

Recognition and management of Heat Stroke /Exhaustion

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Heat stroke occurs because of a failure to dissipate heat from the body resulting in hyperthermia while **heat exhaustion** occurs because of electrolyte and fluid loss due to excess perspiration. This can occur when there is prolonged exposure to heat which results in increased sweating and subsequent loss of fluids and electrolytes such as sodium, chloride and potassium, or the body is unable to dissipate heat buildup due to lack of sweating. If the heat exposure occurs in areas of the country that have high humidity, the situation is compounded, as there is less evaporation and thus less cooling. While the body is usually able to regulate the amount of fluid loss and heat buildup, in the elderly and very young this regulatory mechanism is compromised, resulting in a greater chance of developing heat exhaustion or stroke. It is further compounded by the use of diuretics such as caffeine; prescription drugs or alcohol that act to eliminate more fluid than is taken in.

The onset of both of these conditions often goes unnoticed by the person being affected until it is too late, in part because the thirst mechanism is not always a reliable indicator of fluid loss or the onset occurs rapidly as is often seen with heat stroke. Additionally, each individual will be affected somewhat differently and the classic symptoms may not be fully present. The first symptoms may be confusion and fatigue which comes and goes, and are followed later by longer periods of confusion, disorientation, agitation, loss of memory, violent and erratic behavior and eventual collapse. The person's pulse may be rapid, respirations shallow and pupils constricted. There may be little perspiration and the skin will be hot and dry. If allowed to continue, the ultimate course is kidney and heart failure.

It is important that the person receive prompt medical attention, as heat stroke can progress rapidly, resulting in dehydration, shock and death.

Heat Stroke

Heat Exhaustion

Warning Signs:

Headache, weakness, mental confusion, sudden loss of consciousness.

Gradual weakness, nausea, anxiety, excess sweating, dizziness.

Appearance:

Hot, red, dry skin, little

Pale, grayish, clammy skin,

perspiration, hard rapid pulse, weak, slow pulse, decreased
very high temperature. blood pressure.

Management: Rapid cooling and/or transport
to the Emergency Room or
call 911.

Fluid and salt/electrolyte
replacement, cooling,
treatment of dizziness.

Grave prognosis if core
temperature is greater than
106°F. Transport to ER is
urgent.

Differentiate from insulin
shock, poisoning, blood loss,
prognosis good unless there
circulatory collapse.

is

Prevention of both of these conditions is important because of the complications that can occur once they have manifested.

1. Make sure that if you are working outside, it is done in the early or late evening hours when it is cooler. If not possible, drink plenty of fluids and take frequent rest periods in the shade.
2. Do not consume alcohol, coffee, black or green tea or any other diuretics during this time.
3. Drink at least 1 – 8 oz glass of water every ½ hour if working out of doors. To this can be added a packet of Energy Formula, Emergen C or any over-the-counter electrolyte supplement. If these are not available, a pinch of sea salt and a ½ tsp of lemon will suffice. Do not consume drinks that are high in sugars such as corn syrup as they tend to enter your system at a slower rate and therefore not provide adequate hydration.
4. Let someone know that you will be working in the heat and ask them to check on you periodically.
5. Consider having some intravenous (IV) fluid replacement if your heat exposure is prolonged or occurs for several days in a row. Even if you do not have any of the signs and symptoms of heat exhaustion, an IV treatment can help prevent it.
6. Salt at least one meal per day to taste. In other words, add extra salt. This is especially needed the older we get because our ability to retain salt becomes compromised and it becomes harder to do so.
7. Wear loose clothing that will dissipate heat and perspiration. If you do not normally sweat a lot, take frequent breaks to cool down. You can also rinse off in

- cold water or take a quick dip in the pool.
8. Wear a hat to decrease sun exposure on the head and face. One that has adequate ventilation allows heat to dissipate.
 9. Just stay out of the heat and sun if you do not need to be there.

Home management for those with symptoms of heat stroke is not recommended. Transport to the nearest emergency room or your physicians' office if an ER isn't available is a must. Treatment is a rapid cooling by wrapping in a cold wet sheet or emersion in a cold bath. Rubbing alcohol may also be used to cool the person down. Frequently check the temperature orally.

Heat exhaustion can be managed by IV fluid replacement, electrolyte drinks, as well as a number of homeopathic medicines. A physician should evaluate the person especially if they are very young, elderly, or have an existing medical condition such as diabetes, heart or kidney disease or hypertension.

Early recognition and awareness of heat stroke and exhaustion are critical in keeping them from occurring.