

# Prepare for a Safe Summer

Is it hot where you work? As the hot summer months approach, it's important that mine operators and miners understand the impact that heat stress can have on miner safety and health as well as mine productivity.

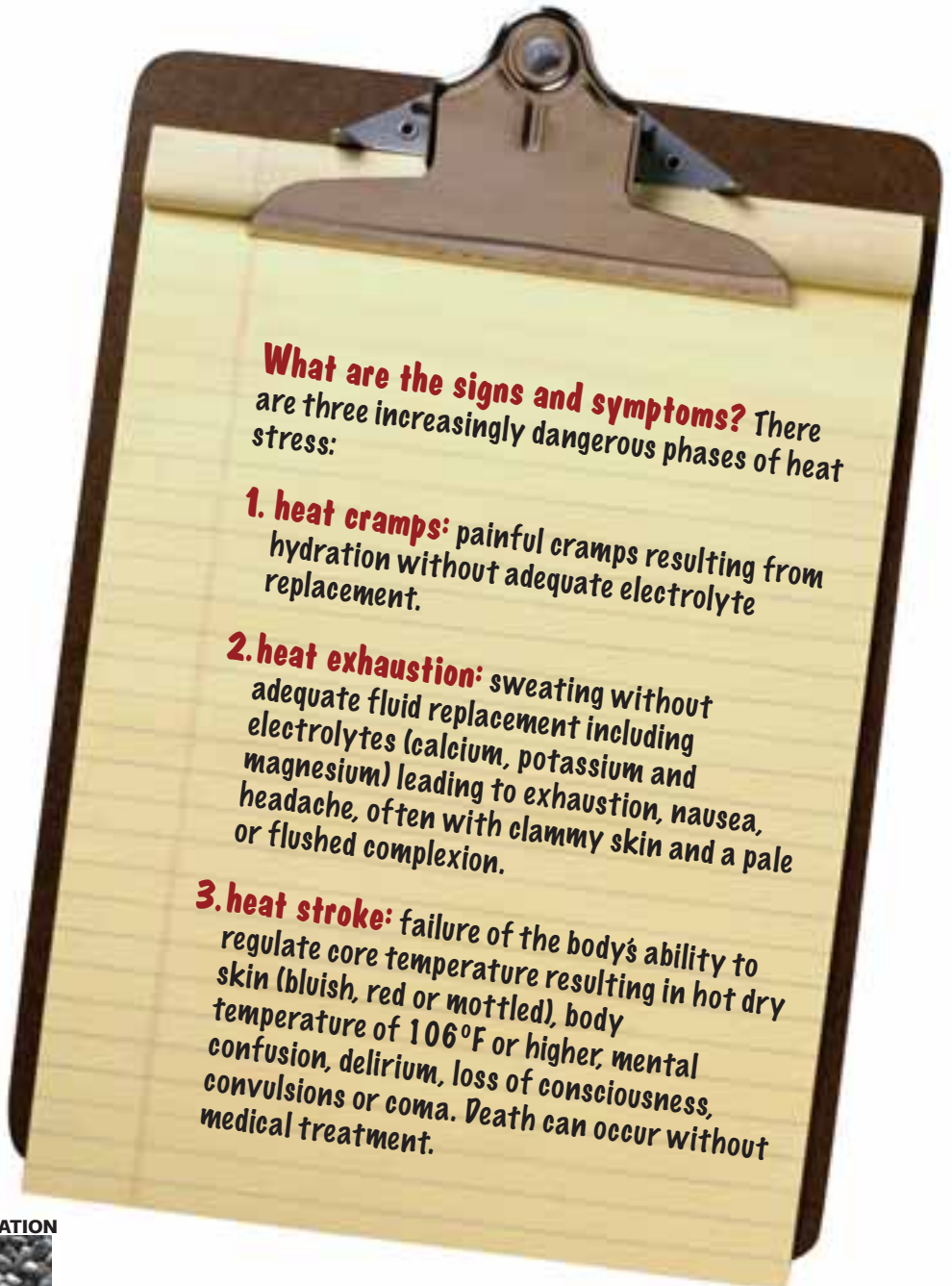
**What is it?** Heat stress refers to a variety of physical conditions where the body overheats. It is determined by four environmental factors (air temperature, humidity, air velocity and radiant heat), and physical stress on the person in question (work activity, fitness, age, weight, medical condition and heat acclimatization). Radiant heat includes direct sun light, reflected light and heat radiating from surfaces).



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**What are the signs and symptoms?** There are three increasingly dangerous phases of heat stress:

- 1. heat cramps:** painful cramps resulting from dehydration without adequate electrolyte replacement.
- 2. heat exhaustion:** sweating without adequate fluid replacement including electrolytes (calcium, potassium and magnesium) leading to exhaustion, nausea, headache, often with clammy skin and a pale or flushed complexion.
- 3. heat stroke:** failure of the body's ability to regulate core temperature resulting in hot dry skin (bluish, red or mottled), body temperature of 106°F or higher, mental confusion, delirium, loss of consciousness, convulsions or coma. Death can occur without medical treatment.





### How do we prevent it?

- *Educate* miners and their manager regarding heat stress and its signs and symptoms, the importance of fluid and electrolyte replacement.
- Require supervisors to *check* on their miners during the shift to ensure they do not become heat stressed.
- *Acclimatize* miners to work in heat by gradually increasing their workload and watch for signs of heat stress.
- Allow for adequate *rest* periods during work so miners can hydrate and cool off.
- *Schedule* the hardest/heaviest work for the coolest part of the day.
- *Provide* adequate cool water and/or electrolyte drinks for hydration.
- *Implement* engineering controls such as air conditioning, heat shields, cooling fans, personal cooling devices and evaporative cooling systems, where appropriate.

**Where do we get more information?** NIOSH, MSHA, your health and safety professional, your medical care provider.

Remember, at a minimum, heat stress can make most people less productive and can be life threatening. Take it seriously!

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