



Training Circular



May

Heat Extremes



During extremely hot and humid weather, your body's ability to cool itself is challenged. When the body heats too rapidly to cool itself properly, or when too much fluid or salt is lost through dehydration or sweating, body temperature rises and you may experience a heat-related illness. It is important to know the symptoms of excessive heat exposure and the appropriate responses.



Heat Safety For Outdoor Workers

Outdoor workers can be at a higher risk to the effects of excessive heat. See Occupational Safety and Health Administration (OSHA) resources and recommended practices when working under hot conditions.

- Drink water often and do not wait until you are thirsty to drink.
- Avoid alcohol or liquids containing large amounts of sugar.
- Wear and reapply sunscreen as recommended on the package
- Rest and cool down in the shade during breaks

- Gradually increase workload and allow breaks every 30-60 minutes to rest and drink fluids.
- Know symptoms, prevention, and emergency response to prevent heat-related illness and death.
- Check weather forecasts ahead of time to be better prepared.
- Wear a brimmed hat and loose, light-weight, light-colored clothing.
- Encourage co-workers to take breaks to cool off and drink water.
- Use portable electric fans to exhaust hot air from rooms or draw in cooler air.
- Do not direct the flow of portable electric fans toward yourself when room temperature is hotter than 90°F. The dry blowing air will dehydrate you faster, endangering your health.
- Minimize direct exposure to the sun. Sunburn reduces your body's ability to dissipate heat.
- Take a cool bath or shower.
- Do not take salt tablets unless specified by a physician.
- Do not leave valuable electronic equipment, such as cell phones or other electronic items sitting in direct sunlight in vehicles. Store in glovebox or other safe place out of sight.
- Make sure rooms are well vented if you are using volatile chemicals.

Preparing for Hot Weather

- Slow down, reduce, eliminate, or reschedule strenuous activities until the coolest time of the day. Children, seniors, and anyone with health problems should stay in the coolest available areas.
- Wear lightweight and loose fitting clothing.
- Eat light, cool, easy-to-digest foods such as fruits or salads. If you pack food, put it in a cooler or carry an ice pack.
- If you are on a fluid restrictive diet or have a problem with fluid retention, consult a physician before increasing consumption of fluids.
- Use air conditioners or spend time in air-conditioned locations such as identified respite areas.





Heat Watch Vs. Warning

- Excessive Heat Warning—Take Action! Heat Warnings are issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for the Warning is when the maximum heat index temperature is expected to be 105° or higher for at least 2 days; and night time air temperatures will not drop below 75°; however, these criteria vary across the country, especially for areas not used to extreme heat conditions. If you do not take precautions immediately when conditions are extreme, you could become seriously ill or even die.
- Heat Advisory—Take Action! A Heat Advisory is issued within 12 hours of the onset of extremely dangerous heat conditions. The general rule of thumb for this Advisory is when the maximum heat index temperature is expected to be 100° or higher for at least 2 days, and night time air temperatures will not drop below 75°; however, these criteria vary across the country, especially for areas that are not used to dangerous heat conditions. Take precautions to avoid heat illness. If you do not take precautions, you could become seriously ill or even die.
- Excessive Heat Watches—Be Prepared! Heat watches are issued when conditions are favorable for an excessive heat event in the next 24 to 72 hours. A Watch is used when the risk of a heat wave has increased but its occurrence and timing is still uncertain.

Excessive Heat Outlooks are issued when the potential exists for an excessive heat event in the next 3-7 days. An Outlook provides information to those who need considerable lead-time to prepare for the event.

Stay Cool Indoors

Stay indoors and, if at all possible, stay in an air-conditioned place. If your home does not have air conditioning, go to the shopping mall or public library—even a few hours spent in air conditioning can help your body stay cooler when you go back into the heat.

Call your local health department to see if there are any heat-relief shelters in your area. Electric fans may provide comfort, but when the temperature is in the high 90s, fans will not prevent heat-related illness. Use your stove and oven less to maintain a cooler temperature in your home.

If you must go outdoors, protect yourself from the sun by wearing a wide-brimmed hat (also keeps you cooler) along with 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) 30 minutes prior to going out. If you are on a low-salt diet, talk with your doctor before drinking a sports beverage or taking salt tablets.



Recognition of Heat Illness

Heat Cramps

- Involuntary muscle spasms following hard physical work in a hot environment.
- Heavy perspiration.
- Cramping in the abdomen, arms, and calves.

Heat Exhaustion

- Weakness, anxiety, fatigue, dizziness, headache, and nausea.
- Profuse perspiration, rapid pulse, rapid breathing.
- Possible confusion or loss of coordination.
- May lead to heat stroke if not treated.

Heatstroke

(EMERGENCY!! Death is Imminent)

- Diminished or absent perspiration.
- Hot, dry, and flushed skin.
- Increased body temperatures, delirium, convulsions, seizures, possible death.
- Rapid pulse, weakness.
- Headache, mental confusion, dizziness.
- Extreme fatigue.
- Nausea/ Vomiting.
- Incoherent speech progressing to coma.
- Medical care urgently needed.

Treatment and Prevention of Heat Illness

Treatment of heat illness

- Move person out of direct sunlight into air-conditioned environment, if possible.

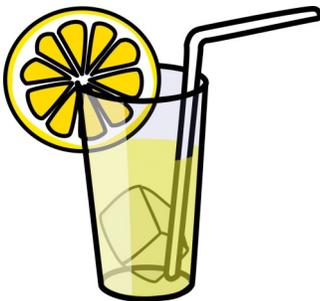
- Remove clothing, maintaining modesty.
- Have them drink water if conscious
- Sprinkle water on them. Fan them if there is no breeze.
- Get medical attention ASAP.

Higher Risk for Heat Illness

- Newly assigned to a job.
- On psychiatric medications and certain other medications.
- Elderly.
- High temperature and humidity conditions.
- No breeze.

Prevention of Heat Illness

- Increase frequency of fluid intake when working in hot environments.
- Take a break every 30-60 minutes.
- Decrease intensity of work under extreme conditions.
- Access to cold water showers.
- Fans are allowed for all offenders.
- Follow preventative measures on heat posters for heat related illness.



Drink Plenty of Fluids

During hot weather you will need to increase your fluid intake, regardless of your activity level. Don't wait until you're thirsty to drink. During heavy work or exercise in a hot environment, drink two to four glasses (16-32 ounce)

es) of cool fluids each hour.

Don't drink liquids that contain alcohol, or large amounts of sugar—these actually cause you to lose more body fluid. Also avoid very cold drinks, because they can cause stomach cramps.

Heavy sweating removes salt and minerals from the body. These are necessary for your body and must be replaced. If you must work or exercise, drink two to four glasses of cool, non-alcoholic fluids each hour. A sports beverage can replace the salt and minerals you lose in sweat.

WATER. REST. SHADE.

The work cannot be done without them.

AD-10.64

The Agency recognizes the very real hazards associated with working within such temperature extremes and has taken proactive measures to protect staff.

So much in fact, that this medical issue has an Administrative Directive devoted to it. AD-10.64 is the Agency's policy addressing temperature extremes in the TDCJ workplace.

AD-10.64 contains the Heat and Humidity Matrix, detailing correlation between outdoor temperature and humidity, as well as preventive steps to take when the apparent or 'feels like' temperature reaches varying levels of severity.

According to the matrix, which is adopted from the National Weather Service, a person can begin to feel the effects of heat exhaustion in tempera-

tures as low as 85° if humidity is at a high level.

Risks for heatstroke begin at temperature of 91°. At 95°, there can be an imminent danger of developing heatstroke.

Keep in mind, the risk factors at the above stated temperatures are aggravated by extremely high humidity levels.

TDCJ and medical staff shall work together to identify offenders susceptible to temperature-related illness due to medical conditions. Medical staff shall provide correctional staff a list of offenders susceptible to temperature-related illness due to medical conditions, including offenders on prescribed diuretics or other medications known to inhibit the dissipation of heat.

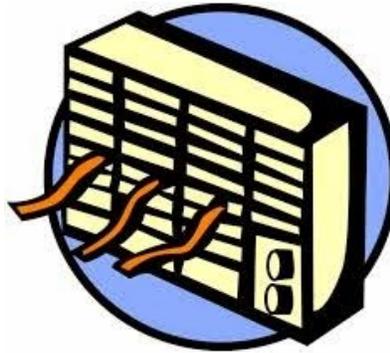
In all cases of temperature-related incidents or injuries:

- The first aid process shall be initiated immediately by correctional or other unit staff.
- Medical staff and the unit risk manager shall be notified immediately. If there is no on-site medical staff, 911 shall be called immediately.
- Ensure maintenance of fans, blowers, and showers in offender housing areas.
- Transport offenders during the coolest hours of the day, when possible.
- Ensure all employees currently have, or are provided with, Treatment and Prevention of Heat/Cold Illness Pocket Cards, obtained through the Prison Store and available at the units, and that the cards are carried on their person while at the unit.

If an injury is sustained in extreme heat conditions, staff shall:

- Immediately begin an attempt to decrease the offender's temperature by placing the offender in a cool area.
- Remove heavy clothing or excess layers of clothing; saturate remaining lightweight clothing with water. Position the offender in the shade, allowing air movement past the offender, and if necessary, fan the offender to create air movement.
- Only force oral fluid intake if the offender is conscious and able to safely swallow.

- Ensure all staff and offenders working in areas of extreme heat such as, field, maintenance, and yard squads are provided frequent water breaks.
- Provide additional water, including ice if available, to employees and offenders in work areas; units shall coordinate with Maintenance and Food Service.



Reporting

In all cases of temperature-related incidents or injuries, the first aid process shall be initiated immediately by a correctional officer or other unit staff. Medical staff and the unit risk manager shall be notified immediately. If there is no on-site medical staff, 911 shall be called immediately. Any temperature-related incident or injury shall be reported to the Emergency Action Center in accordance with AD-02.15, "Operations of the Emergency Action Center and Reporting Procedures for Serious or Unusual Incidents." AD-10.64

Please remember, when reporting incidents, to only address the symptoms and allow the medical personnel to diagnose the issue.

References:

- National Weather Service
⇒ <http://www.nws.noaa.gov>
- TDCJ -EXTREME TEMPERATURE CONDITIONS
⇒ TDCJ-AD10.64

Respite Area

- During the extreme temperature months, offenders will be allowed access to respite areas.
- Ensure employees and offenders are trained, and are compliant with heat precaution procedures to include knowledge of respite area locations and offender access.

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TDCJ Risk Management Department

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