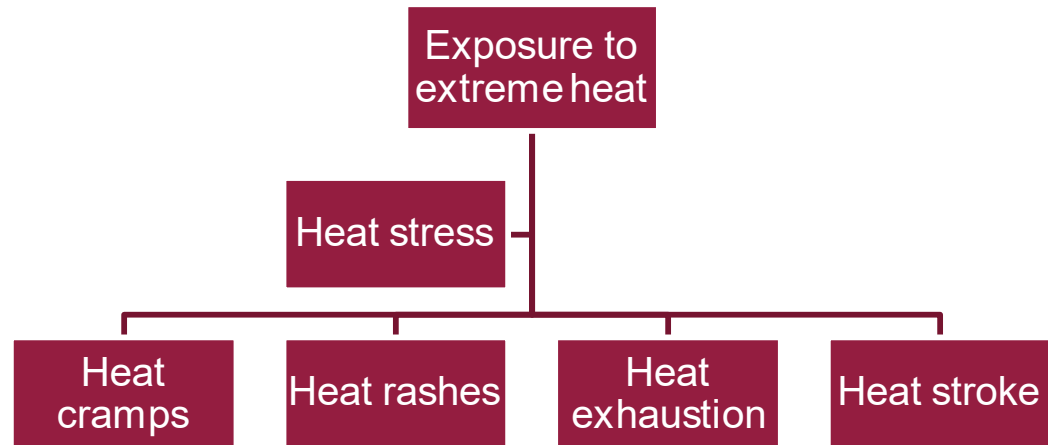


Heat stress: preventing heat-related injuries

Heat stress

- Heat stress can result in heat cramps, heat rashes, heat exhaustion or heat stroke.
- Heat stress occurs when exposure to extreme heat results in illnesses and injuries.
- Workers who are exposed to extreme heat or work in hot environments may be at risk of heat stress.



Heat exhaustion: signs and symptoms

Know the symptoms of heat exhaustion. Individuals experiencing heat exhaustion may exhibit:

- Decreased and dark-colored urine.
- Headaches, dizziness or light-headedness.
- Nausea, vomiting or fainting.
- Pale or clammy skin.
- Weakness, mood changes, irritability or confusion.



Heat exhaustion: first aid

If left untreated, heat exhaustion can lead to heatstroke, which is a life-threatening condition. If you suspect heat exhaustion, take these steps **immediately**:

1. Move the person to a cool, shaded area. **Do not** leave them unattended.
2. If dizzy or light-headed, lay the person on their back and elevate their legs six to eight inches from the ground.
3. If the person experiences nausea, lay the victim on their left side.
4. Loosen and remove heavy clothing.
5. Have the person drink a small cup of cool water every 15 minutes if able.
6. Cool the person by fanning. Spray the person with mist of cool water or use a damp cloth to sponge them.
7. Monitor the person carefully.
8. Call 911 if the person's condition does not improve.

Heat stroke: signs and symptoms

Heat stroke is the most serious heat-related illness and occurs when the body becomes unable to control its temperature. Heat stroke is a life-threatening condition. If left untreated, heat stroke can cause death or permanent disability.

Individuals experiencing heat stroke may exhibit:

- Dry, pale skin – sweating may still be present.
- Hot, red skin resembling a sunburn.
- Mood changes, irritability or confusion.
- Seizures, fits or collapse.
- Slurred or illegible speech.



Heat stroke: first aid

If you suspect heat stroke, take these steps **immediately**:

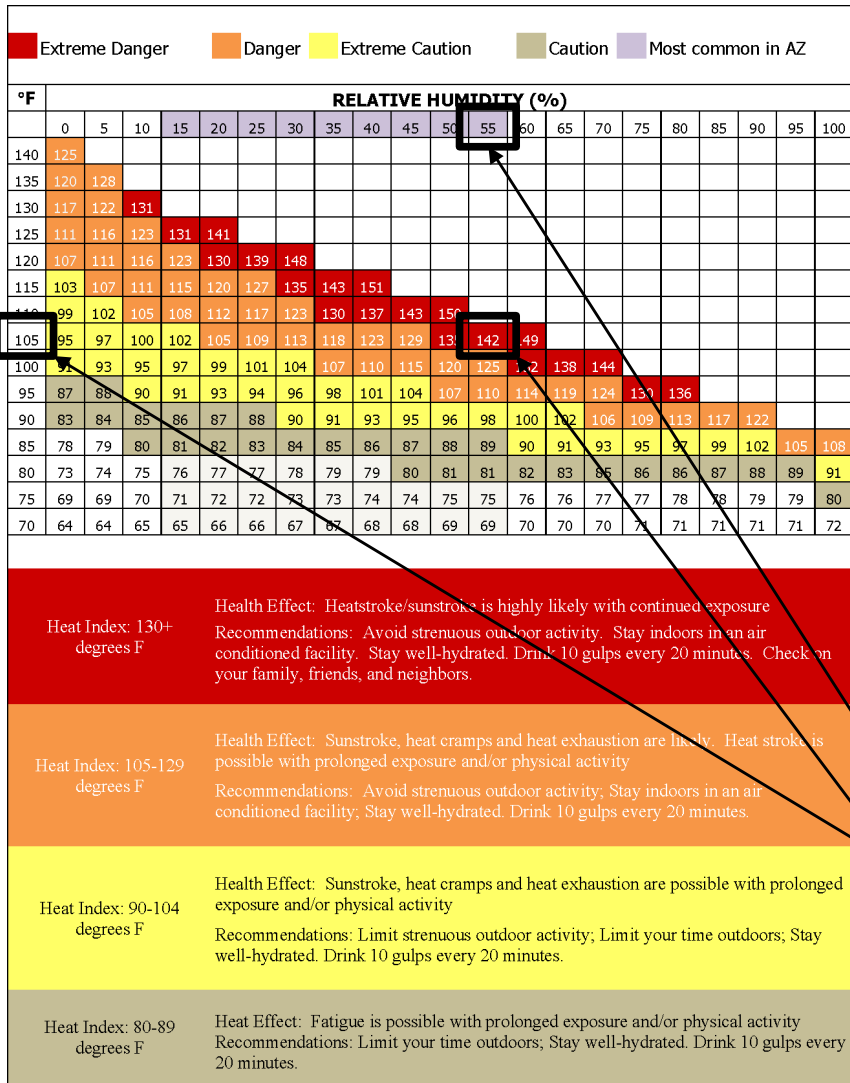
1. **Call 911**
2. Move the person to a cool and shaded area.
3. Do not leave the person unattended.
4. Lay the person on their back.
5. Remove heavy and outer clothing.
6. If the person experiences nausea, lay them on their left side.
7. If the person is not experiencing nausea, give small amounts of cool water.
8. If the person experiences a seizure, remove objects close to them.
9. Cool the person by fanning them.
10. Cool the skin with a cool spray mist of water, wet cloth or wet sheet.
11. If ice is available, place ice packs in their armpits and groin area.

Preventing heat-related injuries at work

When temperatures are high and the job involves physical work:

- Be aware of heat-related illness symptoms.
- Block out direct sun or other heat sources.
- Drink plenty of fluids to stay hydrated.
- Monitor yourself and fellow co-workers.
- Use cooling fans and air-conditioning; rest regularly.





Heat index chart

- On a hot, humid day, less evaporation of sweat occurs and the body's ability to cool itself is diminished.
- Use a Heat Index Chart with health effects and safety recommendations to measure how hot it really feels when relative humidity is factored in with the actual air temperature.

Example:

Actual temperature - 105 °F

Relative humidity – 55 percent

Feels like - 142 °F

Heat-related injuries are preventable.

When temperatures are elevated:



- Avoid beverages containing alcohol or caffeine.
- Avoid heavy meals.
- Consume plenty of fluids .
- Drink often and **before** you are thirsty.
- Drink one cup of water every 15 minutes.
- Wear lightweight and loose-fitting clothing.

Rehydrating: water vs. sports drinks

Fluid losses are accentuated in warmer climates. For simple rehydration, water is the best beverage. However, on hot days and during strenuous activity, electrolytes in the body are lost and need to be replenished. Sports drinks, when used in conjunction with water, often help replenish lost electrolytes and prevent dehydration.

Water

- Aids in blood circulation, food digestion and maintenance of body temperature.
- Easily absorbed by the body.
- Prevents dehydration.

Sports drinks

- Contain electrolytes.
- Help replenish electrolytes lost through sweating.

Rehydration: returning fluids to the body



Image source: healthgoesup.com/articles/12710/1/water-better-sports-drinks-1.html

It is recommended to dilute sports drinks 50 percent with water.

What about energy drinks?

- Energy drinks are **not** recommended as a source or rehydration.
- Energy drinks contain about three times the amount of caffeine as sodas.



Image source: [nccih.nih.gov/health/energy-drinks](https://www.nccih.nih.gov/health/energy-drinks)

Questions?

Contact ASU Environmental Health and Safety at asuehs@asu.edu or call 480-965-1823

