

Montgomery County

EMERGENCY INCIDENT REHABILITATION

1.0 PURPOSE

- 1.1 To ensure that the physical and mental condition of all members operating at the scene Of an emergency or a 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.

2.0 SCOPE

- 2.1 This procedure should apply to all emergency operations and training exercises where strenuous physical activity or exposures to heat or cold exists.

3.0 RESPONSIBILITIES

3.1 Incident Commander

The Incident Command 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 other environmental parameters of the incident. The rehabilitation should include the provision of Emergency Medical Services (EMS) at the Basic Life Support (BLS) level or higher.

3.2 Officers

All officers should maintain an awareness of the condition of each member 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 should be utilized to request relief and the reassignment of fatigued crews.

3.3 Personnel

During periods of hot weather, members should be encouraged to drink water and activity beverages throughout the work day. During an emergency incident or training evolution, all members should advise their officer 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. Members should also remain aware of the health and safety of other members of their crew.

4.0 ESTABLISHMENT OF REHABILITATION SECTOR

4.1 Responsibility

The incident Commander will establish a Rehabilitation Sector or Group when conditions indicate that rest and rehabilitation is needed for personnel operating at an incident scene or training evolution. A member will be placed in charge of the sector/group and should be known as the Rehab Officer. The Rehab Officer will typically report to the Logistics Officer in the framework of the incident management system.

4.2 Location

The location for the Rehabilitation 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 and designations below (4.3).

4.3 Site Characteristics

- 4.3.1 It should be in a location that will provide rest by allowing the body to recuperate from the demands and hazards of the emergency operation or training evolution.
- 4.3.2 It should far enough away from the scene that members may safely remove turnout gear and SCBA and be afforded mental rest from the stress and pressure of the emergency operation or training evolution.
- 4.3.3 It should provide suitable protection from the prevailing environmental conditions, during hot weather, it should be in a cool, shaded area. In cold weather, it should be in a warm, dry area.
- 4.3.4 It should enable members to be free of exhaust fumes from apparatus, vehicles, or equipment (including those involved in the Rehabilitation Sector/Group operations).
- 4.3.5 It should be large enough to accommodate large crews, based on the size of the incident.
- 4.3.6 It should be easily accessible by EMS crews and ambulances.
- 4.3.7 It should allow prompt reentry back into the emergency operation upon complete recuperation.

4.4 Resources

The Rehab Officer should secure all necessary resources required to adequately staff and supply the Rehabilitation Area. The supplies should include the items listed below:

- 4.4.1 Fluids – water, activity beverage, oral electrolyte solutions and ice.
- 4.4.2 Food – soup, broth, or stew in hot/cold cups.
- 4.4.3 Medical – blood pressure cuffs, stethoscopes, oxygen administration devices, cardiac monitors, intravenous solutions and thermometers (if available).
- 4.4.4 Other – awning, fans, tarps, smoke ejectors, heaters, dry clothing, extra equipment, flood lights, blankets and towels, traffic cones and fire line tape (to identify the entrance and exit of the Rehabilitation Area).

5.0 GUIDELINES

5.1 Rehabilitation Sector/Group Establishments

Rehabilitation 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 jurisdiction for establishing a Rehabilitation Area. Any activity/incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of the personnel and therefore merits consideration for rehabilitation. Climatic or environmental conditions that indicate the need to establish a Rehabilitation Area are a heat stress index 90 F or wind chill index below 10F.

5.2 Hydration

A critical factor in 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 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 and administered at 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 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.

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

5.4 Rest

The "two air bottle rule" or 45 minutes of work time, is recommended as an acceptable level prior to mandatory rehabilitation. Members should rehydrate (at least eight ounces) while SCBA cylinders are being changed. Firefighters having worked for two full 30-minute rated bottles, or 45 minutes, should be immediately placed in the Rehabilitation Area for rest and evaluation. In all cases, the objective evaluation of a member's fatigue level should be the criteria for rehab time. Rest should not be less than ten minutes and may exceed an hour as determined by the Rehab Officer. Fresh crews, or crews released from the Rehabilitation Sector/Group, should 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 Rehab Officer.

5.5 Recovery

Members in the Rehabilitation 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.

5.6 Medical Evaluation

- 5.6.1 Emergency Medical Services (EMS) – EMS should be provided and staffed by the most highly trained and qualified EMS personnel on the scene (at a minimum of BLS level). They should evaluate vital signs, examine members, and make proper disposition (return to duty, continued rehabilitation, or medical treatment and transport to a medical facility). Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and providing fluids for rehydration. Medical treatment for members, whose vital signs and/or symptoms indicate potential problems, should be provided in accordance with local medical control procedures. EMS personnel should be assertive in an effort to find potential medical problems early.
- 5.6.2 Vital Signs – Vital should be taken within 30 seconds or as early as possible in the rest period. This is to allow trending data to measure each individual's medical status. Each individual should have their information recorded along with their vitals during each assessment.
- 5.6.3 Documentation – All medical evaluations should be recorded on standard forms along with the member's name and complaints and must be signed, dated and timed by the Rehab Officer or his/her designee.

5.7 Accountability

- 5.7.1 Members assigned to the Rehabilitation Sector/Group should enter and exit the Rehabilitation Area as a team or crew. The team or crew designation, number of team members, and the times of entry to and exit from the Rehabilitation Area should be documented by the Rehab officer or his/her designee on the Company Check-In/Out Sheet. Crews should not leave the Rehabilitation Area until authorized to do so by the Rehab Officer. Any individual meeting criteria for transport to an emergency for further evaluation should be moved to an available ambulance for transport. Any situations out of the scope of normal rest and rehab should be reported to the incident commander.
- 5.7.2 If the emergency worker refuses to remain in rehabilitation or causes any other sort of perceived problem by the rehabilitation center, the incident commander will be contacted to resolve the problem.

5.8 Ambulances Crews

When an ambulance is dispatched to the scene of the emergency incident they should report to the rehabilitation sector unless otherwise directed by the incident commander. Their Primary function should not for rehabilitation, they are there for providing emergency medical treatment and transport, however, if needed and not busy providing care they should be able to assist with rehabilitation.

5.9 Rehabilitation / Treatment / Transport Guidelines

GUIDELINES FOR THE ESTABLISHMENT OF SELF REHAB

Self Rehab is mandatory at:

- 🚒 First 30 min SCBA change
- 🚒 20-30 minutes of hard work without SCBA
- 🚒 IC must consider earlier break in extreme conditions

Self Rehab Procedures:

- 🚒 Accountability/Check In
- 🚒 Remove Turn-out Gear, as appropriate for conditions
- 🚒 Blankets & warm, dry clothing, as needed, in cold weather
- 🚒 Active cooling where required
- 🚒 Sit/Take a break of at least 10-15 minutes
- 🚒 Drink at least 8 oz. of water

If any Firefighter [FF] does not appear ready/fit to return to duty after appropriate self rehab break they must be evaluated by EMS personnel.

GUIDELINES FOR THE ESTABLISHMENT OF FORMAL REHAB

Formal Rehab is established when:

- 🚒 45-60 min. of SCBA use is required
- 🚒 45 min. of intense work is required
- 🚒 Heat Index level is greater than 90° F
- 🚒 Wind Chill Factor is less than -18° F

FF to report to mandatory rehab and medical evaluation at:

- 🚒 Second 30 min. SCBA bottle change
- 🚒 Single 45 min. or 60 min. SCBA bottle change
- 🚒 40 min. of intense work without SCBA
- 🚒 (Strongly consider more frequent breaks in extreme conditions)

Formal Rehab Procedures

- 🚒 Accountability/Check In
- 🚒 Remove Turn-Out Gear, as appropriate for conditions
- 🚒 Medical Evaluation by EMS Personnel
- 🚒 Triage to Rest/Rehab, Treatment Area, or Hospital according to EMS Protocols
- 🚒 Rehab should include:
 - Rest/Recovery for minimum of 20 minutes
 - Re-hydration (Drink 12 - 32 oz water in 20 minutes)
 - Electrolyte replacement after 45 minutes work (sports drinks)
 - Calorie replacement as needed (food)
 - Active cooling where required
 - Blankets & warm, dry clothing in cold weather
 - Treatment as required by protocols and re-evaluation by EMS before release from Rehab (EMS must confirm ability to perform full duty prior to release)
- 🚒 Rehab record must be filed with fire report

Upon entering the rehabilitation center, the emergency workers will be assisted in removing any SCBA devices and turnout/specialty gear the emergency workers choose.

Each person entering the rehabilitation center will have the following information documented on the "Emergency Scene Rehabilitation Documentation" form found in the MCI kits: department name, legal name, age, sex, time entered rehabilitation, initial vital signs, any repeat vital signs, time exiting rehabilitation, and disposition.

Emergency workers will be kept in the rehabilitation center for ten minutes and until vital signs are within satisfactory ranges. Vitals should be assessed every 10 minutes until these ranges are met. If emergency workers refuse to have their vitals assessed, they will be kept in rehabilitation for at least fifteen minutes and until the rehab officer of the rehabilitation center feel the person can return to duty.

Firefighters reporting for EMS evaluation should be assessed for the following:

🚒 Pulse (ASAP upon entering rehab)	🚒 CO Oximetry (<i>if available – strongly recommended</i>)
🚒 Respirations	🚒 Skin Color and Condition
🚒 Blood Pressure	🚒 Level of Consciousness
🚒 Temperature (See reverse)	🚒 Complaints/Injuries
🚒 Pulse Oximetry	🚒 Changes in Gait, Speech or Behavior

CRITERIA FOR TRIAGE TO TREATMENT AREA

🚒 Pulse > 120 beats per minute	🚒 Altered level of consciousness
🚒 Body temperature > 100.6° F	🚒 Extreme fatigue
🚒 Systolic BP > 140 mmHg	🚒 Poor skin color
🚒 Systolic BP < 90 mmHg	🚒 Nausea/Vomiting
🚒 Diastolic BP >90 mmHg	🚒 Headache
🚒 CO 10% - 15% (Assess for headache, dizziness) – Administer 10 min O ₂ NRB Mask	🚒 Dizziness
🚒 SPO ₂ <95%	🚒 Signs of Heat or Cold Stress
🚒 Chest pain/tightness	🚒 Changes in Gait, Speech or Behavior
🚒 Shortness of Breath	🚒 Any other illness/injury requiring care and/or transport

CRITERIA FOR RETENTION IN TREATMENT AREA (AFTER 20 MIN.)

Consult medical control for advice as to further treatment/transport of these patients

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| • Heart rate continues >100 BPM | • Systolic BP > 160 mmHg |
| • Respiratory rate >20 | • Systolic BP <100 mm Hg |
| • Changes in Gait, Speech or Behavior | • Diastolic BP >90 mmHg |
| • CO >10% (smoker) >5% (non-smoker) | • Any other evidence of medical, psychological or emotional distress requiring continued care |
| • • FF does not feel adequately rested | |

CRITERIA FOR IMMEDIATE TRANSPORT

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| • Chest Pain/Discomfort | • Pulse oximeter <90% |
| • Respiratory Distress | • CO >15% at any time |
| • Altered Mental Status | • CO >10% after 10 min. of NRB O ₂ |
| • Persistent Nausea/Vomiting | • Pulse >150 BPM at any time |
| • Burns | • Pulse >100 BPM after 20 min rest & rehab |
| • Systolic BP >200 mmHg at any time | • Irregular pulse at any time |
| • Diastolic BP >120 mm Hg at any time | • Temperature >101.6°F at any time |
| | • Other injuries/illnesses requiring further medical evaluation &/or care |