

River Falls Ambulance and River Falls Fire Department Firefighter Rehabilitation

1. PURPOSE

To ensure that the physical and mental condition of firefighters operating at the scene of a fire call does not deteriorate to a point that affects the safety of each firefighter or that jeopardizes the safety and integrity of the operation.

2. SCOPE

This protocol shall apply to all fire calls where strenuous physical activity or exposure to extreme heat or cold exist.

3. RESPONSIBILITIES

A. Incident Commander

The Incident Commander shall maintain an awareness of the condition of each firefighter operating within their span of control and ensure that adequate steps are taken to provide for each member's safety and health. The command structure shall be utilized to request relief and the reassignment of fatigued crews.

B. Medical Commander

The Medical Commander shall make adequate provisions early in the incident for the rest and rehabilitation for all firefighters operating at the scene. These provisions shall include: 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. The rehabilitation shall include the provision of Emergency Medical Services (EMS) at the First Responder level or higher.

C. Firefighter Personnel

During periods of hot weather, firefighters shall be encouraged to drink water and activity beverages throughout the incident. During any emergency incident or training evolution, all members shall advise their Incident Commander when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect themselves, their crew, or the operation in which they are involved. Firefighters shall also remain aware of the health and safety of other members of their crew.

4. ESTABLISHMENT OF REHABILITATION SECTOR

A. Responsibility

The Incident Commander in conjunction with the Medical Commander will establish a need for a Rehabilitation Area when conditions indicate that rest and rehabilitation will soon be needed for personnel operating at an incident scene. River Falls Ambulance Medical Commander will be placed in charge of the medical rehabilitation and shall be known as the Rehabilitation Officer. The Rehabilitation Officer will typically report to the Incident Commander in the framework of the incident management system.

B. Location.

The location for the Rehabilitation Area will normally be designated by the Incident Commander. If a location has not been designated, the Rehabilitation Officer (RF EMS Medical Commander) shall select an appropriate location based on the site characteristics and designations in section C below.

C. Site Characteristics.

- (1) It should be an upwind location that will provide physical rest by allowing the firefighter to recuperate from the demands and hazards of the emergency operation. The location should be easily accessible by EMS units in case of transport.
- (2) It should be far enough away from the scene that members may safely remove their turnout gear and SCBA and be afforded mental rest from the stress and pressure of the emergency operation.
- (3) It should provide suitable protection from the prevailing environmental conditions. During hot weather, it should be a cool shaded area. During cold weather, it should be a warm dry area.
- (4) It should enable rescue personnel to be free of exhaust fumes from apparatus, vehicles, or equipment (including those involved in the Rehabilitation Sector or Group operations).
- (5) It should be large enough to accommodate multiple crews, based on the size of the incident and be capable of setting up fans, tarps, etc.
- (6) It should allow prompt reentry back into the emergency operation upon complete recuperation.

D. Site Designations.

- (1) RF EMS Disaster Management Trailer, or a school bus.
- (2) Fire apparatus, ambulance, or other designated emergency vehicles at the scene.
- (3) A nearby garage, building lobby, or other safe structure.

E. Resources

The Rehabilitation Officer (Medical Command) shall secure all necessary resources required to adequately staff and supply the Rehabilitation Area. The supplies should include the items listed:

- (1) *Medical* – EMT's, blood pressure cuffs, stethoscopes, oxygen supplies, cardiac monitors, thermometers, and intravenous equipment/fluids as needed.
- (2) *Food* – soup, broth, or stew in hot/cold cups and sandwiches as needed.
- (3) *Fluids* – water, activity beverage, oral electrolyte solutions and ice.
- (4) *Other* – awnings, fans, tarps, smoke ejectors, heaters, dry clothing, extra equipment, floodlights, blankets and towels, traffic cones and fire line tape (to identify the entrance and exit of the Rehabilitation Area).

5. GUIDELINES

A. Establishing the Need for a Rehabilitation Area

Rehabilitation should be considered by Incident Command during the initial planning stages of a fire call. However, the climatic or environmental conditions of the emergency scene should not be the sole justification for establishing a Rehabilitation Area. Any activity or incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of personnel and therefore merits consideration for rehabilitation.

Climatic or environmental conditions that indicate the need to establish a Rehabilitation Area are heat stress index above 90°F or windchill below 10°F.

B. Hydration

A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Water must be replaced during exercise periods and at emergency incidents. During heat stress, the firefighter should consume at least one quart of water per hour. The re-hydration solution should be a 50:50 mixture of water and a commercially prepared activity beverage and administered at about 40°F. Re-hydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when protective equipment is worn. Alcohol and caffeine beverages should be avoided before and during heat stress because both interfere with the body's water conservation mechanisms. Carbonated beverages should also be avoided.

C. Nourishment

The River Falls Fire Department shall provide food at the scene of an extended incident when units are engaged for three or more hours. A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast food products. In addition, food such as apples, oranges, bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

D. Rest.

The "*two air bottle rule*," or 40 minutes of work time, is recommended as an acceptable level prior to mandatory rehabilitation. Members shall re-hydrate (at least eight ounces) while SCBA cylinders are being changed. Firefighters having worked for two full 30-minute rated bottles, or 40 minutes, shall be immediately placed in the Rehabilitation Area for rest and evaluation. In all cases, the objective evaluation of a firefighter's fatigue shall be the criteria for rehabilitation time. *Rest time of each firefighter shall be determined by the Rehabilitation Officer. Total rest time will be dependant on the firefighter's current condition.* Firefighters released from the Rehabilitation Area, shall be available in the Staging Area to ensure that fatigued members are not required to return to duty before they are rested, evaluated, and released by the Rehabilitation Officer or designee.

E. Recovery.

Firefighters in the Rehabilitation Area should maintain a high level of hydration. Firefighters should not be moved from a hot environment directly into an air conditioned area because the body's cooling system can shut down in response to the external cooling. An air conditioned environment is acceptable after a cool-down period at ambient temperature with sufficient air movement. Certain drugs impair the body's ability to sweat and extreme caution must be exercised if the member has taken antihistamines, such as Actifed or Benadryl, or has taken diuretics or stimulants.

F. Medical Evaluation.

- (1) Emergency Medical Services (EMS) should be provided and staffed by the most highly trained and qualified EMS personnel on the scene (at a minimum of EMT-Basic level). They shall evaluate vital signs, examine firefighters, and make proper disposition (return to duty, continued rehabilitation, or medical treatment and transport to medical facility). Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and providing fluids for re-hydration. Medical treatment for firefighters whose signs and/or symptoms indicate potential problems, should be provided in accordance with River Falls EMS medical control procedures. *EMS personnel shall be assertive in an effort to find potential medical problems early.* Firefighters shall not leave the Rehabilitation Area until authorized to do so by the Rehabilitation Officer.
- (2) Heart Rate and Temperature - The heart rate should be measured for 30 seconds as early as possible in the rest period. If a firefighter's heart rate exceeds 140 beats per minute, an oral temperature should be taken. If the firefighter's temperature exceeds 100.6°F, he/she should not be permitted to wear protective equipment. If it is below 100.6°F and the heart rate remains above 120 beats per minute after 5 minutes of rest, rehabilitation time should be increased. If the heart rate is less than 120 beats per minute, the chance of heat stress is negligible.
- (3) Documentation - All medical evaluations and documentation shall be recorded on the River Falls Ambulance Firefighter rehab log. This documentation includes: firefighter's name & department, time into rehab area, vital signs, treatment/comments, time out of rehab area and initials of releasing Rehabilitation Officer or his/her designee.

This protocol references FEMA Publications.
Federal Emergency Management Agency
US Fire Administration
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