

Heat-Related Injury

Definition and Symptoms:

- A heat-related injury (HRI) is a potentially fatal condition caused by elevated body temperatures from internal heat produced by activity or external environmental heat added to the body that cannot be removed to maintain a normal body temperature.
- Symptoms of an HRI may be difficult to recognize and may occur in no particular order. If an individual shows any of the symptoms below they should seek medical attention.
 - Profuse sweating with warm or cool, clammy skin leading to hot, dry skin
 - Muscle cramps and weakness
 - Dizziness, headache, and irritability
 - Rapid, weak pulse
 - Vomiting
 - Mental status change, as simple as not talking as much
 - Loss of consciousness

Steps to take if an HRI is suspected:

- Cool the body as quickly as possible, then treat other conditions.
 - Cooling levels will depend on severity

- Recovery of high body temperature requires:
 - Reduction of work output
 - Removal from sources of heat
 - Proper nutrition and hydration strategies

Considerations for mitigation during firefighting:

- Heat stress mitigations are not just a shift-to-shift concept. It is also task-to-task and even a minute-to-minute process.
- Ability to handle heat is different between individuals and varies on a daily basis.
- Performing physical tasks, such as hiking up hills, is our largest producer of body heat.
 - Hikes into a fire typically raise your body temperature 1–2 ° F from your pre-hike level.
- At elevated body temperatures, risk of HRI has a lesser margin of error.
- Maintain low skin temperature when possible, as it allows heat transfer from the body.
- Pack weights exceeding 25% of body weight add to the demand of an activity.
- Work expectations above physical fitness levels can increase risk of an HRI.