



An Ounce of prevention...

Texas J-RAC Prevention and Education Committee Newsletter

April 2014

The Texas "J" Regional Advisory Council shall encourage and support the development of a comprehensive continuum of quality health care to be provided for all patients in Trauma Service Area "J". The Prevention & Education Committee shall encourage and support J-RAC participants endeavors to fully develop and implement the region wide trauma system in order to reduce the number of trauma incidents, preventable deaths, and reduce the severity of trauma-related disability, and to ensure that all trauma victims receive the best care possible.

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Prepare for extreme heat

Individuals, communities, and businesses can plan for and reduce the effects of extreme heat. Keep yourself and your family cool when the thermometer tops out.

- [Check weather alerts and warnings from the National Weather Service.](#)
- [Prepare for hot weather before it happens](#)
- [Stay healthy during extreme heat](#)

Other preparedness resources

- [National Weather Service: Heat Wave - a major summer killer](#)
- [FEMA: Are you ready? Extreme Heat](#)
- [Tips for Preventing Heat-Related Illness.](#)
- [Helping older adults plan for extreme heat](#)
- [Repair or replace your air conditioner before you need it.](#)
- [Get a kit, make a family plan.](#) (from [ready.gov](#))
- [The Excessive Heat Events Guidebook](#) offers best practices and options to help prepare for heat emergencies.

Communities - adopt development strategies to reduce heat islands and coordinate local efforts:

Urban and suburban areas can be "heat islands," a zone 2-10 degrees F warmer than the surrounding rural countryside. Because they are warmer, heat islands use more energy to keep cool, which raises costs and reduces air quality. Communities can invest in long-term strategies such as:

- Promoting or installing cool or vegetated "green" roofs
- Planting more trees and vegetation
- Switching to cooler paving materials.
- [More information about heat islands and what communities can do](#)

Cities are increasingly starting heat wave response programs that coordinate efforts among local agencies and alert residents. Common examples of "best practices" include:

- Activate telephone heat hotlines
- Alert neighborhood volunteers, family members, and friends
- Provide public air-conditioned buildings and transportation to these facilities
- Work with local "aging agencies" to educate at-risk individuals.
- [Read more about heat wave response programs and examples.](#)

Prepare for extreme heat

Offices, businesses, and other work sites - inform staff how to work safely and take steps to reduce energy demands. Heat-induced occupational illnesses, injuries, and reduced productivity can occur in a hot work environment.

[More information how to prepare ahead for work-related heat stress](#)

Building owners can follow five steps to save energy in summer:

- Measure the energy use of your building(s) and set an energy savings goal.
- Inspect cooling system equipment now and perform monthly maintenance.
- Turn back, or turn off cooling equipment when not needed.
- Get the occupants involved.
- Improve lighting systems.
- [More tools and resources for businesses, hospitals, schools, and others.](#)

During an extreme heat incident

- [Check air quality where you live](#) - hot weather can worsen ozone levels and other types of air quality.
- **CALL 911 in case of heat-related illness - heat stress, heat exhaustion or HEAT STROKE can result in death.**
- **If you lost power: ALERT: Generator exhaust is toxic.** Always put generators outside well away from doors, windows, and vents. Never use a generator inside homes, garages, crawlspaces, sheds, or similar areas. Carbon monoxide (CO) is deadly, can build up quickly, and linger for hours. [More information.](#)

PREVENTION IS THE BEST DEFENSE!

- Stay out of direct sun and wear sunscreen of SPF 15 or higher.
- Be extra careful about sensitive individuals like children, the elderly, or the sick.
- Never ever leave anyone or an animal alone in a car, or a pool or other risky location, not even for "just a few minutes."
- Limit your outdoor activity to morning and evening.
- Spend time in cool places like a shopping mall, a library, or a theater.

Other sites related to extreme heat

- [More about hot weather health emergencies](#) from Centers for Disease Control
- National Weather Service: [Use the temperature and humidity to look up the "heat index"](#)

Remember pets!

- Make sure all animals have plenty of fresh water and are able to move out of direct sunlight.

Also...

- Save energy - reduce your home power use to help reduce brownouts or blackouts and smog/air pollution.
- Turn off nonessential lights, televisions, games, and computers, and unplug chargers.
- [More sun safety action steps.](#)
- [Sunwise Kids.](#)

If the power goes out...

- Be aware of yours and others' risk for heat stroke or other heat-related health illness. Drink plenty of fluids, wear light clothing, and stay indoors. Move to a lower floor or basement if possible. [More help.](#)

[Hot tips for a cool summer.](#) Tips to help you and your family find ways to help reduce pollution and learn about the environment. Doing little things can go a long way to having a cool summer.

Source: <http://www.epa.gov/naturaldisasters/extremeheat.html>

Heat Stroke

Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress. Exposure to extreme heat can result in occupational illnesses and injuries. Heat stress can result in heat stroke, heat exhaustion, heat cramps, or heat rashes. Heat can also increase the risk of injuries in workers as it may result in sweaty palms, fogged-up safety glasses, and dizziness. Burns may also occur as a result of accidental contact with hot surfaces or steam.

Workers at risk of heat stress include outdoor workers and workers in hot environments such as firefighters, bakery workers, farmers, construction workers, miners, boiler room workers, factory workers, and others. Workers at greater risk of heat stress include those who are 65 years of age or older, are overweight, have heart disease or high blood pressure, or take medications that may be affected by extreme heat.

Prevention of heat stress in workers is important. Employers should provide training to workers so they understand what heat stress is, how it affects their health and safety, and how it can be prevented.

Heat Stroke

Heat stroke is the most serious heat-related disorder. 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. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Symptoms

Symptoms of heat stroke include:

- Hot, dry skin or profuse sweating
- Hallucinations
- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech

First Aid

Take the following steps to treat a worker with heat stroke:

- Call 911 and notify their supervisor.
- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
 - ◊ Soaking their clothes with water.
 - ◊ Spraying, sponging, or showering them with water.
 - ◊ Fanning their body.

Heat Exhaustion and Heat Syncope

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms

Symptoms of heat exhaustion include:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

First Aid

Treat a worker suffering from heat exhaustion with the following:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms

Symptoms of heat syncope include:

- Light-headedness
- Dizziness
- Fainting

First Aid

Workers with heat syncope should:

- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.

Heat Cramps and Heat Rash

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms

Muscle pain or spasms usually in the abdomen, arms, or legs.

First Aid

Workers with heat cramps should:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
 - ◇ The worker has heart problems.
 - ◇ The worker is on a low-sodium diet.
 - ◇ The cramps do not subside within one hour.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms

Symptoms of heat rash include:

- 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.

First Aid

Workers experiencing heat rash should:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

Recommendations for Employers and Employees

Recommendations for Employers

Employers should take the following steps to protect workers from heat stress:

- Schedule maintenance and repair jobs in hot areas for cooler months.
- Schedule hot jobs for the cooler part of the day.
- Acclimatize workers by exposing them for progressively longer periods to hot work environments.
- Reduce the physical demands of workers.
- Use relief workers or assign extra workers for physically demanding jobs.
- Provide cool water or liquids to workers.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Provide rest periods with water breaks.
- Provide cool areas for use during break periods.
- Monitor workers who are at risk of heat stress.
- Provide heat stress training that includes information about:
 - Worker risk
 - Prevention
 - Symptoms
 - The importance of monitoring yourself and coworkers for symptoms
 - Treatment
 - Personal protective equipment

Recommendations for Employees

Workers should avoid exposure to extreme heat, sun exposure, and high humidity when possible. When these exposures cannot be avoided, workers should take the following steps to prevent heat stress:

- Wear light-colored, loose-fitting, breathable clothing such as cotton.
- Avoid non-breathing synthetic clothing.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of day.
- Take more breaks in extreme heat and humidity.
- Take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty. Approximately 1 cup every 15-20 minutes.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Monitor your physical condition and that of your coworkers.

One more reason to stop smoking

Studies show that smoking causes reduced blood flow to the extremities, which leads to more heat and cold injuries as the body is unable to cool and warm them, especially fingers and toes. For more information on smoking cessation, visit:

- Quit Tobacco—Make Everyone Proud: <http://www.ucanquit2.org>
- San Antonio Military Medical Center Quitline, 1-877-SAMMC-11. <http://www.sammcquitline.org/>
- American Lung Association, <http://www.lungusa.org/stop-smoking/workplace-wellness/>
- American Cancer Society, <http://www.cancer.org/Healthy/StayAwayfromTobacco/index>
- Become an EX, Online Tobacco Cessation Program, <http://www.becomeanex.org>

Heat Related Injury Education Resources

CDC Resources

- [CDC: Extreme Heat](#)
- [MMWR: Heat-Related Deaths among Crop Workers, 1992-2006](#)
- [OSHA-NIOSH INFOSHEET: Protecting Workers from Heat Illness](#)
- [NIOSH: Criteria for a Recommended Standard: Occupational Exposure to Hot Environments \(Revised Criteria 1986\)](#)
- [Preventing Heat-related Illness or Death of Outdoor Workers](#)

Fatality Assessment and Control Evaluation (FACE) Program

- [Landscape Mowing Assistant Dies from Heat Stroke](#)
- [Migrant Farm Worker Dies from Heat Stroke While Working on a Tobacco Farm — North Carolina](#)
- [Fire Fighter Dies of Heat Stroke While Making a Fire Line During a Wildland Fire in California](#)
- [Construction Laborer Dies from Heat Stroke at End of Workday](#)

Additional reports can be found by searching for "heat stress" on [FACE](#).

Other Government Resources

- [Mine Safety & Health Administration \(MSHA\): Heat Stress - What to Do.](#)
- [National Oceanic & Atmospheric Administration's \(NOAA\) National Weather Service: Heat Index](#)
- [NOAA: Heat Wave - A Major Summer Killer Mine Safety & Health Administration \(MSHA\): Heat Stress - What to Do.](#)
- [Occupational Safety and Health Administration \(OSHA\) Safety and Health Topics: Heat Stress](#)
- [OSHA Technical Manual Section III: Chapter 4 - Heat Stress](#)
- [OSHA Sawmills eTool: Heat Stresses](#)
- [OSHA Quick Card: Heat Stress](#)
- [OSHA Fact Sheet: Protecting Workers from Effects of Heat \[](#)
- [OSHA Fact Sheet: Working Outdoors in Warm Climates](#)
- [United States Department of Agriculture \(USDA\): Wildland Fire Safety - Heat Stress.](#)

Additional Resources

- [American Conference of Governmental Industrial Hygienists: Product Store - Threshold Limit Values and Biological Exposure Indices](#)
- [American National Standards Institute \(ANSI\) - Ergonomics of the Thermal Environment: Analytical Determination and Interpretation of Heat Stress Using Calculation of the Predicted Heat Strain](#)
- [ANSI - Ergonomics of the Thermal Environment: Medical Supervision of Individuals Exposed to Extreme Hot or Cold Environments](#)
- [ANSI - Hot environments: Estimation of the Heat Stress on Working Man, Based on the WBGT-index \(Wet Bulb Globe Temperature\)](#)

National Ag Safety Database

- [NASD: Keep Cool](#)
- [NASD: Dangers of Heat Stress \(En Español\)](#)
- [NASD: Heat Stress. \(En Español\)](#)
- [Texas Cooperative Extension: Coping with Hot Work Environments \(En Español\)](#)