Module Q Answer Key Heat Stress Preventiontcfh2-4-14rev1.0

This is the answer key. A score of 100% earns 1 credit hour in the safety and loss prevention program

AngelTrax

Prevention of Heat Stress

Heat related work illness is a real threat to our employees who work outside during months of high heat and humidity. In order to lessen this threat, this program has been prepared.

All employees will be given instruction in this program prior to working in heat illness inducing environments or other severe environmental conditions.

On days when applicable environmental conditions exist - periods of hot weather (equal to or greater than 85ºF and 40% Relative Humidity) -the site supervisor will, before the morning shift starts, remind workers of the danger of heat illness, the procedures to lessen its impact, and, in the worst case, the procedure for medical response.

All persons should recognize the symptoms of heat related illness.

HEAT EXHAUSTION

(Fatigue; weakness; profuse sweating; normal temperature; pale clammy skin; headache; cramps; vomiting; fainting)

Remove from hot area.

Have victim lay down and raise feet. Apply cool wet cloths.

Loosen or remove clothing.

Allow small sips of water if victim is not vomiting.

HEAT STROKE

(Dizziness; nausea; severe headache; hot dry skin; confusion; collapse; delirium; coma and death)

Call for immediate medical assistance. Remove victim from hot area.

Remove clothing. Have victim lay down.

Cool the body (shower, cool wet cloths)

**Do not** give stimulants.

The purpose of this program is to take definitive measures prior to the onset of heat exhaustion and heat stroke so that medical response will not be necessary. If the above conditions do present themselves, the supervisor, who will always have access to a mobile phone, will follow our standard emergency procedures.

Definitive measures to prevent heat related illness include:

1. Provision of water
2. Provision of shade
3. Provision of rest (recovery period)
4. Modified work procedures

Provision of water

Water is a key preventive measure to minimize the risk of heat related illnesses. Employees will have access to adequate quantities of potable drinking water.

Where the supply of water is not plumbed or otherwise continuously supplied, water will be provided in sufficient quantity at the beginning of the work shift to provide one quart per employee per hour for drinking for the entire shift.

Supervisors will encourage the frequent drinking of water. The supervisor or a designated person will monitor water consumption every 30 minutes. Employees are encouraged to report bad tasting water or low levels of water immediately so the situation can be corrected.

Supervisor will provide frequent reminders to employees to drink frequently, and, if needed, more water breaks will be provided.

Every morning during conditions where this program is applicable, there will be short safety meetings to remind workers about the importance of frequent consumption of water throughout the shift.

Drinking water will be dispensed in containers with a tight sealing lid and labeled as Drinking Water. Drinking water containers are to be cleaned daily. Water containers will be placed as close as possible to the workers.

Supervisors will monitor water consumption and water supply and ensure adequate levels are available to last the whole shift

Disposable/single use drinking cups will be provided to employees

During extreme conditions, the supervisor will blow an air horn to remind workers to take a water break.

Supervisors will remind employees that personal military style canteens may be worn containing water. Employees are cautioned, however, that sharing water from a personal canteen is forbidden and, because of the health hazard to the user and the person with whom it is shared, disciplinary action will be taken against both employees if they drink out of the same container. This disciplinary action will be documented using our disciplinary enforcement form.

As a reminder of the importance of water to the human system, the following information is supplied which was extracted from one of our safety meetings:

FLUIDS

If you heard in advance that this safety meeting was on job site fluids, you may well have thought that the meeting would focus on the storage, use, clean-up, and possible emergency procedures involved with the liquid chemical products used on or job sites.

You’d be wrong. While the above are important topics and questions related to them should be addressed to the competent person, this safety meeting is about **your** bodily fluids.

From a safety standpoint, you must not neglect your need for potable (drinkable) fluids. Water is not only the most abundant of all compounds found on the earth, it is the most abundant part of you -- actually about 65% of you is water.

On construction sites, exertion and heat dictate the need for plenty of water.

Drink fluids! From a life process standpoint, what fluid intake is doing is keeping you healthy by allowing your body to maintain its core body temperature at its appropriate level. When your brain senses that cooling action is needed, your body circulates blood to your skin to allow it to cool with the outside temperature. If the water used for sweat is not replaced, a water deficit starts to occur. The millions of chemical reactions taking place in your body at every moment can only occur in the presence of water. The fluids in your body transport nourishment, gases, and waste.

Imagine your body as a water based chemical factory that functions only within a narrow temperature range. An average, healthy person, at rest, has an oral temperature of between 98.6ºF and 100.4ºF. If your body temperature reaches 105.8ºF, convulsions may occur. Your whole central nervous system is impaired when your body temperature rises 9ºF above normal. At 106.0ºF, the thermoregulatory center in your brain fails and, because of damage to your central nervous system, the sweating (cooling) mechanism cuts off when you need it most. It is a vicious circle -- the hotter you get, the more heat you generate through metabolism. In fact, at 107.6ºF, cellular metabolism is 50% higher than at normal temperatures.

Without getting too graphic, here are some of the problems associated with extreme water loss: cells will shrink; the skin will lose its elasticity; skin and mucous membrane cells will dry out;

eyeballs will become soft; weight loss will occur; the body temperature will rise; apprehension, restlessness, and even coma may occur; urine will become concentrated; renal shutdown will occur; red blood cells will shrink; death.

Stay healthy! Drink water! Water is truly the stuff of life.

Provision of shade

The supervisor will ensure that employees have access to shade to minimize the risk of heat related illnesses. If natural shade is not available, the supervisor will ensure that sun umbrellas or portable canopies are provided in adequate number. These umbrellas or canopies will be place in close proximity to the work activity (i.e., no more than 50-100 yards).

Ideally, if available, employees will be allowed to get out of the sun by entering an air conditioned structure such as a building or job trailer. This not only provides shade, it provides a cool, less humid, atmosphere. Any employee who feels the need for shade will protect himself/herself from the sun for a period of not less than 5 minutes.

Lastly, but importantly, persons must provide personal shade in the form of shirts (preferably light colored to reflect the sun). Shirts are required to prevent sunburn, another health hazard.

Provision of rest (recovery period)

While shade and rest often go hand in hand. they are two distinct activities. Any employee who, due to heat, humidity, or exertion under the provisions of this program, may rest for a period of not less than 5 minutes if that employee believes a preventative recovery period is required.

Modified work procedures

The supervisor will make every effort, consistent with our effort to properly perform our job tasks, to modify work procedures. Example would include performing work requiring heavy exertion during the cooler hours of the day, assigning more persons to a job task to lessen the effort required of each, and the use of machinery in lieu of physical effort.

All employees, but new employees in particular, should be allowed to acclimate to hotter weather. It takes a body four to fourteen days to acclimate to hotter weather. Reduced workloads and careful attention to new employees may be required.

Training

All employees will read this program and be given interactive training in its provisions. A copy of this program will be kept posted on the bulletin board during applicable periods of heat and humidity.

All supervisors will read the below informational items prior to utilization of this program and have an opportunity for discussion and clarification with our Safety Director.

[FLC Protecting Workers from Heat Stress](http://www.dir.ca.gov/dosh/dosh_publications/FLC_Eng_Agr_Posting_Req.pdf)

[The American Red Cross Health & Safety Tips, Heat Related Illness](http://www.redcross.org/services/hss/tips/heat.html)