Firefighter Rehabilitation

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Goals

We will discuss the need for firefighter rehab.

A review of the necessary components to a rehab area.

A discussion of the steps and parameters needed for safe firefighter rehab.
Why Rehab?

More firefighters die of stress and heat related illnesses than from burns and injuries suffered in structural collapses.

Rehab offers mental and physical rest from the stress of a fire scene, decreasing injuries from mental and physical fatigue.
Mechanisms of Heat Loss

**Convection:** heat loss as cooler air moves across the body, and the body’s heat is transferred to the moving air.

**Evaporation:** warmed body moisture is lost to the environment.
Heat Cramps: usually develop during strenuous or prolonged activity in a hot environment:

Heat Exhaustion: occurs when excessive sweat loss combined with inadequate fluid consumption result in depletion of fluid volume

Heat Stroke: caused when the body loses its ability to regulate temperature in a hot environment
Firefighter Rehabilitation is a method to interrupt and prevent medical emergencies, and protect the health and well-being of fellow firefighters.
Components of a Rehabilitation Sector
Function:
provide a safe area for fire crews to rest and rehydrate
Early identification of workers at risk for heat or stress related injuries
Treatment and disposition of ill or injured firefighters
Staffing:

Most qualified and highly trained EMS personnel on the scene should provide care and treatment. Minimum should be EMT’s. Large scale incidents: mutual aid EMS agencies. Non medical personnel can provide hydration and assistance.
Design and Location:

Should be outside the incident parameters, if possible out of sight or facing away from the fire scene
Should be upwind of the scene
Should allow prompt re-entry to the scene
Protected from extremes in temperatures and environment, free of fumes
Not accessible to the media
Should provide access to SCBA refill
Should have a supply of running and drinkable water
Close to ambulance staging in case of a need to transport
Should have one way in/out
Parameters

SOP’s should be developed to outline all aspects of the Rehab Sector.

Areas to include: criteria for entry, accountability, entry and triage, medical evaluation and treatment, and hydration and nourishment.
Criteria for entry:

Company SOP’s should designate when and why a firefighter should enter rehab.

Generally speaking: when physical and psychological limits have been reached

“Whole crew “ concept

“two bottle” rule

Time limit
Accountability:

Method used to track individuals
Entering rehab as an entire crew
Log crews in and out of rehab
All entry and exit thru a single point
Entry and Triage:

All entry thru a single point
Upon entry, or prior to entry all firefighters should remove all gear
Evaluation for injury or heat or stress related illness
Baseline vitals
Brief information collection

Heart rate > 120 bpm
Blood Pressure
> 200 systolic
< 90 systolic
> 110 diastolic
Injuries Any

Anyone meeting these criteria need medical evaluation as well as rest and rehydration
Medical Evaluation/Treatment:

All personnel should rest for a minimum of 20 minutes. Hydration should be given. Repeat vital signs should be completed at the end of 20 minutes. If a crew member has abnormal vital signs, then the whole crew should remain in rehab and receive additional monitoring.
Revaluation findings mandating continued Rehab

Heart Rate > 100
Blood Pressure
>160 systolic
< 100 systolic
>90 diastolic

Policies regarding return to work must be detailed in company SOGs

Helpful to have baseline vital records on all members, as well as documented medical history
Hospital Evaluation:

Consider Hospital evaluation for any of the following:

- **Chest pain**
- **Shortness of breath**
- **Altered mental status** (confusion, seizures, dizzy, etc.)
- **Skin that is hot and dry or moist**
- **Irregular pulse**
- **Oral temperature > 101 F**
- **Pulse > 150 at any time**
- **Pulse > 140 after cool down**
- **Systolic BP > 200 after cool down**
- **Diastolic BP > 130 at any time**

If any of these conditions present or occur, start oxygen therapy and transport to the hospital for further evaluation.

All transport policies should be outlined in company SOGs.
Hydration & Nourishment in Rehab

Fluid replacement is crucial during rehab, both water and electrolytes.

Varied recommendations on the use of commercially prepared sports beverages.

Good rule of thumb is to dilute drinks such as Gatorade by 50%.

Fluids should be cool or ambient temperature.

Avoid beverages containing carbonation and caffeine.

Incidents > 2-3 hours should consider solid foods.
What This Means

Firefighter Rehab is a positive mechanism to prevent injury, illness and even unexpected death.

Firefighter Rehab should be taken seriously by ALL firefighters.

Firefighter Rehab is NOT punishment.

Does YOUR company have Rehab SOGs?
Next Steps

Develop Rehab Sector protocols
Stock your Rehab supplies with bottled water, sports drinks, broths, crackers etc.
Use small scale rehab for heavy trainings
Investigate rehab equipment available
Attempt to collect baseline vitals of all your members and keep them in a convenient spot on a truck
Develop a basic form for triage evaluation
Using a rehab sector at heavy trainings helps to work out logistical problems that may be encountered