United States Department of Labor
MSHA
Mine Safety and Health Administration

Protecting Miners from HEAT STRESS

Coal miners often work in hot environments. Learn the symptoms of heat stress and how to protect yourself and your co-workers from this hazard. Heat stress results from exposure to excessive heat, high humidity, physical exertion or a combination of these factors. Heat stress includes:

Heat Stroke (Sunstroke) – A life-threatening condition when the body cannot adequately cool itself

Symptoms:
- High body temperature (105 °F or greater)
- Confusion, loss of coordination, hallucinations
- Throbbing headache, slurred speech
- Hot dry skin, skin is red or mottled
- Seizures, coma, death

First Aid:
- Call for emergency medical assistance
- Remove excess clothing, cool victim immediately

Heat Exhaustion – Body's reaction to the loss of water and electrolytes

Symptoms:
- Extreme weakness or fatigue, irritability, dizziness
- Fast shallow breathing, elevated heart rate
- Heavy sweating, moist clammy skin, pale skin
- Nausea, vomiting, fainting

First Aid:
- Stop exertion, rest in the shade or a cool place
- Drink plenty of water, sports drinks or juice
- Shower or sponge with cool water
- Seek medical attention

Heat Cramps – Painful cramps or spasms resulting from loss of electrolytes

Symptoms:
- Profuse sweating accompanying heavy exertion
- Victim has drunk lots of water
- Muscle pain or spasms in arms, legs or abdomen

First Aid:
- Rest in a cool place
- Drink juice or performance sports beverage
- Do not resume heavy activity for several hours
- Seek medical attention if there is a history of heart problems
- Seek medical attention if cramps persist more than one hour

Prevention: Increase fluids intake when hot; drink 1 cup of water every 15 to 20 minutes*, take frequent cooling breaks; schedule strenuous activities for cooler time of day; work at a slower pace when hot; provide relief workers; limit time performing heavy tasks; provide fans, shade or other cooling; wear light, breathable clothing; allow workers to acclimatize to heat; monitor heat index; monitor workers that are at risk for heat stress; persons with certain health conditions should check with their physician before attempting strenuous activities

**Learn more about heat stress at*: www.cdc.gov/niosh/topics/heatstress