

SCOTTS VALLEY FIRE PROTECTION DISTRICT



STANDARD OPERATING PROCEDURES	ARTICLE: II	SOP: 2120
	SECTION: 2100	Safety
	SUBJECT: Heat Illness Prevention Program	
	DATE APPROVED: 07/17/2009	
APPROVED:		

I. Purpose: To ensure that all employees of the Scotts Valley Fire District are protected from heat illness while performing emergency operations and training exercises where strenuous activity or exposure to heat exists.

II. Scope: This procedure is to be adhered to by all personnel engaged in emergency operation and or training exercises that may be exposed to high temperatures and or strenuous work. Failure to do so may cause death or serious injury.

III. General Considerations:

- A. When persons work, train, or engage in activities subjected to heat and high temperatures, precautions must be in place to prevent heat related illnesses and injuries. Heat related illnesses and injuries can lead to a serious medical condition and may even be fatal when emergency treatment is not provided or delayed. An effective approach to preventing a heat related illness or injury is vital to protecting the lives of persons involved in outdoor activities that are subjected to heat and high temperatures.
- B. Heat related illnesses and injuries result from a combination of factors including environmental temperature and humidity, direct radiant heat from the sun or other sources, air speed, and workload. Personal factors such as age, weight, level of fitness, medical condition, use of medications and alcohol, and acclimatization affect how well the body deals with access heat.
- C. When persons work and perform activities in hot conditions, heated environments, or in outdoor situations, provisions must be taken to prevent heat related illnesses and injuries. In order to ensure that persons are protected from heat related illness injuries, a Heat Illness Prevention Program must in place. There are four key components to the Scotts Valley Fire District Heat Illness Prevention Program. The key components are:
 - 1. Written Procedures
 - 2. Training
 - 3. Availability of Drinking Water
 - 4. Access to Shade

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IV. Implementation:

- A. By the nature of the fire service, employees will be subjected to outdoor conditions in direct sunlight where temperatures may be high. In addition, employees may be exposed to radiant heat and high exertion levels.
- B. Since the above conditions are likely to occur, a Heat Illness Prevention Program will be implemented and followed. This program will be considered as standard operating procedure for the Scotts Valley Fire District.

V. Definitions:

- A. **“Acclimatization”** means temporary adaptation of the body to work in the heat that occurs gradually when a person is exposed to it. Acclimatization peaks in most people within four to fourteen days of regular work for at least two hours per day in the heat.
- B. **“Heat Illness”** means 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.
- C. **“Environmental risk factors for heat illness”** means working conditions that create the possibility that heat illness could occur, including air temperature, relative humidity, radiant heat from the sun and other sources, conductive heat sources such as the ground, air movement, workload severity and duration, protective clothing and personal protective equipment worn by participants.
- D. **“Personal risk factors for heat illness”** means factors such as an individual’s age, degree of acclimatization, health, water consumption, alcohol consumption, caffeine consumption, and use of prescription medications that affect the body’s water retention or other physiological responses to heat.
- E. **“Preventative recovery period”** means a period of time to recover from the heat in order to prevent heat illness.
- F. **“Shade”** means blockage of direct sunlight. Canopies, umbrellas and other temporary structures or devices may be used to provide shade. One indicator that blockage is sufficient is when objects do not cast a shadow in the area of blocked sunlight. Shade is not adequate when heat in the area of shade defeats the purpose of shade, which is to allow the body to cool. For example, a car sitting in the sun does not provide acceptable shade to a person inside it, unless the car is running with air conditioning.

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VI. Training:

1. The environmental and personal risk factors for heat illness.
2. The procedures for complying with the requirement of this program.
3. The importance of frequent consumption of small quantities of water, up to 4 cups per hour, when the work or training environment is hot and participants are likely to be sweating more than usual in the performance of their duties.
4. The importance of seeking shade to help cool the body if needed.
5. The importance of acclimatization.
6. The different types of heat illness and the common signs and symptoms of heat illness.
7. The importance of employees to immediately report to a supervisor, or to a member of the crew, symptoms or signs of heat illness in themselves or other crew members.
8. The procedures for responding to symptoms of possible heat illness, including how to initiate a medical response should it become necessary based on the nature of the incident.
9. The procedures for requesting a medical response and if necessary, for transporting crew members to a point where they can be reached by an emergency medical service provider.
10. The procedures for ensuring that, in the event of an emergency, clear and precise directions are given to the incident site and will be provided as needed to emergency responders.

VII. Controls for Heat Exposure:

- A. In accordance with this program, the following controls will be in place in an effort to prevent a heat related illness or injury:
 1. **Provision of Water.** All employees of the Scotts Valley Fire District shall have immediate access to fresh water. Each Scotts Valley Fire District vehicle shall have drinking water available.

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2. **Access to Shade.** Employees suffering from heat related illnesses or injuries, or believing a preventative recovery period is needed, shall be provided access to an area with shade that is either open to the air or provided with ventilation or cooling for a period of no less than five minutes. Access to the shade will be permitted at all times. These areas may include trees, structures, or vehicles.

3. **County Rehab Policy.** With the exception of Wildland Firefighting, the Santa Cruz County Fire Agencies "Firefighter Rehabilitation" guidelines shall apply to all emergency operations and training exercises where strenuous activity or exposure to heat exists.

VIII. Heat Related Illnesses and Injuries:

- A. Employees will be trained on the signs and symptoms of a heat related illness or injury. The main types heat related illnesses or injuries are:

	Symptoms	Treatment
Heat Cramps	<ul style="list-style-type: none"> • Muscle spasms in legs or abdomen 	<ul style="list-style-type: none"> • Move person to cooler location • Stretch muscles for cramps • Give cool water or electrolyte-containing fluid to drink
Heat Exhaustion	<ul style="list-style-type: none"> • Headaches • Clumsiness • Dizziness / lightheadedness / fainting • Weakness / Exhaustion • Heavy Sweating / clammy moist skin • Irritability / confusion • Nausea / vomiting • Paleness 	<ul style="list-style-type: none"> • Move person to cool place • Loosen or remove clothing • Provide small amounts of water to drink • Fan person, spray with cool water, apply wet towels to head, neck, or other skin • Provide further medical attention

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	Symptoms	Treatment
Heat Stroke	<ul style="list-style-type: none"> • Sweating may or may not be present • Red or flushed, hot dry skin • Bizarre behavior • Mental confusion or loss of consciousness • Panting or rapid breathing • Rapid or weak pulse • Seizures 	<ul style="list-style-type: none"> • Activate emergency medical procedures • Move person to a cool place • Provide rapid cooling • Loosen or remove clothing • Provide oxygen as needed • Obtain and constantly monitor vital signs. • Fan person, spray with cool water, apply wet towels to head, neck, or skin.