HEAT ILLNESS PREVENTION TRAINING

Presented by:
Du-All

TRAINING GOALS

- Increase awareness and commitment to safety and health at the work site

- Review the regulatory language and heat illness preventive measures

CCR T8 3395 Heat Illness Prevention

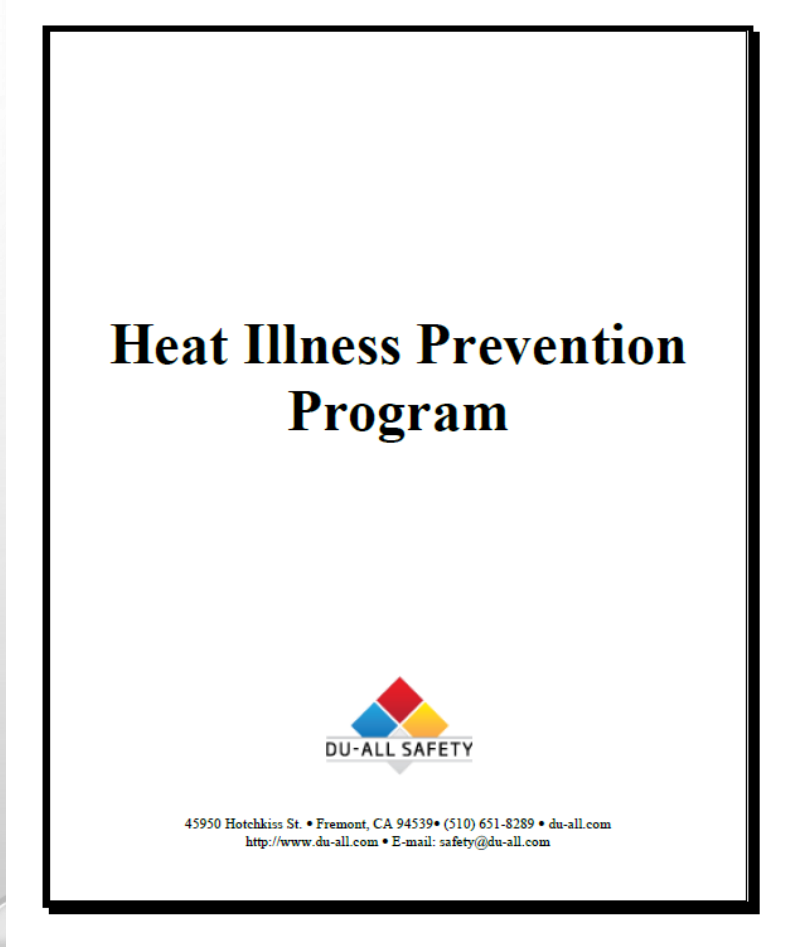
CCR T8 3363 Water Supply

CCR T8 1524 Water Safety

CCR T8 3203 Injury Illness Prevention Program

WRITTEN PROCEDURES

This plan applies to all outdoor places of employment at those times when the environmental risk factors for heat illness are present.



Heat Illness Prevention Program

DU-ALL SAFETY

45950 Hotchkiss St. • Fremont, CA 94539• (510) 651-8289 • du-all.com
http://www.du-all.com • E-mail: safety@du-all.com

PERTAINS TO OPERATIONS INVOLVING:

- High air temperatures
- Radiant heat sources
- High humidity
- Direct physical contact with hot objects
- Strenuous physical activities having a high potential for inducing heat stress

RESPONSABILITIES

- Safety coordinator
- Department / division coordinators, managers and supervisors
- Employees

HEAT ILLNESS

A serious medical condition resulting from the body's inability to cope with a particular heat load, and includes heat cramps, heat exhaustion, heat syncope and heat stroke.

HEAT ILLNESS PREVENTION ELEMENTS INCLUDE

- Personnel responsibilities
- Equipment and other PPE
- Weather monitoring
- Provisions of potable water
- Access to shade
- High heat (95 F)
- Heat waves
- Acclimatization
- Symptoms
- Emergency response
- Training
- Recordkeeping

EQUIPMENT/PPE

- Individually issued coolers
- Ice machines
- Wide brimmed hats
- Pop-up canopies
- Umbrellas
- Water fountains
- Fans/portable air conditioners
- Thermometers
- Water bottles
- Vehicle air conditioning
- Hard hats

EQUIPMENT/PPE

REFLECTIVE CLOTHING:

Can vary from aprons and jackets to suits that completely enclose the worker from neck to feet can stop the skin from absorbing radiant heat.

WETTED CLOTHING:

Wetted terry cloth coveralls or wetted two-piece, whole-body cotton suits.

WATER

- No cost
- Fresh and pure (no odor & clear)
- Suitably cool (cooler than the ambient temperature but not so cool as to cause discomfort)
- One quart per employee per hour for drinking for the entire shift.

WATER

- The importance of frequent consumption of small quantities of water, **up to 4 cups per hour** under extreme conditions of work and heat shall be encouraged
- Water shall be dispensed in single-use drinking cups, individual bottles or by fountains. The use of common drinking cups is prohibited
- Containers shall be constructed of materials that maintain water quality.

HYDRATION

DRINK BEFORE YOU FEEL THIRSTY!

One of the first signs of dehydration is feeling thirsty. Waiting until you feel thirsty could be too late. Remember to properly hydrate **BEFORE, DURING,** and **AFTER** all physical activity.

HYDRATION

Consuming the proper amount of fluids before, during, and after any type of physical activity is vital.

- Drink water
- Eat fruit
- sports drinks
- Avoid high protein foods (e.g. Meat, dairy products) and heavy meals as these raise body temperature and increase fluid loss.

HYDRATION

- Avoid caffeine
- Avoid over consumption of water

Drinking too much water can cause Hyponatremia (Water intoxication) Hyponatremia intoxication)Hyponatremia is a condition that occurs when the level of sodium in your blood is abnormally low, posing a serious health risk. Hyponatremia will cause you to feel sluggish, bloated, maybe even dizzy.

CONSEQUENCES OF DEHYDRATION

EARLY

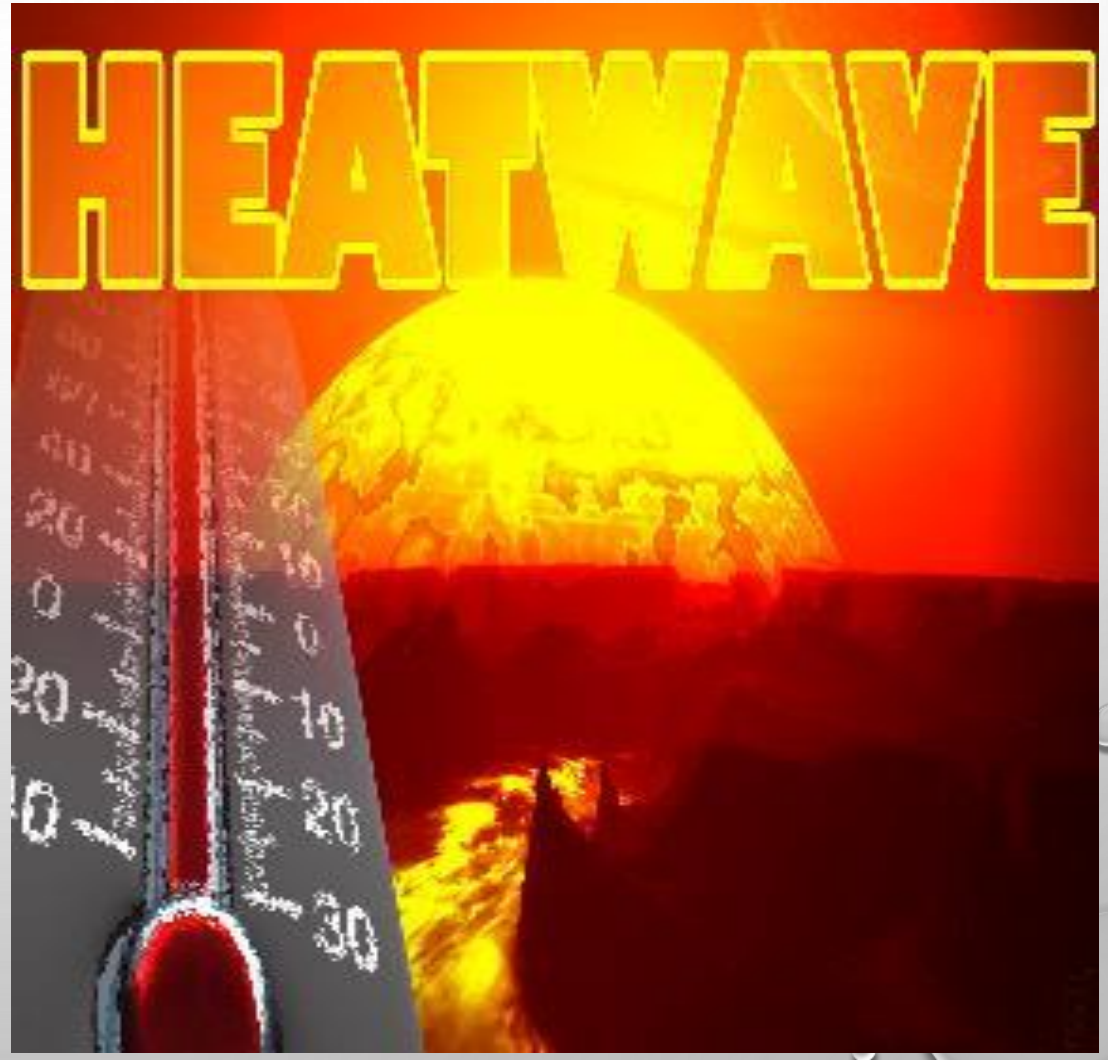
- Fatigue
- Anxiety
- Irritability
- Depression
- Cravings
- Cramps
- Headaches

MATURE

- Heartburn
- Joint pain
- Back pain
- Migraines
- Constipation

HEAT WAVE

Heat wave means any day in which the predicted high temperature for the day will be at least 80° F and 10° F higher than the average high daily temperature in the preceding five days.



WEATHER MONITORING

HTTP://WWW.WEATHER.COM OR HTTP://WWW.NOAA.GOV

WEATHER MONITORING

- If the forecast predicts temperatures of 80°F or more, during the workday, supervisors should monitor the national weather service as often as possible.

- If the temperature is expected to reach a minimum of 80°f, work crews will be directed to conduct the heaviest work load in the early and cooler part of the day within the constraints of local ordinances.

WEATHER MONITORING

- As temperatures increase and other environmental factors change throughout the workday, employees' physical and mental state can also rapidly change into a serious medical condition
- National weather service phone numbers CALIFORNIA dial-a-forecast

San Francisco

(831)656-1725 (#1)

PROVISIONS FOR COOL DOWN

- An employee shall be allowed and encouraged to take a "preventative cool-down rest" in the shade when they feel the need to do so to protect them from excessive heat.
- It is crucial that workers not be rushed while taking the cool-down rest.
- Water should be available in the rest area so that employees are encouraged to drink more water.
- The importance of prevention cannot be overstated.

PROVISIONS FOR COOLDOWN

- Employees who wait until symptoms appear before seeking shade and recovery are at significant risk of developing heat illness
- The employee must be monitored during the cool-down rest and asked if he or she is experiencing any symptoms of heat illness including simple fatigue
- If any signs or symptoms of heat illness are observed or reported, the employer must not order the employee back to work and must continuously observe the employee until the signs or symptoms have abated

SHADE
BLOCKAGE OF DIRECT SUNLIGHT

Canopies, umbrellas or other devices

Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool.

SHADE UP:
WHEN THE TEMPERATURE REACHES 80° F

- Have and maintain one or more areas of shade at all times, when employees are present.
- Locate the shade as close as practical to the area where employees are working.

HIGH HEAT PROCEDURES

WILL BE IMPLEMENTED WHEN THE TEMPERATURE IS ≥ 95°F

- Maintain effective communication
- Observe employees for alertness and signs or symptoms of heat illness
- Remind employees throughout the day to drink plenty of water.

HIGH HEAT PROCEDURES

WILL BE IMPLEMENTED WHEN THE TEMPERATURE IS ≥ 95°F

ENSURE EFFECTIVE EMPLOYEE OBSERVATION/ MONITORING BY IMPLEMENTING:

- Supervisor or designee observation of 20 or fewer employees, or
- Mandatory buddy system, or
- Regular communication with sole employee such as by radio or cellular phone
- Other effective means of observation

SUDDEN EXPOSURE TO HEAT

IF THE WEATHER SUDDENLY/DRASTICALLY CHANGES AND EXPOSES EMPLOYEES TO HEAT WITHOUT WARNING.

- Notify the supervisor of temperature change
- Supervisor will check work area temperature either by a dry bulb thermometer or updated news.
- Implement heat illness prevention procedures based on the temperature.

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution | Extreme Caution | Danger | Extreme Danger

RISK FACTORS
HEAT WAVES AND ACCLIMATIZATION

WHEN THE TEMPERATURE IS ≥ 95° F all employees shall be closely observed by a supervisor or designee. People need time for their bodies to temporarily adjust to working in the heat.

•An employee who has been newly assigned to a high heat area shall be closely observed by a supervisor or designee for the first 14 days of employment.

•If possible, employees will be directed to work no more than 60 minutes followed by a 10 minute water / rest break.

RISK FACTORS

ENVIRONMENT

High humidity, ambient air temperature, air movement & velocity, direct physical contact with hot objects, and strenuous physical activities

PERSONAL

Age, weight, degree of physical fitness, dark urine, use of alcohol or drugs, high caffeinated drinks, medications, type of clothing worn, and variety of medical conditions such as hypertension, alcohol/drug use

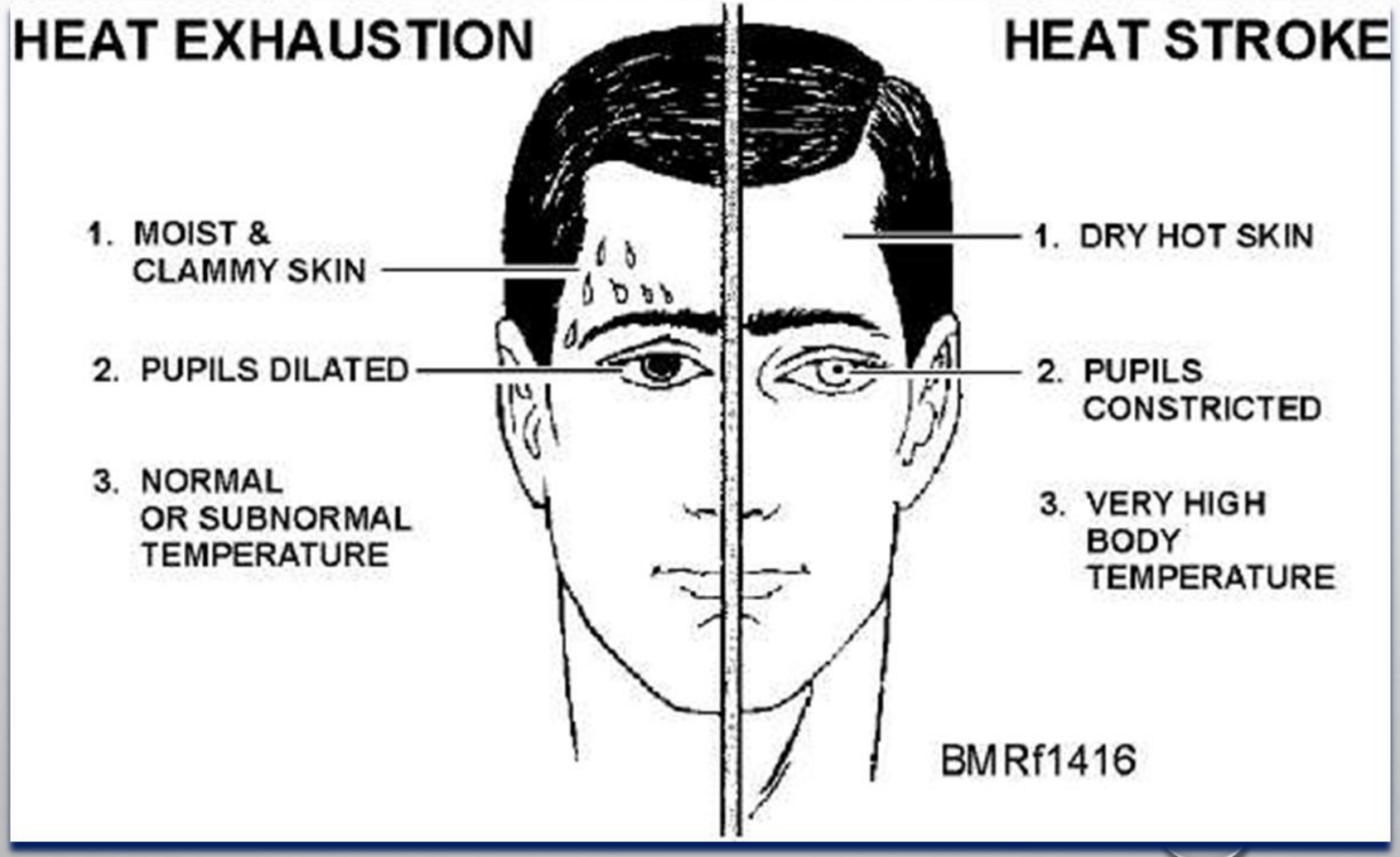
HEAT ILLNESS SYMPTOMS

HEAT CRAMPS: Painful spasms of the muscles, are caused by the body's loss of salt.

HEAT EXHAUSTION: Results from loss of fluid through sweating and from not drinking enough replacement fluids.

Headache, sweat, extreme weakness or fatigue, nausea, the skin is clammy and moist, vertigo, rapid heart beat, blurred visions, fainting, hyperventilation etc.

HEAT ILLNESS SYMPTOMS



HEAT EXHAUSTION

- Headache
- Nausea
- Weak pulse
- Heavy sweating
- Excessive thirst hyperventilation
- Fatigue
- Vertigo/dizziness
- Rapid heart rate
- Cold/clammy
- Physically weak
- Shallow breathing
- Blurred vision
- Weakness
- Anxiety
- Fainting
- Body temperature >100

HEAT STROKE

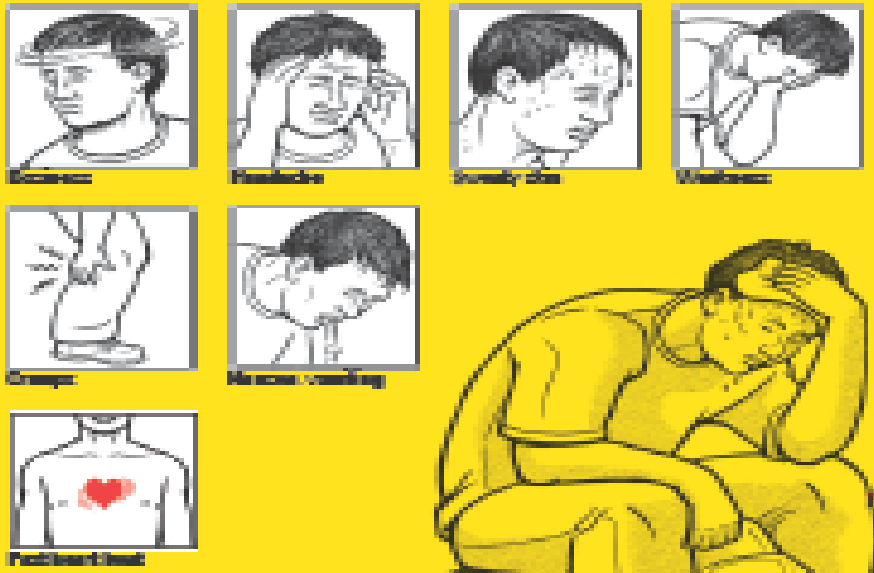
Heat stroke occurs when the body's system of temperature regulation fails and body temperature rises to critical levels. Heat stroke is a medical emergency. The primary signs and symptoms of heat stroke are:

- Confusion; irrational behavior
- Loss of consciousness
- Convulsions
- Lack of sweating (usually); hot, dry skin
- Abnormally high body temperature.
- If body temperature is too high, death may occur

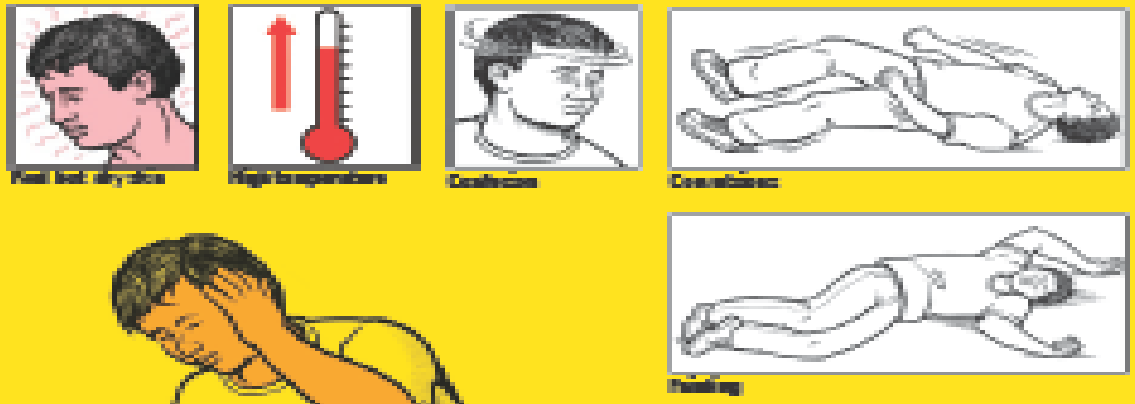
Health effects of heat

Two types of heat illness:

Heat Exhaustion



Heat Stroke



Watch out for early symptoms. You may need medical help.
People react differently — you may have just a few of these symptoms, or most of them.

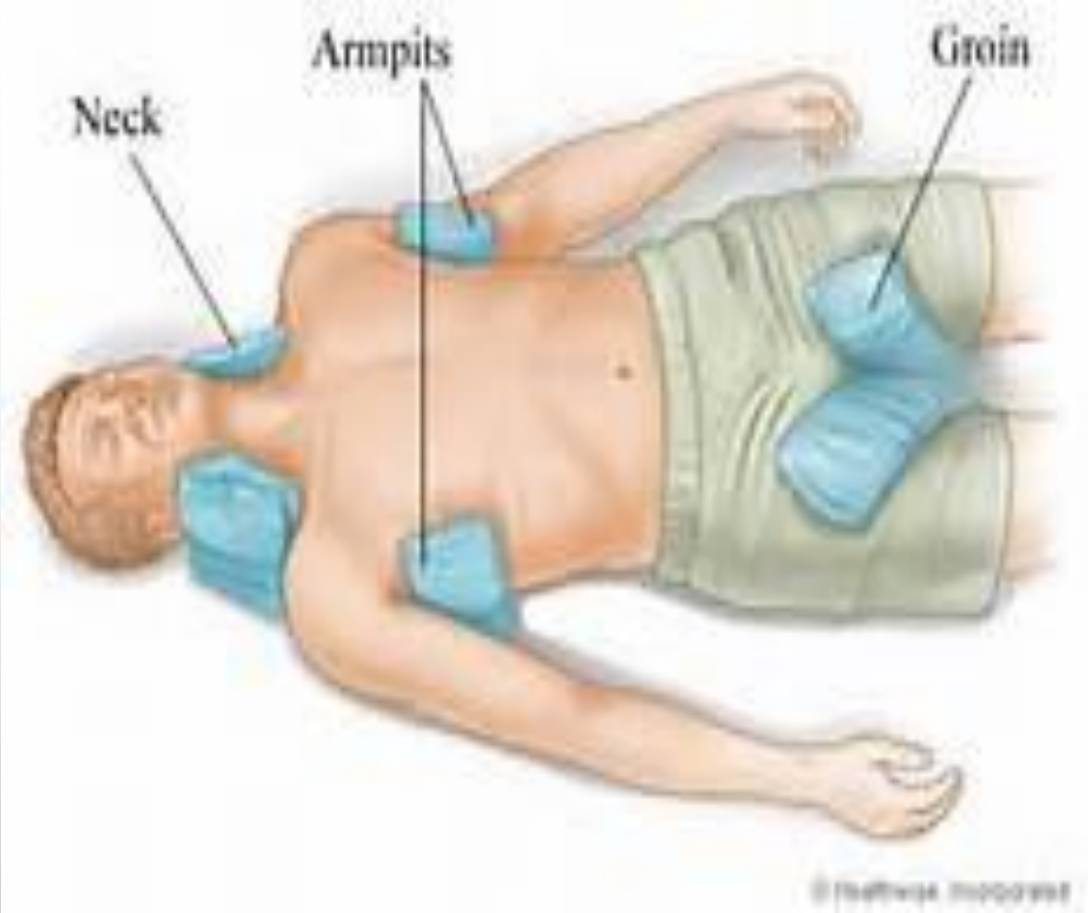
COOL DOWN

COOL DOWN BODY AS QUICKLY AS POSSIBLE…

DEATH CAN OCCUR IF THE BODY BECOMES TOO HOT!

EMERGENCY RESPONSE

WHEN HEAT STROKE IS SUSPECTED – BEGIN AGGRESSIVE LOCAL COOLING



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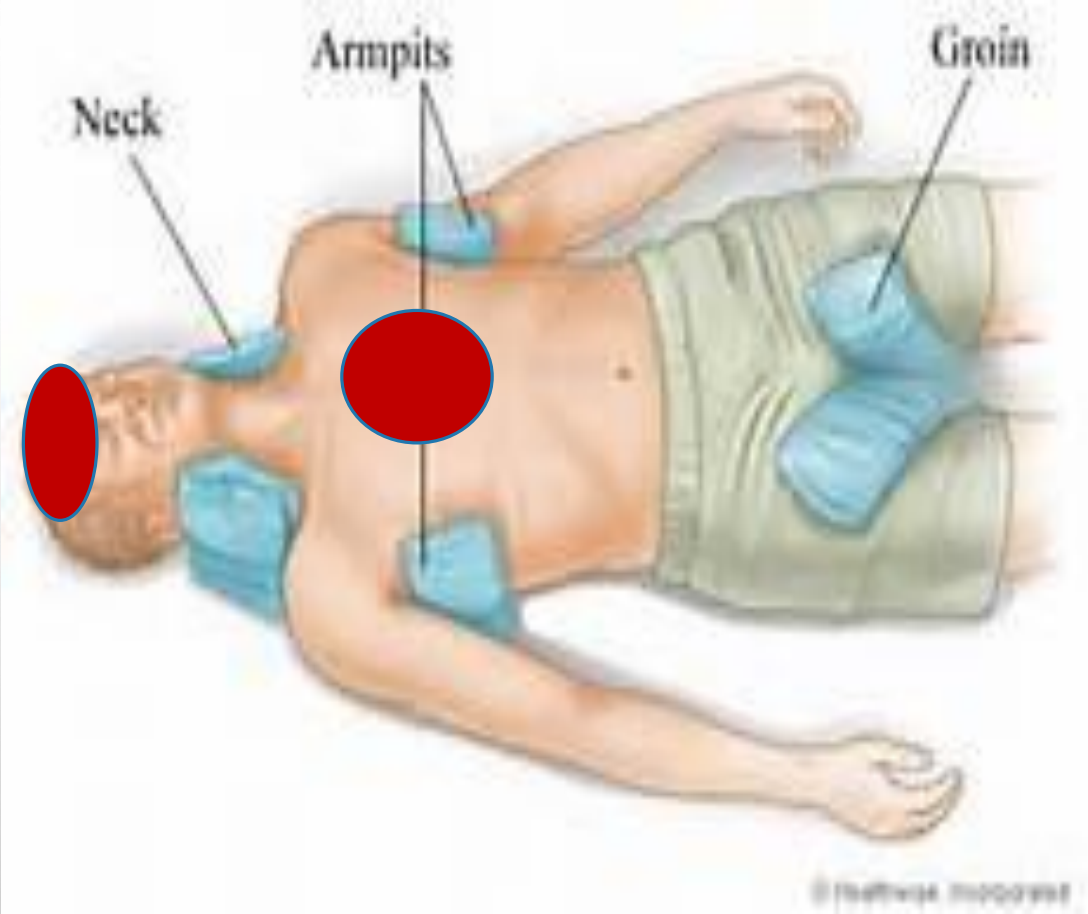

EMERGENCY INCIDENTS

- Emergency medical services must be provided as quickly as possible if an employee suffers heat illness.

- Establishing emergency response procedures is particularly important at non-fixed or remote work sites or at work sites where access is difficult.

REPORTING INCIDENTS

- All employees covered in this program will be responsible for notifying their supervisor and emergency medical response if heat stroke is recognized or suspected.

- All employees must be able to provide clear and concise directions to the worksite.

SERIOUS HAZARD

YOU RISK A CAL OSHA SERIOUS CITATION If the outdoor temperature in the work area exceeds 80° F and any of these required elements is not present at the site:

- Drinking water
- Shade
- Trained employees or supervisor
- Emergency response procedures

QUESTIONS & CONTACT INFO

- CLASS: HEAT ILLNESS PREVENTION
- DU-ALL SAFETY: (510) 651-8289 OR DU-ALL.COM
- ACCOUNT MANAGER: TERRY MCCARTHY
- SEND SIGN IN SHEETS TO SAFETY@DU-ALL.COM
- OR FAX THEM TO 510-651-8937

DU-ALL SAFETY