# Heat Illness Chart

## Heat Illnesses and Their Symptoms

<table>
<thead>
<tr>
<th>Medical Condition</th>
<th>Symptom(s)</th>
<th>Causes</th>
<th>Safety Tips</th>
</tr>
</thead>
</table>
| **Heat rash**     | • Red cluster of pimples  
                  • Blisters  
                  • Itching  
                  • Red rash on the skin that usually occur on the neck, chest, breast and/or groin | • Blockage of sweat ducts | • Remove the affected person from heat. Minimize exposure of skin to sun. Keep the affected area dry. Seek medical attention if rash does not improve. |
| **Heat edema**    | • Swelling in the ankles, feet and hands  
                  • Body temperature normal or elevated core temperature up to 104° F | • Occurs in persons who are not acclimatized to heat  
                  • Increased blood flow to the skin in limbs | • Elevate and apply compressive stockings to the affected limbs. |
| **Heat tetany**   | • Respiratory problems, such as breathing difficulty  
                  • Muscular problems, including spasms or numbness or tingling of muscles  
                  • Body temperature normal or elevated core temperature up to 104° F | • Hyperventilation  
                  • Respiratory alkalosis | • Remove the affected person from the heat and advise the person to breathe slowly. |
| **Heat cramps**   | • Muscle spasms  
                  • Muscles usually affected include the abdomen, calf, thighs and shoulder muscles  
                  • Body temperature normal or elevated core temperature up to 104° F | • Drinking liquid without electrolytes  
                  • Dehydration  
                  • Electrolyte deficiency | • Stop all activities, relocate to a cool location, rest and drink electrolyte containing fluids. Seek medical attention if symptoms persist. |
| **Heat syncope**  | • Dizziness  
                  • Fainting  
                  • Body temperature normal or elevated core temperature up to 104° F | • Increased blood flow to the skin resulting in decreased blood flow to the central nervous system | • Lay the affected person gently on the floor and provide lots of fluid. Seek medical attention. |
<table>
<thead>
<tr>
<th>Heat exhaustion</th>
<th>Heat stroke</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Profuse sweating</td>
<td></td>
</tr>
<tr>
<td>• Weakness</td>
<td></td>
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<tr>
<td>• Rapid breathing</td>
<td></td>
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<tr>
<td>• Dizziness</td>
<td></td>
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<tr>
<td>• Nausea/vomiting</td>
<td></td>
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<tr>
<td>• Muscle cramps</td>
<td></td>
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<td>• Normal mentation</td>
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<td>• Stop all activities, relocate to a cool location, rest and drink electrolyte containing fluids.</td>
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<tr>
<td>• It can be difficult to determine if someone has heat stroke and not exhaustion.</td>
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<tr>
<td>• If symptoms do not quickly improve, or unable to oral rehydrate, seek medical attention.</td>
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</tbody>
</table>

**Heat stroke**

*This is a life threatening, adverse effect of exposure to extreme heat, usually occurring when the body temperature is greater than 104°F.*

- Oral body temperature of 104°F and above
- Often sudden onset of symptoms
- Confusion or loss of consciousness
- Rapid and strong pulse
- Hot, red and dry skin
- Headache
- Dizziness
- Nausea/vomiting
- Profound dehydration
- Profound electrolyte deficiency
- Body is unable to maintain heat diffusion through the skin
- Normal regulation of body temperature is no longer intact
- Mortality can be as high as 50%
- Call 911 immediately if you see anyone with these symptoms and has a body temperature of 104°F and above.
- While waiting for first responders, the affected person should be taken to a cool shady area.
- Cool the person with immersion in cool water, spraying the person with cool water while fanning the person vigorously, or placing ice packs on neck, axilla, and groin.
- The person is unlikely to be able tolerate oral fluids.


Chart courtesy of Minnesota Department of Health: [http://www.health.state.mn.us/divs/climatechange/docs/toolkit_chapter2.pdf](http://www.health.state.mn.us/divs/climatechange/docs/toolkit_chapter2.pdf)