



Company Name: _____ Job Site Location: _____

Date: _____ Start Time: _____ Finish Time: _____ Foreman/Supervisor: _____

Topic 590: Hyperthermia (Part B)

Introduction: When the body is unable to cool itself, a worker can experience heat stress. Following are safety guidelines for dealing with hyperthermia. **Engineering controls** are the most effective and preferred means to reduce excessive heat exposure.

- Reduce worker activity through automation or mechanization.
- Cover or insulate all hot surfaces to reduce radiant heat.
- Provide air conditioning or increase ventilation to remove hot air.
- Provide fans for spot cooling.
- Reduce the humidity using air conditioning and dehumidifiers, or reduce the sources of moisture.



Caution: Where the temperature of the surrounding air is above 95°F, using fans may actually increase workers' risk of heat stress.

Acclimatize workers: The body will adapt to working in hot environments when it is given a chance to gradually get used to the new conditions. This process allows the body to modify its own functions to better cope with heat stress and to remove excess heat more efficiently. **Main benefits include:**

- Enhanced cardiovascular fitness—both heart rate and core body temperature stay lower while working in a hot environment.
- Lower salt content in sweat, this helps to prevent salt depletion.



Caution: There can still be significant salt loss, because the total volume of sweat increases. Acclimatized workers will be able to work in hotter work conditions and for longer periods than unacclimatized workers.

- Full acclimatization is usually achieved after seven continuous days of gradual exposure, but can sometimes take as long as two weeks. An older worker with cardiovascular disease may need a longer and more gradual acclimatization schedule than a young, physically fit worker with no known illnesses. Acclimatization schedules will vary according to the level of physical work required and the conditions of the environment.

Schedule work to minimize heat exposure: Common sense should be used to schedule and organize work to minimize heat exposure.

- Schedule the hardest physical tasks for the coolest part of the day.
- Rotate work activities or use additional workers to reduce heat exposure for each member of the work crew.
- Allow for slower-paced work during the hottest periods of the day.
- Move or relocate the work away from direct sunlight or radiant heat sources whenever possible.
- For outside work, schedule routine maintenance and repair work during the cooler seasons of the year.
- For inside work, schedule routine maintenance and repair work for times when hot operations are shut down.



Employers are required to provide an adequate supply of cool drinking water close to the work area for workers exposed to heat.

- **Suitable drinks** include tap water, mineral water, and fruit juices. Fluids do not need to be iced. Cooled drinks are adequate. Fluids that contain caffeine or alcohol are not suitable because they increase dehydration. Eating fresh fruits will also help to replace lost fluids.
- **Working** in hot environments can cause salt deficiencies. To replace the salt lost by sweating, workers can eat salty foods. Do not use salt tablets.

Wear cool clothing: Wear loose-fitting clothes made from fabrics such as cotton and silk. Air passing over the skin will help cool the body by evaporating the sweat from the skin. For work outside in the sun, light-colored clothing reflects the heat better than dark-colored clothing.

- **Large-brimmed** hats worn on hot sunny days provide shade for the head, face, and neck area. When safety headgear such as a hard hat is required, attach a piece of light-colored fabric to the back and side rim of the hat. Items attached to hard hats must not affect the integrity of the hard hat.
- **Wool clothing** can help to minimize heat stress for work near radiant heat sources and where the air temperature is higher than 95°F. Wool clothing deflects radiant heat away from the skin while allowing sweat to evaporate. In hot climates, outdoor workers may wear wool hats to keep cool.
- **Temperature-controlled** clothing is available for employees, including air-cooled suits, water-cooled suits, and ice-cooled waistcoats.
- **Anti-radiant heat** or reflective clothing may be necessary where there is excessive radiant heat from a hot surface that cannot be otherwise covered or shielded. This clothing can be aprons, jackets, or suits that will completely cover the worker from the neck to the feet.

Key points for preventing hyperthermia: Employees need refresher training programs to continually remind them of the dangers of hyperthermia.

- Learn to recognize the signs and symptoms of heat stress in yourself and co-workers. Avoid working alone.
- Acclimatize your body (gradual exposure to heat and work).
- Drink plenty of water (one glass every 20 minutes).
- Wear light-colored, loose-fitting clothing of breathable fabric.
- Take rest breaks in a cool or well-ventilated area.
- Take more breaks during the hottest part of the day or when doing hard physical work.
- Allow your body to cool down before beginning again.
- Do the hardest physical work during the coolest part of the day.



Conclusion: All employees need to be trained in recognizing and preventing hyperthermia. Never exceed your levels of First Aid, CPR, or AED training.

Work Site Review

Work-Site Hazards and Safety Suggestions: _____

Personnel Safety Violations: _____

Employee Signatures: _____
 (My signature attests and verifies my understanding of and agreement to comply with, all company safety policies and regulations, and that I have not suffered, experienced, or sustained any recent job-related injury or illness.)

Foreman/Supervisor's Signature: _____

These guidelines do not supercede local, state, or federal regulations and must not be construed as a substitute for, or legal interpretation of, any OSHA regulations. The first aid information provided is intended to be general in nature and is based upon the "best available" guidelines. No results either general or specific are represented or guaranteed.