	Fire Chiefs' Association of Broward County Standard Operating Guidelines		
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Subject: Medical Evaluation of Emergency Workers on Emergency Incident or Training Evolutions			
Issued FCABC Board:			

I. Purpose:

Emergency operations require significant physical activity, but no rescuer will be required to perform emergency operations beyond safe levels of physical or mental endurance. This protocol is intended to examine and evaluate the physical and mental status of emergency workers working on an emergency incident or a training exercise and determine which treatment, if any, is necessary. Personnel rehabilitation using appropriate protocols in this area will decrease injury risk and enhance recovery for later emergency operations.

II. Implementation:

A Rehabilitation Area (Rehab Area) will be set up at the discretion of the Incident Commander. It is recommended that a Rehab Area be utilized at all working incidents to provide a staging area for on-scene personnel, as well as an immediate source of personnel for rescue or aid, and an area for recovery and rehabilitation of emergency workers. When a Rehab Area has been deemed necessary by the Incident Commander (IC), the first available EMS unit will be responsible for the management and coordination of the Rehab Area.

III. Procedure:

A. Establish a Rehab Area away from environmental hazards (e.g., in a shady, cool place that is, upwind and away from smoke and traffic) that is readily accessible to rescue personnel for transport and supplies. Air truck and canteen service will be stationed in this area. Multiple Rehab Areas may be needed on large incidents. If a specific location has not been designated by the IC, the Rehab Officer shall select an appropriate location based on the following site characteristics:

1. The Rehab Area 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 training evolution.
2. It should be far enough away from the scene that members may safely remove their turnout gear and self-contained breathing apparatus (SCBA) and be afforded mental rest from the stress and pressure of the emergency operation or training evolution.
3. It should provide suitable protection from the prevailing environmental conditions. During hot weather, it should be in a cool, shaded area. During cold weather, it should be in a warm, dry area.
4. It should enable members to be free of exhaust fumes from apparatus, vehicles, or equipment (including those involved in the rehabilitation group operations).
5. It should be easily accessible by EMS units.
6. It should allow prompt reentry back into the emergency operation upon complete recuperation.

B. **Resources:**

The Rehab Officer shall secure all necessary resources required to adequately staff and supply the rehabilitation area. The supplies should include the following items:

1. Fluids—water, activity beverages, oral electrolyte solutions, and ice.
2. Food (for extended operations where crews are engaged for 3 hours or more) soup, broth, or stew in hot/cold cups.
3. Medical equipment—blood pressure cuffs, stethoscopes, oxygen administration devices, cardiac monitors, intravenous solutions, thermometers, and pulse oximeters (which include the ability to monitor SpCO).
4. Other - awnings, "cool zone" misting fans, cooling chairs, heaters (according to climate), towels, and tarps.

C. **Staffing:**

Assign a minimum of two rescue personnel to monitor and assist fire fighters in the Rehab Area. An appointed Rehab Officer shall oversee the rehab operations. Their responsibility is to oversee provision of food, fluids, medical monitoring, establish and maintain an appropriate environment for rehab and rehabilitation operations in the area. These personnel will oversee the rehabilitation and availability for work of all emergency responders placed in this area.

D. **Medical Evaluations:**

When the Incident Commander has established a Rehab Area, fire fighters and other emergency responders shall be evaluated following (a):

1. The use of two SCBA bottles and/or 30 minutes of strenuous activity (e.g., use of chemical PPE, advancing hose lines, forcible entry, ventilation) (b).
2. SCBA failure.
3. Weakness, dizziness, chest pain, muscle cramps, nausea/vomiting, altered mental status, difficulty breathing, and other stress-related symptoms (c).
4. At the discretion of the Incident Commander, Rehab Officer, Safety Officer, CISM Coordinator, and Company Officer.

Note:

(a) A medical evaluation form shall be completed on all personnel entering the Rehab Area and before they return to emergency work.

(b) This does not preclude an officer from having a team member evaluated if he/she deems it appropriate. A member may be evaluated any time he/she feels it necessary.

(c) All personnel receiving ALS treatment and transport will have a patient care report completed for them.

E. **Examination:**

EMS personnel should evaluate persons arriving to the Rehab Area as they appear. Arriving emergency workers must be questioned regarding any medical symptoms, be asked about any injury resulting from incident work, and have assessment of appropriate vital signs. Examination shall occur at 10-minute intervals and will involve a minimum of:

1. Glasgow Coma Scale (GCS) score.
2. Pupillary response.
3. Vital signs (BP, P, R, CR).
4. ECG (if applicable).
5. Lung sounds.
6. Skin condition.
7. Signs and symptoms.
8. Oral temperature.

9. Pulse oximetry.
a. Arterial oxygen saturation (SpO2).
b. Carboxyhemoglobin saturation (SpCO).

An EMS Run Report and a Casualty Report shall be completed for each fire fighter or other emergency worker who is not routinely returned to emergency operations.

F. **Guidelines for Rehab:**
The following will occur: **REVIEW AGAINST FORM**

1. Normal presentations: The emergency responder will rehydrate and rest before reporting to Manpower. Rest shall not be less than 15 minutes.
2. Abnormal presentations:
   a. Blood pressure values that are higher or lower than the person's usual level.
   b. SpO2 values less than 94%.
   c. Values for the pulse rate in an emergency responder will normally be less than 100 beats per minute (BPM) at rest and less than 120 BPM at a working incident.
   3. At no time should the pulse exceed 180 BPM.
   d. Values for carbon monoxide (CO) oximetry will normally be 5% for a nonsmoker and less than 8% for a smoker. A CO oximetry reading of more than 12% indicates moderate CO inhalation; a reading of more than 25% indicates severe inhalation of CO.
4. Body temperature greater than 100.6 F
5. Management.
   a. The emergency responder will rehydrate and rest. The emergency responder will report to Manpower when presentations are normal. Presentations should return to normal within 15 minutes.
   b. If a team member's heart rate exceeds 110 BPM, an oral temperature should be taken. If the oral temperature exceeds 100.6 F, the member should not be permitted to wear protective equipment and should be treated for heat stress and monitored for worsening of the heat emergency (i.e., heat exhaustion and heat stroke).
   c. The emergency responder will receive ALS treatment and transport if presentations are abnormal for more than 15 minutes. Abnormal presentation includes the following signs and symptoms:
      1) SpO2 value less than 94%.
      2) Persistent heart rate greater than 120 BPM (lasting for 15 minutes or longer).
      3) Any emergency worker with a CO oximetry reading of more than 8% but less than 15% must be given the opportunity to breathe ambient air for 5 minutes.
      4) If the CO oximetry reading is still higher than 8%, the emergency worker should be given oxygen via mask until the value drops below 5%. Any worker with a CO oximetry reading of more than 25% must be completely evaluated and removed to a hospital, preferably one that has a hyperbaric chamber. No emergency worker should leave the Rehab Area until his/her CO level is less than 8%.
      5) Blood pressure above or below the emergency worker's normal level.
      6) Symptoms of heat stroke.
      7) Oral temperature greater than 100.6 F, lasting longer than 15 minutes (after oxygen administration).
   d. Any emergency responder with chest pain, difficulty breathing, and altered mental status will receive immediate ALS treatment and transport.
   e. Any other abnormal presentation not specified herein, where the examining paramedic's judgment determines a need for treatment and transport will be managed accordingly.

I Treatment:

Treatment will consist of one or more of the following measures. Prior to taking anything orally, the emergency responder will clean his/her hands and face. Onscene rescue personnel will provide water and a cleaning agent.

1. Remove bunker gear
2. Rest
3. Oral rehydration and nutrition (air truck, canteen service); minimum of 1 to 2 quarts of fluids over a 15-minute time period (water then full strength electrolyte drink). Avoid any substance containing caffeine (e.g., sodas, coffee, tea).
   a. Members should consume at least 1 quart of water per hour.
   b. Members shall rehydrate with at least 8 ounces of fluid while SCBA cylinders are being changed.
4. Oxygen.
5. Cool environment utilizing "cool zone" fans and/or "cooling chairs" if available (e.g., shade, electric fan, air conditioning, showers).
6. For extended operations lasting 3 or more hours, the Rehab Area should provide food such as soup, broth, or stew; these items are 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.
7. Follow ALS/BLS protocols for further treatment.

J. Return to Emergency Duties:

Members assigned to the rehabilitation group shall 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 check-in/out sheet. Crews shall not leave the Rehab Area until authorized to do so by the Rehab Officer. Report to Manpower or Incident Commander when the following criteria have been met:

1. Vital signs within normal limits.
2. Absence of abnormal signs and symptoms.
3. Minimum period of 15 minutes for rest and rehydration.
4. Released by Rehab Officer.

K. Documentation:

A Rehab Medical Evaluation Form shall be completed for all personnel evaluated in the Rehab Area and forwarded to the appropriate Rescue (EMS) Division following all applicable patient confidentiality guidelines (e.g., HIPAA). A complete patient care report (PCR) shall be completed for any member who receives treatment/transport. See Online Forms for the Emergency Worker Rehabilitation Form