

FIREGROUND REHAB PROCEDURES

The University of Pittsburgh Emergency Responder Human Performance Lab created these procedures as a guideline. Obtain approval from the local medical director before implementation.

Fireground rehab should be implemented at all working fires and prolonged rescue details.

Company level rehab: Company level rehab should be implemented after consuming a 30-minute SCBA cylinder. Company officers should ensure firefighters consume 10 – 16 ounces of water during the cylinder change prior to returning to the incident. Bottled water should be stored with spare SCBA cylinders to facilitate this process.

Formal rehab: A formal rehab sector should be established when a firefighter has consumed two 30-minute SCBA cylinders, one 45-minute or 60-minute SCBA cylinder, or has been working for 20-30 minutes in turnout gear without SCBA.

The rehab sector should ensure the following:

Shelter: Consider the elements. Avoid extremes of heat, cold, or high humidity. If possible, establish the rehab sector out of sight of the incident.

Monitor:

Vital signs

Blood pressure – determine with the subject seated

Pulse – determine for a 15 second palpation. Pulse oximeter or ECG assessment of pulse is acceptable

Respiratory rate – determine over a 15-30 second period

Temperature – use oral thermometer. Determine prior to giving fluids

Skin evaluation

Examine the exposed skin for burns, redness, and wounds.

Mental status

Individual should be alert and oriented with normal gait and clear speech.

Hydration: A typical firefighter will lose 0.5 – 2.0 lb (0.2 – 1.0 kg) during work in PPE. Subjects should consume 0.5 to 1.0 liters (16 – 33 oz) of water or sport drink on the scene. Another 0.5 to 1.0 liters (16 – 33 oz) of water or sport drink should be consumed after the incident conclusion. For extended incidents sport drink should be provided. *At a minimum*, provide the subject with 8 – 16 oz. of water or sport drink.

Consider providing rehydration with intravenous fluids.

- 1.5 to 2.0 liters of room temperature fluid should provide 0.5°C reduction in core temperature
- If available, 1 liter of cold (4°C) saline should provide 1.0°C reduction in core temperature. Once the subject begins to shiver additional cooling is unlikely to occur.

Cooling: At a minimum, turnout coat and nomex hood should be removed and turnout pants pushed down to the knees while seated in rehab. Consider active cooling (forearm immersion or cooling vest) for hot environmental conditions or prolonged periods of fire suppression.

Cold towels and misting fans can be used to increase technician comfort but are unlikely to result in significant cooling.

Temperature management

The oral thermometer may underestimate core temperature especially if the subject is drinking fluids. Summer rehabilitation should be placed in an air-conditioned building or vehicle. Winter rehabilitation

should be placed indoors with an ambient temperature of at least 65°F. Do not use the only ambulance staged at the incident for rehab.

Any firefighter with a core temperature greater than 103°F (39.4°C) should immediately receive 1 – 2 liters of 0.9 NS IV and be transported to the emergency department. Consider cold water immersion followed by rapid transport and intravenous fluids for any technician with a core temperature over 104°F (40°C). Confirm this temperature rectally if possible

Transport to medical facility for any of the following

Oral temperature greater than 102°F (38.9°C).

Oral temperature greater than 101°F (38.3°C) if other symptoms present.

Irregular pulse

Resting pulse greater than 120.

Systolic BP > 200 after rehab

Diastolic pressure > 130 anytime

Any signs of dyspnea

Any signs of mental status change

Firefighter may return to the incident if appropriate rehydration has occurred and the following vital sign criteria are met.

Heart rate < 100

Systolic BP between 100 and 160

Diastolic BP < 90

Oral temperature < 99.5°F (37.5°C)

MEDICAL MONITORING FORM ON FOLLOWING PAGES

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