
Heat Illness Prevention Program

906.1 PURPOSE AND SCOPE

The purpose of this policy is to promote member health and safety by establishing a heat illness prevention program requiring member participation and implementing an effective training program (see the Heat Illness Prevention Training Policy).

The intent is to establish methods to lower the risk of illness or injury due to exposure to high-heat working conditions and to establish fireground rehabilitation guidelines to ensure that the physical and mental condition of members does not deteriorate to the point that it negatively affects their safety or emergency operations.

906.1.1 DEFINITIONS

Definitions related to this policy include:

Fireground rehabilitation - A system for on-scene management of firefighter heat stress, dehydration and fatigue. The primary goals of rehabilitation are rehydration, rest and cooling, assessment of remaining work capacity and recognition and treatment of heat strain injuries.

Heat exhaustion - A condition caused by the loss of large amounts of fluid by sweating. A worker suffering from heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea or headache. In more serious cases, the victim may vomit or lose consciousness. Skin may be clammy or moist, pale or flushed. Body temperature is normal to slightly elevated. Mild heat exhaustion will respond to copious water and a cool environment. Those with severe cases may require extended care for several days.

Heat stress - The aggregate of environmental and physical work factors that constitute the total heat load imposed on the body. Heat load is derived from two major sources:

- Internally generated metabolic heat, which is a by-product of chemical processes that occur within the cells, tissue and organs of firefighters exerting themselves in turnout clothing
- Externally imposed environmental heat, which influences the rate at which body heat can be exchanged with the environment and consequently the ease with which the body can regulate and maintain a normal temperature

Heat strain - The series of physiological responses to heat stress. These responses reflect the degree of heat stress. When the strain is excessive for the individual, a heat disorder (heat exhaustion or heat stroke) will follow.

Heat stroke - A condition where the body's temperature regulatory system fails, sweating becomes inadequate and the body's only effective means of removing excess heat is compromised. Early recognition and treatment of heat stroke is the only means of preventing permanent brain damage or death. Signs and symptoms of heat stroke may include mental

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confusion, convulsions, an altered level of consciousness and skin that is hot, usually dry and red or spotted. Body temperature is usually 104 degrees or higher.

906.2 POLICY

It is the policy of the Blue Ridge Fire District to require member participation in the heat illness prevention program and the accompanying training.

906.3 REQUIREMENTS

This heat illness prevention program shall apply to all emergency operations and training exercises where personnel are exposed to heavy physical exertion and/or extreme heat conditions.

A rehabilitation group will be established by the Incident Commander (IC) when conditions dictate that rest and rehabilitation are needed at an emergency scene. Rehabilitation considerations should include, but are not limited to:

- **Length of the operation** - The two-bottle rule should generally be observed. After the use of two self-contained breathing apparatus (SCBA) air bottles (or 30 to 60 minutes of strenuous activity), a firefighter should be evaluated in the rehabilitation area. Rehabilitation should generally be considered for second-alarm fires or greater. Prolonged motor vehicle incidents and heavy rescues in hot weather are other examples.
- **Amount of exertion** - Captains should maintain an awareness of the exertion/exhaustion level of crews. The degree of exertion can vary greatly in each incident. Individuals who are under-hydrated or are on the first day back after any gastrointestinal illness are particularly susceptible to early onset of heat illness.
- **Adverse climatic conditions** - Temperatures in excess of 90 degrees have historically produced early onset of heat exhaustion and/or collapse. Rehabilitation efforts should generally be established when ambient air temperature is over 85 degrees and there is a potential for extended operations. High humidity also plays a role and should be considered.
- **Communication** - It may be difficult for the IC to assess the exertion or exhaustion level of the firefighters. If a firefighter needs rest, he/she is responsible for communicating his/her needs to a supervisor. If one individual is experiencing heat exhaustion, supervisors should be aware that there may be additional firefighters in need of rehabilitation.

It is the responsibility of the IC to make an early determination of situations that may require a rehabilitation group and institute the appropriate rehabilitation efforts accordingly.

It is the responsibility of every Captain to monitor the condition of all firefighters for signs of heat stress or fatigue. When these conditions are noted, the officer shall advise the IC or assigned Incident Safety Officer and request assignment of the company to the rehabilitation group.

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It is the responsibility of all personnel operating at an incident to report to their immediate supervisor if they are feeling the strain of overexertion. There is a point at which even the most physically fit individual becomes a liability rather than an asset due to intense physical exertion in turnout clothing. Taking 10 to 20 minutes in rehabilitation to cool down and rehydrate can prevent illness and injury.