Heat Stress Safety Talk

WHAT'S AT STAKE?

Heat stress includes a series of conditions where the body is under stress from overheating. Heat-related illnesses include heat cramps, heat exhaustion, heat rash, or heat stroke, each with its own symptoms and treatments. Symptoms can range from profuse sweating to dizziness, cessation of sweating, and collapse

WHAT'S THE DANGER?

The main heat related illnesses are heat rash, heat stroke, heat exhaustion, and heat cramps.

Heat Rash. Heat rash is generally misunderstood to be an affliction for babies, but heat rash can affect adults, too, especially during hot, humid weather. Heat rash develops when blocked pores, or sweat ducts, trap perspiration under your skin.

Heat Cramps. Heat cramps are painful, brief muscle cramps where the muscles may spasm or jerk involuntarily. These cramps can begin during the activity in the heat, or may start several hours later. Muscles that are most susceptible to heat cramps are those that are usually fatigued by heavy work such as calves, thighs and shoulders.

Heat Exhaustion. Heat exhaustion is a result of your body overheating and can cause heavy sweating, rapid pulse, dizziness and low blood pressure upon standing. Causes of heat exhaustion include exposure to high temperatures, particularly when combined with high humidity and vigorous physical activity.

Heat Stroke. Heat stroke is the most serious form of heat injury and can occur if your body temperature rises to 104 Fahrenheit or higher. Heat stroke requires emergency treatment, and if left untreated, can quickly damage the brain, heart, kidneys and muscles. Damage to internal organs worsens the longer treatment is delayed, increasing your risk of serious complications or death.

Causes of Heat-Related illnesses

Dehydration – to keep healthy, our body temperature needs to stay around 37°C. The body cools itself by sweating, which normally accounts for 70 to 80 per cent of the body's heat loss. If a person becomes dehydrated, they don't sweat as much and their body temperature keeps rising. Dehydration may happen after strenuous exercise (especially in hot weather), severe diarrhea or vomiting, drinking too much alcohol, taking certain medications (for example, diuretics) and not drinking enough water.

Lack of airflow – working in hot, poorly ventilated or confined areas.

Sun exposure – especially on hot days, between 11am and 3pm.

Hot and crowded conditions – people attending large events (concerts, dance parties or sporting events) in hot or crowded conditions may also experience heat stress that can result in illness.

Bushfires – exposure to radiant heat from bushfires can cause rapid dehydration and heat-related illness. Bushfires usually occur when the temperature is high, which adds to the risk.

Some drugs, such as ecstasy and speed, also raise the body's temperature, which can lead to heat stress.

As your body's temperature rises, it releases heat in several ways: transfer from skin to air, evaporation by perspiration, exhaling hot air or touching a cool object. Drinking water, taking occasional breaks out of the heat, and slowing down are all necessary steps to preventing heat-stress. However, failing to see the signs and taking preventative measures could put you at risk to many hazards.

HOW TO PROTECT YOURSELF

REMOVE OR REDUCE THE SOURCES OF HEAT WHERE POSSIBLE:

- **Control the temperature** using engineering solutions, eg change the processes, use fans or air conditioning, and use physical barriers that reduce exposure to radiant heat.
- **Provide mechanical aids** where possible to reduce the work rate.
- **Regulate the length of exposure to hot environments by:**
- allowing workers to enter only when the temperature is below a set level or at cooler times of the day;
- issuing permits to work that specify how long your workers should work in situations where there is a risk;
- Providing periodic rest breaks and rest facilities in cooler conditions.
- **Prevent dehydration.** Working in a hot environment causes sweating which helps keep people cool but means losing vital water that must be replaced. Provide cool water in the workplace and encourage workers to drink it frequently in small amounts before, during (where possible) and after working.
- **Provide personal protective equipment.** Specialized personal protective clothing is available which can incorporate personal cooling systems or breathable fabrics. The use of some protective clothing or respiratory protective equipment may increase the risk of heat stress.
- **Provide training** for your workers, especially new and young employees, telling them about the risks of heat stress associated with their work, what symptoms to look out for, safe working practices and emergency procedures.
- **Allow workers to acclimatize** to their environment and identify which workers are acclimatized or assessed as fit to work in hot conditions.
- **Identify employees who are more susceptible** to heat stress because of an illness, condition or medication that may contribute to the early onset of heat stress, eg pregnant women or those with heart conditions. You may need advice from an occupational health professional.
- **Monitor the health of workers at risk.** Where a residual risk remains after implementing as many control measures as practicable, you may need to monitor the health of workers exposed to the risk. You should then seek advice from an occupational health professional.

WORKER PREVENTION

- Learn to recognize the symptoms of heat stress. Pace the work, taking adequate rest periods (in shade or cooler environment).
- Use adequate fans for ventilation and cooling, especially when wearing personal protective equipment (PPE).
- Wear light-colored, loose clothing (unless working around equipment with moving parts).
- Keep shaded from direct heat where possible (e.g., wear a hat in direct sunshine).
- Drink plenty of water: in hot environments the body requires more water.

TREATMENT

Heat Rash

- Heat rash will usually clear on its own by cooling the skin and avoiding exposure to the heat that caused it. If symptoms such as increased pain, swelling, redness, or warmth extend for longer than a few days reach out to a doctor for specialized treatment.

Heat Cramps

- To treat heat cramps, begin with rest and a sports drink that includes electrolytes and salt or drink cool water. You can make your own salt solution by mixing a quarter to a half teaspoon of salt into a quart of water.

Usually, heat cramps will dissipate on their own, but if you begin to see conditions worsen and the patient becomes dizzy, nauseous, experiences shortness of breath and a fast heartbeat, you should see a doctor. Heat cramps often accompany a more serious heat-related illness: heat exhaustion.

Heat Exhaustion

- If you see someone who might be experiencing heat exhaustion, instruct them to halt all activity and rest, move to a cooler place and drink cool water or a sports drink.

A doctor should be contacted if signs and symptoms worsen or if they don’t improve within one hour. A patient will need immediate cooling and urgent medical attention if their core body temperature reaches 104 Fahrenheit or higher. Those who exhibit confusion, agitation, loses consciousness or is unable to drink must also be taken to see a medical professional as soon as possible.

Heat Stroke

- Someone who is suffering from a heat stroke must take immediate action to cool down their body while waiting for emergency treatment. To do this, move to shade or indoors, remove excess clothing and cool with whatever means available (put in a cool tub of water or a cool shower, spray with a garden hose, sponge with cool water, fan while misting with cool water, or place ice packs or cold, wet towels on the person’s head, neck, armpits and groin).

FINAL WORD

Every minute’s delay in cooling a person with heatstroke increases the likelihood of permanent injury or death. Apply first aid and seek medical assistance immediately if

you, or someone you are with, shows any sign of heat exhaustion or heatstroke.