.

Moderate HeatRisk (orange): ***Initiate early warnings, public messaging and response activities.*** Share information about cooling centers. Promote safety messaging to at-risk populations. Consider distribution of water to at-risk populations.

Major HeatRisk (red): ***Activate cooling centers and recommend reduction in outdoor activities***. Activate daytime cooling centers. Recommend cancellation or rescheduling of children's outdoor activities, camps, athletic practice, and games. Recommend closure of schools if indoor temperatures cannot be maintained reasonably free of excessive heat. Outdoor workers should take rest periods to cool down at least every two hours. Recommend wellness checks on elders and people living with disabilities or chronic medical conditions. Consider canceling outdoor activities during the heat of the day.

Extreme HeatRisk (magenta): ***Recommend Cancelation of Outdoor Public Events and Activities*** during the hottest time of the day. Expand cooling center hours to accommodate overnight use. Strongly recommend *everyone* take steps to reduce exposure to heat. Use air-conditioned spaces. Fans alone with not be adequate. Outdoor work should be rescheduled. Anyone who must work outside should take 15-minute breaks every hour to cool down. Continue outreach to at-risk populations with messaging, cooling supplies, and water resources. Encourage wellness checks for vulnerable populations.

Urban Heat Islands

Neighborhoods in the same city can vary by 20°F during extreme heat events. Urban areas with unshaded roads and buildings gain heat during the day and radiate heat in the evening. Long-term planning and investments can help address disparities, increase resilience, and support health equity in neighborhoods overburdened by urban heat. Greater access to public air-conditioned spaces should be provided in neighborhoods disproportionately impacted by heat. Monitor HeatRisk forecasts at the ZIP code level to guide heat mitigation decision-making and resource allocation.

Related Hazards

Hot Car Deaths The temperature inside vehicles can rise very quickly. Never leave infants, children or pets in a vehicle.
Power outages Extreme heat can impact power generation and transmission. Wildfire and wildfire risk can impact transmission. Co-occurrence of extreme heat events and power outages can create a large-scale public health emergency.

Resources

SRHD *Extreme Heat Fact Sheet (multiple languages)*
National Integrated Heat Health Information System *Heat.gov*
Ready.gov Extreme Heat *Extreme Heat*
Weather.gov *Heat Safety Tips and Resources*
211 *Cooling Center Locations* or Dial 2-1-1
Washington State Department of Labor and Industries *Be Heat Smart program and Outdoor Heat Exposure Rules*
Red Cross *Extreme Heat Safety Checklist (multiple languages)*

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