

The theme this month is Heat Stress

Summer has officially kicked off with a BANG. So far in 2022 we have seen record breaking temperatures across the globe and those temperatures are predicted to carry on through the rest of this summer. As such, it is extremely important to focus on heat related illnesses.

Heat illness is 100% avoidable. In order to avoid heat illness, it is essential that we monitor our own intake of fluids, ensure we are eating healthy balanced meals, trigger on the signs and symptoms of pre-heat illness (in ourselves and in those around us) and take the precautionary measures. It is imperative that we all look out for each other and do not ignore potential signs or symptoms of heat related illnesses in ourselves or those around us.

There are several different categories of heat-related illnesses to look out for. It is imperative that we are able to identify which type of heat related illness you, a family member, or a coworker may be experiencing.



Heat fatigue

- Often caused by a lack of acclimatization. A program of acclimatization and training for work in hot environments is advisable.
- The signs and symptoms of heat fatigue include impaired performance of skilled manual, mental, or vigilance jobs. There is no treatment for heat fatigue except to remove the heat stress before a more serious heat-related condition develops

Heat Rashes

- The most common problem in hot work environments where the skin is persistently wetted by unevaporated sweat. Prickly heat is manifested as red papules and usually appears in areas where the clothing is restrictive. As sweating increases, these papules give rise to a prickling sensation. Heat rash papules may become infected if they are not treated.
- In most cases, heat rashes will disappear when the affected individual returns to a cool environment.


Heat Cramps

- Usually caused by performing hard physical labor in a hot environment. These cramps have been attributed to an electrolyte imbalance caused by sweating.
- Cramps appear to be caused by the lack of water replenishment. Because sweat is a hypotonic solution ($\pm 0.3\%$ NaCl), excess salt can build up in the body if the water lost through sweating is not replaced. Thirst cannot be relied on as a guide to the need for water; instead, water must be taken every 15 to 20 minutes in hot environments.
- Under extreme conditions, such as working for 6 to 8 hours in heavy protective gear, a loss of sodium may occur. Recent studies have shown that drinking commercially available carbohydrate-electrolyte replacement liquids is effective in minimizing physiological disturbances during recovery.

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Heat Exhaustion

- Signs and symptoms are headache, nausea, vertigo, weakness, thirst, and giddiness.
- Fortunately, this condition responds readily to prompt treatment. Heat exhaustion should not be dismissed lightly. Fainting or heat collapse which is often associated with heat exhaustion. In heat collapse, the brain does not receive enough oxygen because blood pools in the extremities. As a result, the exposed individual may lose consciousness. This reaction is similar to that of heat exhaustion and does not affect the body's heat balance. However, the onset of heat collapse is rapid and unpredictable and can be dangerous especially if workers are operating machinery or controlling an operation that should not be left unattended; moreover, the victim may be injured when he or she faints.
- Also, the signs and symptoms seen in heat exhaustion are similar to those of heat stroke, a medical emergency.
- Workers suffering from heat exhaustion should be removed from the hot environment and given fluid replacement. They should also be encouraged to get adequate rest and when possible ice packs should be applied.

HEAT EXHAUSTION	OR	HEAT STROKE
Faint or dizzy		Throbbing headache
Excessive sweating		No sweating
Cool, pale, clammy skin		Body temperature above 103° Red, hot, dry skin
Nausea or vomiting		Nausea or vomiting
Rapid, weak pulse		Rapid, strong pulse
Muscle cramps		May lose consciousness
<ul style="list-style-type: none"> • Get to a cooler, air conditioned place • Drink water if fully conscious • Take a cool shower or use cold compresses 		<p>CALL 9-1-1</p> <ul style="list-style-type: none"> • Take immediate action to cool the person until help arrives
Weather.gov/socialmedia Weather.gov/heat		@SacramentoOES SacramentoReady.org

Heat Stroke

- The most serious heat related disorder and occurs when the body's temperature regulation fails and body temperature rises to critical levels. The condition is caused by a combination of highly variable factors, and its occurrence is difficult to predict. **Heat stroke is a medical emergency** that may result in death.
- The primary signs and symptoms of heat stroke are confusion; irrational behavior; loss of consciousness; convulsions; a lack of sweating (usually); hot, dry skin; and an abnormally high body temperature, e.g., a rectal temperature of 41°C (105.8°F). The elevated metabolic temperatures caused by a combination of work load and environmental heat, both of which contribute to heat stroke, are also highly variable and difficult to predict.
- If a worker shows signs of possible heat stroke, professional medical treatment should be obtained immediately. The worker should be placed in a shady, cool area and the outer clothing should be removed. The worker's skin should be wetted and air movement around the worker should be increased to improve evaporative cooling until professional methods of cooling are initiated and the seriousness of the condition can be assessed. Fluids should be replaced as soon as possible. The medical outcome of an episode of heat stroke depends on the victim's physical fitness and the timing and effectiveness of first aid treatment
- Regardless of the worker's protests, no employee suspected of being ill from heat stroke should be sent home or left unattended unless a physician has specifically approved such an order.

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The best tool we have to prevent heat injuries is our brain! If we are proactive and take the right steps, we can avoid putting ourselves, our family, friends, or coworkers in the line of fire of a heat related illness. A few tools we can use to help set us up for success are:

- Acclimatizing to the environment by exposing them to work in a hot environment for progressively longer periods. NIOSH suggests that workers who have had previous experience in jobs where heat levels are high enough to produce heat stress may acclimatize with a regimen of 50% exposure on day one, 60% on day two, 80% on day three, and 100% on day four. For new workers who will be similarly exposed, the regimen should be 20% on day one, with a 20% increase in exposure each additional day.
- Replace fluids, reduce physical demands in high heat work areas, alter work schedules to take advantage of the cooler times of the day, provide recovery areas and monitor your own physical state and the physical state of those around you.