



Monterey County Fire Training Officers Association
www.mcftoa.org

Wildland Fire School Heat Illness Prevention Program

I. Purpose:

The purpose of this program is to provide a safe training environment for attendees and participants during the Monterey County Fire Training Officers Association Wildland Fire School. This includes providing a written policy in preventing and responding to heat related illnesses and injuries. In addition, this program is intended to protect attendees and participants who are exposed to high temperatures, radiant heat, areas of direct sunlight, limited air movement and shade, and other exposures that could contribute to a heat related illness or injury.

II. Scope:

This program pertains to all participants and attendees at Wildland Fire School including all students, attendees, participants, instructors, overhead personnel, support staff, and contract personnel.

III. General Considerations:

- A. When persons work, train, or engage in outdoor 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 and injuries, a Heat Illness Prevention Program must be in place. There are four key components to the Wildland Fire School Heat Illness Prevention Program. The key components are:
 - 1. Written Procedures
 - 2. Training
 - 3. Availability of Drinking Water
 - 4. Access to Shade

IV. Implementation:

- A. By the nature of Wildland Fire School, attendees and participants will be subjected to outdoor conditions in direct sunlight where temperatures may be high. In addition, attendees and participants may be exposed to radiant heat and high exertion levels.
- B. Since the above conditions are likely to occur during Wildland Fire School, a Heat Illness Prevention Program will be implemented and followed. This program will be considered as policy for the Wildland Fire School effective May 30, 2008.

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.

VI. Training:

- A. Prior to each day's training activity, all participants will receive training during the safety briefing on the following:
 - 1. The environmental and personal risk factors for heat illness.
 - 2. The procedures for complying with the requirements 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 to participants of immediately reporting to a supervisor, or to a member of the command or instructional staff, symptoms or signs of heat illness in themselves or other participants.
 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 and in accordance with the Medical Plan.
 9. The procedures for requesting a medical response and if necessary, for transporting participants 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 to the incident site can and will be provided as needed to emergency responders.
- B. Prior to each day's training activity, overhead personnel and instructional staff will be briefed on the following:
1. Items VI. A. 1-9 above.
 2. The procedures for supervisors to follow to implement the applicable provisions in this program.
 3. The procedures the overhead personnel and instructional staff are to follow when an employee exhibits symptoms consistent with possible heat illness, including emergency response procedures.
 4. The provisions of the Medical Plan including section #8 "Medical Emergency Procedures.

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 participants in the Wildland Fire School shall have immediate access to fresh drinking water. Each student participant shall have available to them eight quarts of drinking water available during each operational training period. This will be accomplished by providing at least six quarts of water per person carried on each fire apparatus. For a four person engine company, this would be at least two cases, (24) one-pint bottles of water per case) on each engine. Each person will carry a minimum of one quart of water as their personal water supply. Additional water will be provided as needed.
 2. **Access to Shade.** Participants 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. Areas of shade on the Branch will be identified during the daily safety briefing. These areas may include trees, structures, or vehicles.

VIII. Heat Related Illnesses and Injuries:

A. Personal will be briefed 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
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.

IX. Participant Guidelines:

- A. In order to reduce the risk of experiencing a heat related illness or injury while participating in the Wildland Fire School, participants are encouraged to consider the following guidelines:
1. Participants should be in good physical condition prior to engaging in strenuous activity in high heat conditions.
 2. Drink plenty of water before and during each operational training period.
 3. Take breaks in a cool shaded area allowing time for recovery from the heat.
 4. Avoid or limit the use of alcohol or caffeine during periods of extreme heat. Both dehydrate the body.
 5. If you are experiencing symptoms such as nausea, dizziness, weakness, or unusual fatigue, let your supervisor know and rest in a cool shaded area.
 6. When in direct sunlight and not wearing a protective helmet, wear a hat that provides shade to your head and face.
 7. When working in the heat pay extra attention to your co-workers and report any suspected cases of a heat related illness or injury.
 8. Take immediate action for yourself or others you if suspect a heat related illness or injury is occurring.

Daniel Gearhart, Safety Officer

Wildland Fire School