

# MAY IS HEAT AND COLD STRESS AWARENESS MONTH

## ENVIRONMENTAL FACTORS

Heat and cold stress can be deadly to firefighters. It is a contributing factor in many line of duty deaths, as it can impair judgement, cause a loss of consciousness, and be fatal on its own. In particular, firefighters are susceptible to heat stress from their PPE and hot conditions from a fire.

## HEAT STRESS POLICY

Labor and Industries has instituted a heat stress rule that becomes effective at several temperature points list below:

- 52°- Non-breathing clothes including vapor barrier clothing or PPE such as chemical resistant suits.
- 77°- When wearing double layer clothing - including jackets, sweatshirts and coveralls.
- 89°- For all other clothing.

At these temperature levels a written heat stress plan, training, and hydration plans must be instituted.

## ENVIRONMENTAL FACTORS

Due to the nature of our activities, our heat stress plan applies to all training and firefighting activities requiring structural or wild land firefighting clothing. This type of PPE can cause heat stress even in cold weather.

## TRAINING REQUIREMENTS

Member and Supervisor (OIC) Training

Yearly training on the following topics will be provided to all members who may be exposed to heat stress.

Members' susceptibility to heat-related illness can be increased due to an individual's age, degree of acclimatization, medical conditions, drinking water consumption, alcohol use, caffeine use, nicotine use, and use of medications that affect the body's responses to heat.

Members should be personally aware and responsible to keep hydrated by drinking small amounts of water throughout the day and at the incident or during training.

Training in full PPE will help acclimate members to live firefighting or emergency conditions.

The Labor and Industries powerpoints and videos will be used for training both Supervisors and members for heat stress. Cold stress training includes a review of this section.

## BEST PRACTICES

- Try to do the hottest training evolutions during the cooler parts of the day.
- Require members to follow rehab schedule on both live fires and training evolutions.
- Watch members for symptoms of heat-related illness. This is especially important for volunteer members or part time firefighters, as they may not be acclimated to heat.
- If exertion causes someone's heart to pound or makes them gasp for breath, become light-headed, confused, weak or faint, they should STOP all activity and get into a cool area or at least into the shade, and rest.
- The two major heat-related illnesses are heat exhaustion and heat stroke.

Heat exhaustion, if untreated, may progress to deadly heat stroke. Heat stroke is very dangerous and frequently fatal. If members show symptoms, always take this seriously and have them take a break and cool down before returning to work. Stay with them. If symptoms worsen or the member does not recover within 15 minutes, call on site EMS and have them transported and medically evaluated at a hospital. Do not delay transport.

## HEAT EXHAUSTION SYMPTOMS

- Heavy sweating
- Exhaustion, weakness
- Fainting/light-headedness
- Paleness
- Headache
- Clumsiness, dizziness
- Nausea or vomiting
- Irritability

## HEAT STROKE SYMPTOMS

- Altered level of consciousness
- Sweating may or may not be present
- Red or flushed, hot dry skin
- Confusion/bizarre behavior
- Convulsions before or during cooling
- Collapse
- Panting/rapid breathing
- Rapid, weak pulse

**Note:** Heat Stroke may resemble a heart attack.

## RESPONSE FOR HEAT EXHAUSTION

- Move the member to a cool, shaded area to rest; do not leave them alone.
- Loosen and remove heavy clothing or PPE that restricts evaporative cooling.
- Give cool water to drink, about a cup every 15 minutes.
- Fan the member, spray with cool water, or apply a wet cloth to their skin to increase evaporative cooling.
- Recovery should be rapid. If the member does not recover or symptoms worsen have on site EMS transport to a hospital immediately.
- Do not further expose the member to heat that day. Have them rest and continue to drink cool water or electrolyte drinks.
- Members showing signs or complaining of symptoms of heat-

related illness must be relieved from duty for the rest of their shift, provided with a sufficient means to reduce body temperature, and monitored to determine whether medical attention is necessary.

## RESPONSE FOR HEAT STROKE

- Get help immediately from EMS members and transport as soon as possible.
- Move the member to a cool, shaded area and remove clothing that restricts cooling.
- Seconds count! Cool the member rapidly using whatever methods you can. For example, place the member in a cool shower, spray the member with cool water from a low pressure hose, sponge the member with cool water, or if the humidity is low, wrap the member in a cool, wet sheet and fan them vigorously. Continue cooling until transported.
- If emergency medical personnel are delayed, call the hospital emergency room for further instruction.

## REHAB POLICY

### INCIDENT COMMANDER

The Incident Commander shall make adequate provisions early in the incident for the rest and rehabilitation for all members operating at the scene. These provisions shall include: A Rehab Officer, a plan to include rapid transport of a member to a medical facility by on-site personnel, shade or air conditioning (for hot weather or a heat stress index above 90° F), a dry protected area or heated area (for cold or wet weather), medical evaluation, treatment and monitoring, food and fluid replenishment, mental rest, and relief from extreme climatic conditions and the other environmental parameters of the incident.

**REHAB AREAS**

The rehabilitation area (rehab) shall include the provision of Emergency Medical Services (EMS) at the Basic Life Support (BLS) level or higher.

rehab areas of sufficient size or multiple rehabilitation areas must be set up if the geographical area or size of the scene creates barriers limiting members' access to rehabilitation.

Live fire training requires transport ready EMS on scene.

Members assigned to the rehab Sector/ Group shall enter and exit rehab as a crew. The crew designation, number of crew members, and the times of entry and exit from the rehab shall be documented by the Rehab Officer or his/her designee on the Company Check-In/Out Sheet. Crews shall not leave rehab until authorized to do so by the Rehab Officer.

**REST TO WORK SCHEDULE**

The following list is a general guideline for instituting rehab on a fixed schedule based on NFPA 1584. After members use two 30-minute SCBA bottles, one 45-to-60-minute SCBA bottle, or perform 40 minutes of strenuous work without an SCBA, the member should go to rehabilitation for a 10 to 20 minute rest and rehydrate.

At drills and fires longer than 4 hours, food and water shall be provided at 3 hour increments to all active firefighters.

**SPECIFIC TRAINING REQUIRED**

- Supervisor Training:** Use the L&I training kit found at: <http://www.lni.wa.gov/safety/traintools/trainer/kits/HeatIllness>
- Employee Training:** Use the L&I training kit found at <http://www.lni.wa.gov/safety/traintools/trainer/kits/HeatIllness/>

**SUPERVISORS (OFFICER IN CHARGE)**

All OICs shall maintain an awareness of the condition of each member operating within their span of control and utilize the command structure to request relief and the reassignment of fatigued crews. OICs shall evaluate their crews every 45 minutes and more often in hot or cold conditions.

**WATER**

Departments must encourage firefighters to consume at least one quart of water per hour when conditions present heat or cold stress hazards. A rehydration solution should be a 50/50 mixture of water and a commercially prepared activity beverage and administered at about 40° F (ice may be required). Rehydration is important even during cold weather operations. Our department shall provide a sufficient amount of water on scene to meet the above recommendations.

**FOOD**

Our department will provide food at the scene of an extended incident when units are engaged for three or more hours. Fruits, soup, broth, or stew are highly recommended. Salty foods should be avoided.

**EVALUATIONS**

Members entering the rehabilitation area that feel warm or hot shall remove their personal protective clothing.

At a minimum, a person trained in basic life support shall be located in the rehabilitation area to conduct medical monitoring and evaluation of crews entering the rehabilitation area.

**MAY SUGGESTED TRAINING SCHEDULE**

	TRAINING SUGGESTION	DEPARTMENT ACTUAL TRAINING SCHEDULE
<b>WEEK 1 DATE:</b>	HEAT STRESS- REHAB	
<b>WEEK 2 DATE:</b>	DECON-HOT ZONE	
<b>WEEK 3 DATE:</b>	SEARCH AND RESCUE	
<b>WEEK 4 DATE:</b>	OVERHAUL	
<b>OPTIONAL FULL DAY:</b>		
<b>OTEP DATE:</b>		

All medical evaluations shall be recorded on standard forms along with the member's name and complaints and must be signed, dated and timed by the Rehab Office or his/her designee.

Employees showing signs or complaining of symptoms of heat-related illness must be relieved from duty, provided with sufficient means to reduce body temperature, and monitored to determine whether medical attention is necessary.

Members shall not be released from rehabilitation until a person trained in basic life support okays their return to work.

*(WFC Sample SOP 12.06.05)*

**COLD STRESS POLICY**

**When temperatures <45° in wet conditions or <32° when dry the department shall:**

1. Provide warm up areas in rehab for firefighters with warm fluids and blankets.
2. Have OICs monitor and give access to BLS care for members with potential hypothermia and frostbite.
3. Immediately take to rehab firefighters who cannot stop shivering, are moving slowly, or have waxy or blue skin for evaluation.

Reference: WAC 296-305-05004

**Customize our program:** \_\_\_\_\_  
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**Note:** For further guidance, sample policies and information please consult the 2008 edition of NFPA 1584,