What Is Heat Stress?

It's a signal that says the body is having difficulty maintaining its narrow temperature range. The heart pumps faster, blood is diverted from internal organs to the skin, breathing rate increases, sweating increases, all in an attempt to transfer more heat to the outside air and cool the skin by evaporation of sweat. If the body can't keep up then the person suffers effects ranging from heat cramps to heat exhaustion, and finally to heat stroke.

Dry Clothes and Skin doesn't mean you're not Sweating!

In dry climates you might not feel wet or sticky, but you are still sweating. On a very warm day you can lose as much as two liters of fluid.

Beat the heat. Help prevent the ill effects of heat stress by:

- Drinking water frequently and moderately (every 15-30 minutes—about a glassful). Due to the fact that most of us already consume excessive salt in our diets; salt tablets are NOT recommended for general use.
- Resting frequently.
- Eating lightly.
- Doing more strenuous jobs during the cooler morning hours.
- Utilizing the ventilation or fans in enclosed areas.
- Remembering that it takes about 1-2 weeks for the body to adjust to the heat; this adaptation to heat is quickly lost—so your body will need time to adjust after a vacation too.
- Avoiding alcohol consumption. Many cases of heat stroke have occurred the day after a "night on the town."
- Wearing light colored, cotton clothes and keeping your shirt on—desert nomads don't wear all those clothes for nothing.

Types of Heat Stress

Heat Stroke

Heat stroke is the most serious heat-related disorder. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. When heat stroke occurs, the body temperature can rise to 106 degrees Fahrenheit or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not given.

Symptoms

Symptoms of heat stroke include:

- Hot, dry skin or profuse sweating
- Hallucinations

- Chills
- Throbbing headache
- High body temperature
- Confusion/dizziness
- Slurred speech

First Aid

Take the following steps to treat a worker with heat stroke:

- Call 911 and notify their supervisor.
- Move the sick worker to a cool shaded area.
- Cool the worker using methods such as:
    - Soaking their clothes with water.
    - Spraying, sponging, or showering them with water.
    - Fanning their body.

Heat Exhaustion

Heat exhaustion is the body's response to an excessive loss of the water and salt, usually through excessive sweating. Workers most prone to heat exhaustion are those that are elderly, have high blood pressure, and those working in a hot environment.

Symptoms

Symptoms of heat exhaustion include:

- Heavy sweating
- Extreme weakness or fatigue
- Dizziness, confusion
- Nausea
- Clammy, moist skin
- Pale or flushed complexion
- Muscle cramps
- Slightly elevated body temperature
- Fast and shallow breathing

First Aid

Treat a worker suffering from heat exhaustion with the following:

- Have them rest in a cool, shaded or air-conditioned area.
- Have them drink plenty of water or other cool, nonalcoholic beverages.
- Have them take a cool shower, bath, or sponge bath.

Heat Syncope

Heat syncope is a fainting (syncope) episode or dizziness that usually occurs with prolonged standing or sudden rising from a sitting or lying position. Factors that may contribute to heat syncope include dehydration and lack of acclimatization.

Symptoms

Symptoms of heat syncope include:

- Light-headedness
- Dizziness
- Fainting

First Aid

Workers with heat syncope should:

- Sit or lie down in a cool place when they begin to feel symptoms.
- Slowly drink water, clear juice, or a sports beverage.

Heat Cramps

Heat cramps usually affect workers who sweat a lot during strenuous activity. This sweating depletes the body's salt and moisture levels. Low salt levels in muscles causes painful cramps. Heat cramps may also be a symptom of heat exhaustion.

Symptoms

Muscle pain or spasms usually in the abdomen, arms, or legs.

First Aid

Workers with heat cramps should:

- Stop all activity, and sit in a cool place.
- Drink clear juice or a sports beverage.
- Do not return to strenuous work for a few hours after the cramps subside because further exertion may lead to heat exhaustion or heat stroke.
- Seek medical attention if any of the following apply:
    - The worker has heart problems.
    - The worker is on a low-sodium diet.
    - The cramps do not subside within one hour.

Heat Rash

Heat rash is a skin irritation caused by excessive sweating during hot, humid weather.

Symptoms

Symptoms of heat rash include:

- Heat rash looks like a red cluster of pimples or small blisters.
- It is more likely to occur on the neck and upper chest, in the groin, under the breasts, and in elbow creases.

First Aid

Workers experiencing heat rash should:

- Try to work in a cooler, less humid environment when possible.
- Keep the affected area dry.
- Dusting powder may be used to increase comfort.

Recommendations for Supervisors

Supervisors should take the following steps to protect workers from heat stress:

- Schedule maintenance and repair jobs in hot areas for cooler months.
- Schedule hot jobs for the cooler part of the day.
- Acclimatize workers by exposing them for progressively longer periods to hot work environments.
- Reduce the physical demands of workers.
- Use relief workers or assign extra workers for physically demanding jobs.
- Provide cool water or liquids to workers.
    - Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Provide rest periods with water breaks.
- Provide cool areas for use during break periods.
- Monitor workers who are at risk of heat stress.

Recommendations for Workers

Workers should avoid exposure to extreme heat, sun exposure, and high humidity when possible. When these exposures cannot be avoided, workers should take the following steps to prevent heat stress:

- Wear light-colored, loose-fitting, breathable clothing such as cotton.
    - Avoid non-breathing synthetic clothing.
- Gradually build up to heavy work.
- Schedule heavy work during the coolest parts of day.
- Take more breaks in extreme heat and humidity.
    - Take breaks in the shade or a cool area when possible.
- Drink water frequently. Drink enough water that you never become thirsty. Approximately 1 cup every 15-20 minutes.
- Avoid alcohol, and drinks with large amounts of caffeine or sugar.
- Be aware that protective clothing or personal protective equipment may increase the risk of heat stress.
- Monitor your physical condition and that of your coworkers.