Heat Stress Safety Meeting Kit



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

Heat stress occurs when body temperature increases faster than heat can be removed. Body temperature can increase due to two sources: heat from activity and heat from the environment. Heat from activity is the amount of heat generated by the worker due to the amount of physical exertion they are extending due to their workload. Heat from the environment is the amount of heat gained due to radiant heat or lack of air movement. **Heat-Related Illnesses include:**

Heat Cramps: Are painful, brief muscle cramps. Muscles may spasm or jerk involuntarily. Heat cramps can occur during exercise or work in a hot environment or begin a few hours later.

Heat Exhaustion: There are two types of heat exhaustion. 1. Water depletion- Signs include excessive thirst, weakness, headache, and loss of consciousness. 2. Salt depletion- Signs include nausea and vomiting, muscle cramps, and dizziness.

Heat Stroke: Heat stroke is the most serious heat-related illness. Heat stroke can kill or cause damage to the brain and other internal organs. Heat stroke results from prolonged exposure to high temperatures.

EFFECTS OF HEAT STRESS

Typical symptoms

- an inability to concentrate;
- muscle cramps;
- heat rash;
- severe thirst – a late symptom of heat stress;

- fainting;
- heat exhaustion – fatigue, giddiness, nausea, headache, moist skin;
- heat stroke – hot dry skin, confusion, convulsions and eventual loss of consciousness. This is the most severe disorder and can result in death if not detected at an early stage.

Causes of Heat-Related illnesses

Dehydration – to keep healthy, our body temperature needs to stay around 37°C/98.6°F. 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.

HOW TO PROTECT YOURSELF

- 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 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.
- Train workers to recognize signs and symptoms of heat stress disorders and be prepared to give first aid if necessary.
- Choose appropriate employees: Avoid placing "high risk" employees in hot work environments for extended time periods. Realize individual employees vary in their tolerance to heat stress conditions.

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.

FINAL WORD

Take heat stress seriously. Know the signs and symptoms of heat stress. Have a plan to get the proper medical attention for any individual displaying symptoms of heat stress. Dealing with heat stroke especially, it may mean the difference between life and death.