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Job Safety and Environmental Analysis
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TOOLBOX TALK

Working in hot conditions

Heat stress and heat-related illnesses are serious they can cause serious health issues and even death.

Heat stress can be caused by physical exertion outdoors in hot weather or working in hot, cramped work areas that have inadequate ventilation.

Working in heat can be hazardous and can cause harm to workers. The human body needs to maintain a body temperature of approximately 37 degrees Celsius. If the body has to work too hard to keep cool or starts to overheat a worker begins to suffer from heat-related illness.

Heat illness occurs when the body cannot sufficiently cool itself. You absorb more heat from your environment than you can get rid of through perspiration or other cooling mechanisms. Factors that contribute to this include:
• amount of air movement
• clothing
• humidity
• physical activity (metabolic heat load)
• radiant temperature of surroundings
• temperature.

Effects of heat stress on workers

- **Dehydration**
  - Increased sweating can lead to dehydration if workers aren't drinking enough water.
- **Heat rash**
  - Skin can become irritated and cause discomfort when working in heat.
- **Heat cramps**
  - Muscles can cramp as a result of heavy sweating without replacing salt and electrolytes.
- **Reduced concentration**
  - When working in heat it is more difficult to concentrate and a worker may become confused. This means workers may be more likely to make mistakes
  - A NASA study concluded that when the temperature is 35°C for an extended period, people can make 60 mistakes per hour – without realising it.
- **Heat exhaustion**
  - Occurs when the body is working too hard to stay cool
- **Heat stroke**
  - Occurs when the body can no longer cool itself. This can be fatal.
- **Faintin**g
  - Can occur when workers stand or rise from a sitting position
- **Burns**
  - Can occur if a worker comes into contact with hot surfaces or tools.
- **Slips**
  - A worker will sweat more in hot conditions which can increase the risk of slips - for example, a worker might slip when using tools if their hands are damp.
- **Increased chemical uptake into the body**
  - Heat can cause the body to absorb chemicals differently and can increase the side effects of some medications.

Recognising the symptoms

Dehydration – Seek medical advice if symptoms don't improve or are severe

Symptoms	First aid for dehydration
• Mild to severe thirst (remember that thirst is satisfied before fluid loss is fully replaced). • Dry lips and tongue. • Slowed mental function and lowered performance. • Reduced or dark urine output.	• Drink water. Avoid caffeinated, carbonated and alcoholic drinks, and salt tablets. • Loosen tight clothing and remove unnecessary clothing, including PPE. • In cases of extreme heat or dehydration, replace electrolytes.

Heat rash – Seek medical advice if symptoms don't improve

Symptoms	First aid for heat rash
• Itchy rash with small raised red spots on the face, neck, back, chest or thighs.	• Move to a cooler, less humid environment. • Keep the affected area dry and remove unnecessary clothing, including PPE. • Apply a cold compress.

Heat cramps – Seek medical advice if symptoms don't improve

Symptoms	First aid for heat cramps
• Painful and often incapacitating cramps in muscles, particularly when undertaking demanding physical work.	• Stop activity and rest quietly in a cool place until recovered. • Drink an electrolyte solution.

Fainting – Seek medical advice

Symptoms	First aid for fainting
• Fainting (heat syncope) can occur while standing or rising from a sitting position.	• Lie the worker flat immediately with their legs slightly raised. • Do not raise the head. • Treat as for heat exhaustion.

Heat exhaustion – Call an ambulance immediately

Symptoms (not all will be present)	First aid for heat exhaustion
• Dehydration, thirst, and reduced or dark urine output. • Sweating. • Elevated body temperature. • Weakness or fatigue. • Headaches and dizziness. • Nausea. • Muscle cramps. **Severe symptoms:** • The worker stops sweating. • Cold, pale or clammy skin. • Clumsiness or slower reaction times. • Disorientation or impaired judgement. • Rapid or short breathing. • Rapid weak pulse or heart palpitations. • Tingling or numbness in fingers or toes. • Visual disturbance. • Vomiting or an unwillingness to drink.	• Move the worker to a cool place with circulating air. • Lie the worker flat. • Remove unnecessary clothing, including PPE. • Loosen tight clothing. • If the worker is fully conscious sit them up to facilitate drinking and provide cool – not cold – fluid to drink. • Provide an electrolyte solution or water. • Cool the worker with cold compresses or apply cold water to skin. • Observe the worker and obtain medical advice if symptoms don't improve. • Seek medical assistance if there is no improvement or the first aider is in doubt.

Heat stroke – Call an ambulance immediately

Symptoms (not all will be present)	First aid for heat stroke
• The person stops sweating. • Skin can be pink, warm and dry, or cool and blue. • High body temperature above 39 degrees Celsius. • Cramps. • Pounding, rapid pulse. • Headache, dizziness and visual disturbances. • Nausea and/or vomiting. • Clumsiness or slower reaction times. • Disorientation or impaired judgement. • Irritability and mental confusion. • Collapse, seizures and unconsciousness. • **Cardiac arrest**. Can be characterised by unconsciousness, stopped breathing and no pulse	• Call 000 and evacuate by ambulance immediately. • Ensure that the ambulance is updated if the worker experiences seizures or becomes unconscious. • If cardiac arrest occurs follow **DRSABCD action plan** • Move the worker to a cool place with circulating air. • Remove unnecessary clothing, including PPE • Loosen tight clothing. • Cool the worker by splashing room temperature water on their skin or sponging their skin with a damp cloth. • Make a wind tunnel by suspending sheets around, not on, the worker's body. Use a fan to direct gentle airflow over the worker's body. • Apply cold packs or wrapped ice to the worker's neck, groin and armpits. • If the worker is fully conscious sit them up to facilitate drinking and provide cool – not cold – fluid to drink. • Provide an electrolyte solution with sugar. Do not attempt to give oral fluid if the worker is not fully conscious. • Shivering is an automatic muscular reaction which warms the body. It will make the body temperature rise even further. If the worker starts shivering, stop cooling immediately and cover them until they stop. Once they have stopped recommence first aid treatment.

TOOLBOX TALK

Company or Organisation Name:		Date:	
Meeting held at:			
Meeting Conducted by:		Signed:	

Other issues addressed:	
1	
2	
3	
4	

Action Required:

Action	**By Whom**	**By When**

Attendance (all participants to print name and sign):

Name:		Signed:	
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