WHAT IS HEAT-RELATED ILLNESS?
Heat-related illness, also called hyperthermia, is a condition resulting from exposure to extreme heat where the body becomes unable to properly cool, resulting in a rapid rise in body temperature. The evaporation of sweat is the normal way to remove body heat, but, when the humidity is high, sweat does not evaporate as quickly. This, in turn, prevents the body from releasing heat quickly. Prompt treatment of heat-related illnesses with aggressive fluid replacement and cooling of core body temperature is critical to reducing illness and preventing death.

HEAT EXHAUSTION
Exposure to excessive heat can directly or indirectly cause some illnesses and can exacerbate many preexisting conditions, such as heart and respiratory disease. Of the heat-related illnesses, heat exhaustion and heat stroke are the most serious. The symptoms of heat exhaustion include.

- Muscle cramping
- Fatigue
- Headache
- Nausea or vomiting
- Dizziness or fainting

Ironically, a patient with heat exhaustion often might have cool and moist skin, indicating that the body’s ability to cool itself is still present, but the patient’s pulse rate is fast and weak, and breathing is rapid and shallow.

HEAT STROKE
If untreated, heat exhaustion may progress to heat stroke. Heat stroke is a serious, life-threatening condition characterized by the following symptoms:

- A body temperature greater than 103°F (39.4°C)
- Red, hot, and dry skin (no sweating)
- Rapid, strong pulse
Very high body temperatures can damage the brain or other vital organs. In severe cases, the problem can progress to multiple organ system failure and death.

While heat-related illnesses and deaths are preventable, many people still succumb to illness caused by extreme heat each year. In addition to the actual air temperature and a person’s underlying health issues, environmental factors, such as humidity, can contribute to hyperthermia, as can strenuous physical activities in hot conditions. Buildings and other parts of the man-made environment can also increase the health risks of heat waves.

**WHAT ARE THE RISK FACTORS FOR HEAT-RELATED ILLNESS AND DEATH? NON-ENVIRONMENTAL RISK FACTORS**

People at greatest risk for heat-related illness include infants and children up to 4 years old; people 65 years of age and older; people who are overweight or have existing medical conditions, such as diabetes and heart disease; people who are socially isolated; and the poor. However, even young and healthy individuals can succumb to heat if they participate in strenuous physical activities during hot weather. Other behaviors also put people at greater risk, such as drinking alcohol and taking medications that impair the body’s ability to regulate its temperature or that inhibit perspiration.

**BCA INJURY & ILLNESS PREVENTION PROGRAM**

**19.0 HEAT ILLNESS PROGRAM**

**B. HEAT ILLNESS PREVENTION PLAN**

1. Heat Illness Training
   a. Every BCA inspector shall attend an annual Tailgate Topic Review on Heat Illness and have their attendance recorded as completing a topic quiz.
b. This training topic is reserved for the beginning of the high heat season.

c. This training will instruct each inspector on the signs or symptoms of heat illness and emergency response.

d. The training will instruct each inspector on access to shade and water.

e. Heat related PPE is supplied at no cost to all BCA employees. This PPE includes:
   i. Hard hat neck shades
   ii. Hard hat sunshield
   iii. Sun lotion

2. Procedures for the Provision of Water and Access to Shade
   a. Field inspectors
      i. Are required to use their personal vehicle as a “City of Los Angeles Mileage Vehicle.”
         This is a condition of work.
      ii. Inspectors use their vehicles as a source of shade and for accessing water at any City facility or job trailer.
   b. Plant/Materials Control Inspectors
      i. All city owned plants and vendor facilities have unlimited drinking water.
      ii. All city owned plants and vendor facilities comply with the Cal/OSHA shade requirements.

**Best Practices**

Because of extreme environmental conditions during high heat employees’ physical and mental condition can change even more rapidly into a serious medical condition. The onset of heat illness may be confused with other problems and may not always be obvious before it becomes life-threatening. Therefore, proper planning and taking extra measures may be required to prevent and/or respond to heat illness during high heat.

**Extra Measures During High Heat**

Extra measures during high heat include but are not limited to the following:

- **Communicating Through Meetings**
  During high heat a designated person(s) should hold short, frequent meetings (before and during work) with the workers to review the company heat illness prevention procedures, the weather forecast, emergency response and other additional safety measures.

- **Being Extra Vigilant**
  During high heat it is necessary to be extra vigilant. Your communication system is (see **Effective Communication**) especially important to get more frequent feedback from your employees and supervisors in the field. Then, based on the environmental conditions present and the condition of your employees you can more quickly make the appropriate adjustments, communicate them, and put the changes into place before problems arise or become serious.

  In high heat:
Have supervisors and employees watch each other more closely for alertness and any signs or symptoms of heat illness by using your mandatory "buddy system".

Encourage supervisors and employees to communicate about how they are feeling on a more frequent basis.

Account for the whereabouts of employees at more frequent intervals throughout the work shift and at the end of the work shift.

- **Changing Work Severity and Duration**
  During high heat it may be critical to make adjustments to work activities, see [Work Severity and Duration Adjustments](#).

- **Additional Water Consumption**
  - Encourage employees to drink small quantities of water more frequently (i.e., in addition to the four 8-ounce glasses of water, or a total of one quart per hour) throughout the entire work shift to prevent dehydration
  - During high heat, have extra drinking water for employee consumption and make sure that effective replenishment measures are in place
  - Encourage employees to consult with their doctor on salt and mineral replacement.
  - Encourage workers to also drink water before and after work

- **Drink Only Water**
  - Encourage employees to avoid drinking alcohol altogether
  - Encourage employees to choose water over other drinks (e.g., sodas and drinks containing caffeine and sugar) because these other drinks may increase dehydration. Also, if employees choose these other drinks they may drink less water.

- **Shade and Additional Cooling Measures**
  - Remember that shade is adequate only when it completely blocks the direct sunlight and allows the body to cool. Shade is not adequate when it does not allow the body to cool. In high heat air temperatures in the shade may still be extremely high and not allow the body to cool. For industries other than agriculture, during high heat, you may need to use other alternative cooling measures in addition to shade, (e.g., allowing employees to spend time in air conditioned places). For alternative cooling measures see [Shade and Other Cooling Measures](#)
  - When the temperature equals or exceeds 95 degrees, employers must provide one 10-minute "preventative cool-down rest period" every 2 hours. During the first 8 hours of a shift, the cool-down periods may be provided at the same time as the rest periods.
  - As required, the shade shall be enough to accommodate all employees taking rest breaks or having a preventative recovery.
  - The shaded area shade shall be located as close as practicable to the areas where employees are working.
  - During meal periods, the amount of shade must be enough to accommodate all employees who remain onsite during their meal period.

- **Additional and/or Longer Rest Breaks and Cool Down Rest Periods**
  During high heat it is especially important to permit employees the freedom to interrupt work activities to take rest breaks and allow the body to cool. During high heat you may need to
allow employees to take more frequent and longer breaks, and more cool down rest periods (see Preventative Cool Down Rest Periods). Remember to provide areas for employees to take their breaks and cool down rest periods which are:

- Readily accessible and in close proximity
- Open to the air and ventilated or cooled, or in shaded areas
- Near sufficient supplies of drinking water

Keep records of breaks as a best practice.

- **Changing Meals**
  - Encourage employees to eat smaller more frequent meals which reduce the heat the body produces as compared to eating large meals less frequently
  - Encourage employees to choose foods with higher water content such as fruits, vegetables and salads