JUNE
SAFETY TALK

Heat Stress

As the environment warms-up, the body tends to warm-up as well. A rise in body temperature, if the body cannot adjust its core temperature, could result in heat illnesses.

What are the causes of heat stress?

There are three main factors in heat stress:

1. The environment
   - Radiant heat from direct or indirect sunlight
   - Air temperature hotter than skin temperature
   - High humidity
2. The work
   - The more active a body is, the more heat is produced
3. The person
   - Poor health, including obesity, advanced age and medical conditions
   - Not staying hydrated
   - Excess clothing
   - Not being acclimatized (may take up to 7 days)

Two examples of heat stress disorders are heat exhaustion and heat stroke. Others include heat cramps and heat rash.

How do you know when it's too hot?

Feeling of hot or cold depends on:

- Air temperature
- Relative humidity of air
- Presence of hot objects in the surrounding area
- Presence of air movement (breeze, ventilation)
- Physical exertion
- Clothing

Various methods of measuring occupational heat exposure combine these environmental factors to obtain a single number as a measure of overall heat load. You can't just look at a regular thermometer and say that a certain temperature is "too hot". The most commonly used measure in the workplace is the wet bulb globe temperature (WBGT) index.

It is possible, once WBGT readings are available, to set a "limit" within your municipality, for certain positions – because, as stated above, physical exertion and the type of clothing worn, impact body temperature. But the limits set by one municipality may not apply in another.

Without the ability to measure temperature with a WBGT, every municipality should consider creating a Heat Stress Program, and establishing control measures in line with the Hierarchy of Controls. Here are some possible controls:

ENGINEERING CONTROLS:

- Mechanize tasks
- Reduce humidity by using a fan to increase air speed/movement

ADMINISTRATIVE CONTROLS:

- Allow sufficient acclimatization period before full workload
- Shorten exposure time and use frequent rest breaks
- Provide cool (air-conditioned) rest areas

Establish emergency procedures – ensure first aid attendants and fellow workers are trained to recognize and treat heat exposure disorders.

British Columbia Municipal Safety Association

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