Conditions of heat put your body under a lot of stress. Physical activity stresses the body even more. When heat is combined with physical activity, loss of fluids, fatigue, and other conditions, it can lead to a number of heat-related illnesses and injuries. Death is even possible.

The frequency of accidents in general appears to be higher in hot environments than in more moderate environmental conditions. One reason is that working in a hot environment lowers the mental alertness and physical performance of an individual. Increased body temperature and physical discomfort promote irritability, anger, and other emotional states which sometimes causes us to overlook safety procedures or to divert attention from hazardous tasks.

Heat stress is commonly associated with warm weather. It's true that warm weather increases the number of heat-stress injuries and illnesses, but warm weather isn't the only cause of heat stress. It can also occur any time the surrounding temperature is elevated. Even if the weather is cool, you may work in warm areas, indoors or out. Be alert for conditions that could cause heat stress, and take precautions to prevent it. Six main factors create heat stress:

- Temperature
- Humidity
- Movement of air
- Radiant temperature of the surroundings
- Clothing
- Physical activity

Adjusting to these factors and/or controlling them reduce the chances of heat stress. Your body can adjust to working in a warm environment through a process known as "acclimatization." Acclimatization processes involve gradually increasing the amount of time you spend working in a hot environment. This gradual increase allows your body to properly adjust to the heat.

Keep in mind, though, even if you're already acclimatized, conditions can change, which stresses your body even more. High humidity and sources of heat such as radiant heat from metal surfaces can affect your body's ability to cool itself. If conditions change, make sure you re-acclimate yourself to the new conditions. If you're away from work for a few days, or if you experience a brief period of cooler temperatures while working, you will need to re-acclimate yourself before you try to work a full shift in hot conditions.

Engineering controls can be implemented to reduce the possibility of heat stress. These include:

- Controlling the heat source through use of insulation and reflective barriers
- Exhausting hot air or steam away from the work area
- Using air-conditioning
- Using air-conditioned rest areas
- Using fans to circulate the air
- Reducing the physical demands of the work by using mechanical equipment
Administrative controls are also effective to prevent heat stress injuries. These include:

- Increasing the frequency and duration of rest breaks
- Scheduling tasks to avoid heavy physical activity during the hottest parts of the day
- Providing cool drinking water or an electrolyte-replacement drink, and encouraging its consumption
- Using additional workers for the job or slowing down the pace of the work
- Making sure everyone understands the signs and symptoms of heat stress

Common sense precautions, such as dressing properly for the job, include:

- Wearing lightweight clothing, which allows moisture to evaporate quickly
- Wearing reflective clothing or cooling suits for jobs that require them
- Using extra caution if you are required to wear clothing on the job that limits evaporation ~ you could succumb to heat stress much more quickly

Preventing heat stress is a matter of controlling the factors that cause it. Use the precautions mentioned here, and don't hesitate to seek assistance if you suspect heat stress in yourself or others.

EH&S has developed heat stress prevention training that is web based and is available at http://www.asu.edu/go/blackboard/selfenroll/?cid=207384.

The Center for Disease Control has prepared a very good guide for prevention of heat stress both on and off the job that is available at http://www.bt.cdc.gov/disasters/extremeheat/heat_guide.asp. We recommend you review and discuss with friends and family.

Also, please remember that Arizona has the highest rate of skin cancer among the 50 states.

**How to Prevent Skin Cancer**

1. Minimize sun exposure, especially during the hours of 10 a.m. and 2 p.m., when the sun's rays are the most intense;
2. Use a sunscreen. Apply often while in the sun. Use a sunscreen with a sun protection factor (SPF) of 15 or higher;
3. Cover up. Wear a hat, long-sleeved shirts and pants when out in the sun;
4. Be aware of reflecting surfaces. Sand, water, pool decks, and snow can reflect up to 85% of the sun's damaging rays;
5. Remember that damaging ultraviolet rays can penetrate clouds and are stronger in the thinner air of higher altitudes. Don't forget the sunscreen in these conditions.
6. Avoid tanning salons and sunlamps. Ultraviolet rays from these sources are the same as in sunlight and can cause sunburn, premature aging and increased skin damage.