

SUBJECT: REHABILITATION
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PURPOSE

To ensure that the physical and mental condition of members operating at the scene of an emergency or training exercise does not deteriorate to a point that affects the safety of each member or that jeopardizes the safety and integrity of the operation.

POLICY

This procedure shall apply to all emergency operations and training exercises where strenuous physical activity or exposure to heat and/or cold exist.

PROCEDURE

- A. The Incident Commander will establish a Rehabilitation Sector when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident or training evolution. A member will be placed in charge of the sector and shall be known as "Rehab Officer".
- B. The location for the Rehabilitation (Rehab) Area will normally be designated by the Incident Commander. If a specific location has not been designated, the Rehab Officer should select an appropriate location based on the site characteristics listed below.
- C. Site Characteristics:
 1. It should be in a location that will provide physical rest by allowing the body to recuperate from the demands and hazards of the emergency operation or exercise.
 2. It should be far enough away from the scene that members may safely remove their turnout and SCBA.
 3. It should be isolated enough to afford mental rest from the stress and pressure of the emergency operation or training evolution. Maintain adequate crowd control and limit access to the media.
 4. It should provide suitable protection from the prevailing environmental condition. During hot weather, it should be in cool, shaded area. During cold weather, it should be in a warm, dry area.
 5. It should enable members to be free of exhaust fumes from apparatus, vehicles or equipment (including those involved in the Rehab Sector).
 6. It should be large enough to accommodate multiple crews, based on the size of the incident.
 7. It should be easily accessible by EMS units (in and out).

8. It should allow prompt re-entry back into operation upon recuperation.

GUIDELINES

A. Rehabilitation Sector Establishment

Rehab should be considered by staff officers during the initial planning stages of an emergency response. However, the climatic or environmental conditions of the emergency scene should not be the sole justification for establishing a Rehab Area. Any activity/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 Rehab Area are a heat stress index above 90 F (see table 1-1) or a wind chill index below 10 F(see table 1-2).

B. Possible Rehabilitation Sites

1. An open area in which a Rehab Area can be created using tarps, fans, etc.
2. A nearby garage, building lobby, or other structure.
3. Several floors below a fire in a high rise building.
4. A Metro bus, school bus, or mobile office.
5. Fire apparatus, ambulance, or emergency vehicle at the scene or one renovated as a Rehab Unit.

C. Hydration

A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Water must be replaced during training and at emergency incidents. During heat stress, the member should consume at least one quart of water per hour. The rehydration solution should be a 50/50 mixture of water and a commercially prepared activity beverage (Gatorade) and administered at about 40F.

Rehydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when turnout or other protective equipment is worn.

Alcohol and caffeine beverages should be avoided before/during heat stress because both interfere with the body's water conservation mechanisms. Carbonated beverages should also be avoided.

D. Nourishment

The department should 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, foods such as apples, oranges and bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

E. Rest

The "two air bottle rule", or 45 minutes of work time, dictates a mandatory rehabilitation. Members should rehydrate (at least 8 ounces) while SCBA's are being changed out. Firefighters having worked for two full, 30-minute rated bottles (cylinders), or 45 minutes, should be immediately placed in the Rehab Area for rest and evaluation. In all cases, the objective evaluation of a member's fatigue level shall be the criteria for rehab time. Rest shall not be less than 10 minutes and may exceed an hour as determined by the Rehab Officer. Fresh crews, or crews released from the Rehab Sector, should be available to ensure that fatigued members are not required to return to duty before they are rested, evaluated, and released by the Rehab Officer.

F. Recovery

Members in the Rehab Area should maintain a high level of hydration. Members 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.

G. Medical Evaluations

1. EMS should be provided and staffed at a minimum of BLS level. They should evaluate vital signs, examine members, and make proper disposition (return to duty, continued rehab, or medical treatment and/or transport. Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and fluids for rehydration. Medical treatment for members, whose signs and/or symptoms indicate potential problems, should be provided in accordance to existing protocol. EMS personnel should be assertive in an effort to find potential medical problems early.
2. The heart rate should be measured for 30 seconds as early as possible in the rest area (once turnout has been removed). If a member's heart rate exceeds 110 beats per minute, a body temperature should be taken. If any member's temperature exceeds 100.6F, he/she should not be permitted to wear protective gear. If it is below 100.6F and the heart rate remains above 110 beats per minute, rehabilitation shall be increased. If the heart rate is less than 100 beats per minute, the chance of heat stress is negligible.
3. The blood pressure should also be monitored during the rehabilitation period. The strenuous physical work and/or exposure to heat can also effect the member's blood pressure. Blood pressure readings will often be higher than what is generally considered normal. Completely asymptomatic patients do not require treatment of their hypertension. Remember to treat the patient, not the numbers. Physical findings of a diastolic blood pressure of 130 or above and a systolic blood pressure of 180 or above may be a hypertensive emergency. Symptoms might include headache, blurred vision, nausea and confusion. Extend the

rehabilitation time and provide high flow, high concentration oxygen. Repeat blood pressure and treat per local protocol only if the blood pressure remains elevated according to the above criteria.

4. All medical evaluations should be recorded on standard forms along with the member's name and any complaints. The record must be signed, dated and timed by the Rehab Officer or his/her designee (attached).

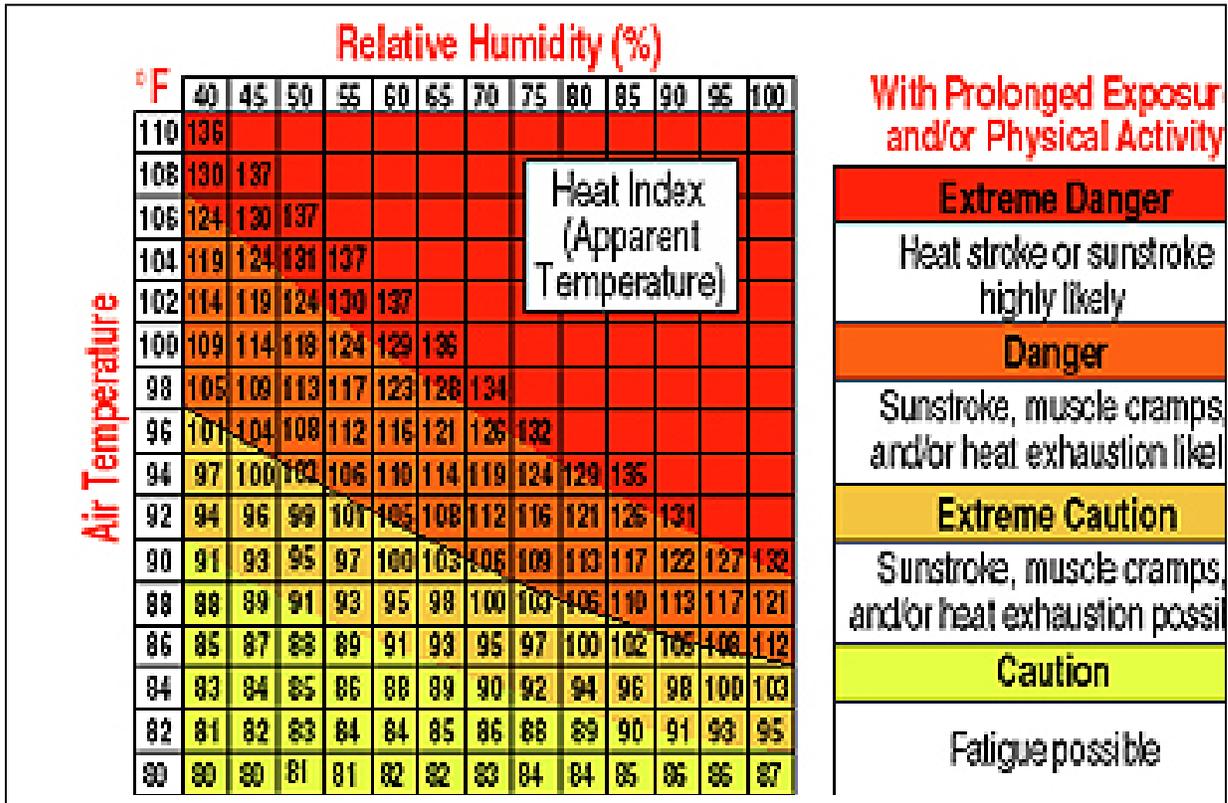
H. Accountability

Members assigned to the Rehab Sector should enter and exit the Rehab Area as a crew. The crew designation, number of crew members, and the times of entry to and exit from the Rehab Area shall be documented by the Rehab Officer or his/her designee on the Company Check-In/Out Sheet(attached). Crews shall not leave the Rehab Area until authorized to do so by the Rehab Officer. Cause for extended rehabilitation by any member may require the remainder of the crew to return to duty while the member is rehabilitated.

RESPONSIBILITY

- A. The Incident Commander should consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation for all members operating at the scene. These provisions should 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 EMS at the Basic Life Support (BLS) or higher.
- B. All supervisors shall maintain an awareness of the condition of each member operating within their span of control and insure 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.
- C. All members should be encouraged to drink water and activity beverages during the periods of hot weather. During any emergency incident or training evolution, all members shall advise their supervisor when they believe that their level of fatigue or exposure to the climate is approaching a level that could affect themselves, their crew, or the operation in which they are involved. All personnel should also remain aware of the health and safety of other members of their crew.

HEAT STRESS INDEX



| Heat Index/Heat Disorders | |
|---------------------------|---|
| Heat Index | Possible heat disorders for people in higher risk groups |
| 130° + | Heatstroke/sunstroke highly likely with continued exposure. |
| 105°-130°F | Sunstroke, heat cramps or heat exhaustion likely , and heatstroke POSSIBLE with prolonged exposure and/or physical activity. |
| 90°-105°F | Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity |
| 80°-90°F | Fatigue possible with prolonged exposure and/or physical activity. |

Table 1-1



Wind Chill Chart

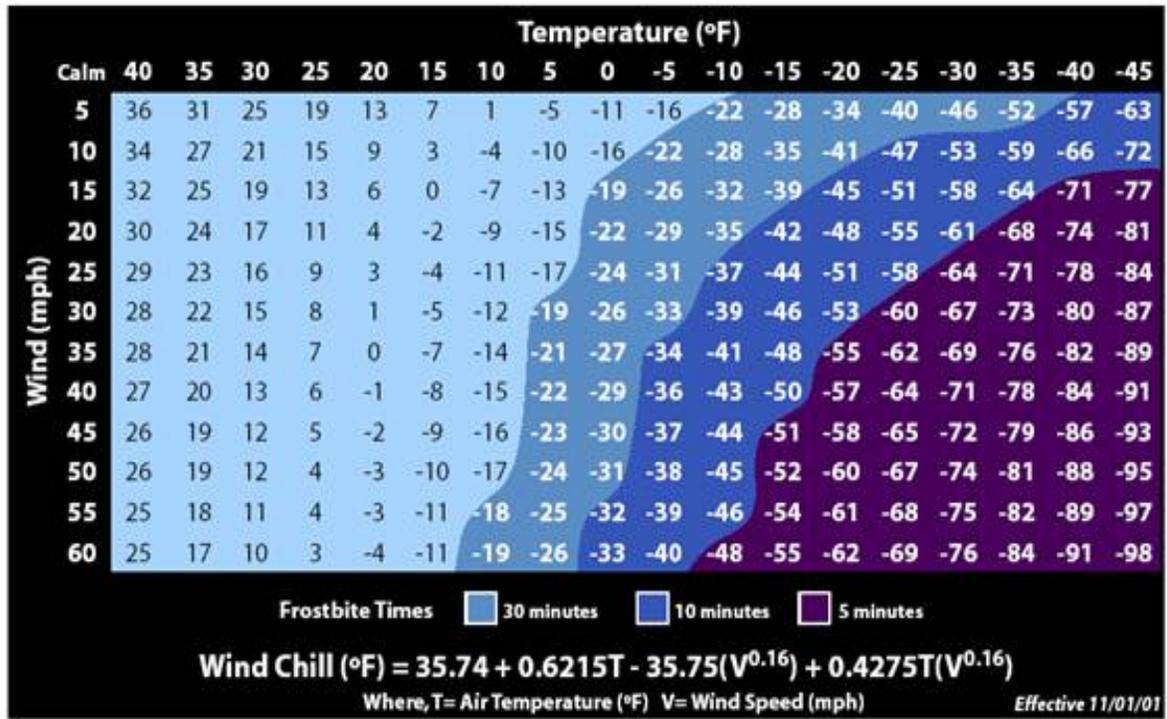


Table 2-2