

MONTGOMERY FIRE / RESCUE

DEPARTMENT OF PUBLIC SAFETY



Rehab Policy

June 2014
(Revised March 2015)



Purpose: This policy establishes department procedures for rehabilitation at emergency incidents or training exercises to ensure the physical and mental condition of personnel does not deteriorate to a point that negatively affects or jeopardizes the safety or integrity of our members or the operation. This policy is written to comply with the intent of NFPA 1584, 2008 edition.

Scope: This policy shall apply to all members operating at emergency incidents and training exercises where strenuous physical activity or exposure to extreme heat or cold temperatures occurs.

Montgomery Fire/Rescue recognizes that the physical and mental demands associated with emergency operations, coupled with the environmental dangers of extreme heat or extreme cold creates an adverse working environment for our firefighters. When firefighters become fatigued, their ability to operate safely is impaired. As a result, their reaction time is reduced and their ability to make critical decisions becomes impaired. Rehabilitation is an essential element on the incident scene to prevent more serious physical and mental conditions from occurring. Members who are not provided adequate rest and hydration during emergency operations and training exercises are at increased risk for illness or injury, and may jeopardize firefighter safety as well as emergency operations. Therefore, the following protocol will enable the Incident Commander to provide the required emergency services and ensure members adhere to safety precautions.

Definitions

Passive Cooling: process of reducing body temperature by removing extra clothing and moving to a cooler environment.

Active Cooling: process of reducing body temperature by external means such as forearm submersion, iced towels and misting fans.

Medical Rehab: stage of Rehab where member undergoes medical care and preparation for transport.

Air Temperature: temperature of the ambient air around the body.

Heat Index: measurement of humidity and air temperature to determine the perceived air temperature on the human body. (see chart)



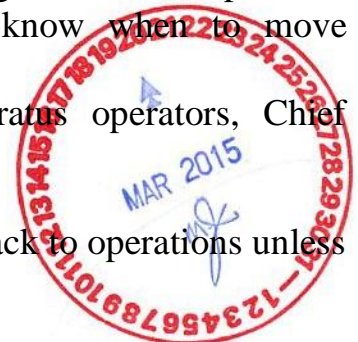
Heat Stress Index: relative index that evaluates how people respond to temperature conditions. (Review chart)

Wind-Chill Index: Measures how cold people feel when outdoors based on the rate of heat loss from exposed skin caused by wind and cold air. (Review chart)

Responsibilities

1) Incident Commander –

- a) The IC has the responsibility and authority to implement and monitor all functions of the established Rehabilitation Sector.
- b) The IC shall establish a Rehab sector for any situation that may pose medical risk to those working or training. These include:
 - All working fires
 - Prolonged rescue operations
 - Full-scale Special Operation incidents
 - Training exercises
 - Non-incident community functions
- c) The IC shall consider circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation for all members operating at the incident. These provisions include
 - Fluid and nutrition replacement
 - Recovery time from physical exertion
 - Medical Evaluation
 - Monitoring, treatment and ambulatory transportation
 - Recovery from extreme temperature conditions
- d) The IC shall keep abreast of member working conditions, operation time and temperature stresses in order to know when to move members to Rehab.
 - IC must remember to rehab apparatus operators, Chief Officers and other support personnel
- e) The IC shall not mandate members in Rehab back to operations unless approved by the Rehab Officer.



- f) The IC shall be aware of how long members were in Rehab prior to approving their return to operations.
- g) IC will remain aware of temperature conditions and utilize temperature charts (listed within this policy) to determine additional staffing or rehabilitation needs.

2) **Rehabilitation Officer:**

- a) The EMS Assistant Chief will serve as the Rehab Officer on second alarm and greater emergency incidents.
- b) In the absence of the EMS Officer, the IC will assign a Medic Officer to serve as the Rehab Officer.
 - When possible, there should be at least one Medic per ten firefighters in Rehab.
 - In addition to the Rehab Officer, One Medic Unit will be assigned to assist the Rehab Officer.
- c) If the IC has not established a Rehab site, the Rehab Officer will do so.
 - The Rehab Officer will advise the IC of the Rehab location.
- d) The Rehab Officer shall be responsible for ensuring Rehab supplies and equipment is sufficient for incident needs.
- e) Rehab Officer will ensure sufficient personnel are available to operate the Rehab Sector and provide medical evaluations and monitoring of personnel.
- e) The Rehab Officer will be responsible for tracking all data pertaining to personnel who enter and exit Rehab.
 - Medics assigned to Rehab will keep the Rehab Officer abreast of firefighters requiring prolonged or Medical Rehab.
- f) The Rehab Officer reports directly to the IC.
 - Report which units have arrived in Rehab.
 - Advise IC what units are available for operational needs.



- Advise IC how long the ready personnel have been in rehab.
- Immediately notify the IC of any members who are treated in Medical Rehab or transported.

g) Rehab Officer will not release crews or members back to operations until they are physically and medically able to perform.

3) **Personnel:**

- a) During hot weather, members shall be encouraged to drink water throughout the workday. If members participate in physical training they are to pay strict attention to their intake of fluids and ensure they are properly hydrated.
- b) Members will perform better during extreme conditions if they are physically fit.
 - This can be achieved by participating in the department's daily fitness training program.
 - Improved fitness can be achieved by continuing fitness training while off duty.
- c) If a member believes fatigue or exposure to the environment is approaching a level that could affect themselves, their crew, or the operation, they are to immediately notify their Officer or Incident Commander.
- d) All supervisors shall maintain an awareness of the condition of each member operating within their span of control and ensure adequate steps are taken to provide for each member's safety.
- e) All members shall report to Rehab when directed.
 - Members will not assume additional duties on the way to Rehab.
 - Members will report to the Rehab staff upon entering Rehab.
 - Members will remain in Rehab until released by the Rehab Officer.
 - Members will follow all direction given by the Rehab Officer or assigned personnel.



- All members will continue hydration and nutrition replacement well after the incident.
- f) During high heat index days members should consume at least one quart of water per hour. This will help maintain fluid needs for potential incident response. (Review Heat Index chart)
- g) Hydration is also important during cold weather operations. This is due to the heat stress produced by wearing protective equipment and gear. (Review Wind Chill chart)

Rehabilitation Procedures

Dispatch:

- a) Rehab 70 will be dispatched to all working fires.
- b) Rehab 70 shall be utilized for personnel safety for any extended training event, rescue operation, community event or any situation where the highest-ranking officer feels it will benefit the members.
- c) The full implementation of the Rehab Policy will be implemented at second alarm or greater incidents, incidents with extreme climate factors or where the Incident Commander deems it necessary for the safety of emergency personnel.
- Due to limited staffing as well as reduced incident activity time, the Incident Commander is not required to implement the full guidance of this policy for W-3 incidents or smaller emergency scenes.
- d) In the event Rehab 70 is not available or an additional rehab vehicle is needed, the IC or senior officer may request a Medic Unit to serve as a Rehab vehicle.

Rehabilitation Site:

- a) All major incidents will utilize Rehab 70 as a primary source of rehabilitation.

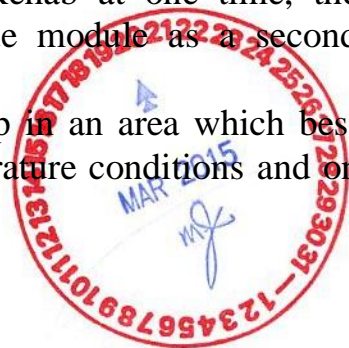


- b) In high-rise incidents, a Rehab site should be established two floors below the fire floor and separate from the interior staging area.
- c) When an incident covers a large geographical area, there may be a need to establish multiple Rehab sites. This may require the use of Rehab 70, Multiple Medic Modules, large buildings, covered parking areas, etc.
 - Multiple rehab sites should be designated as Rehab 1 and Rehab 2, or designated by a geographical location.
 - This will require each Rehab site to have its own Rehab Officer who reports to the IC.
- d) Regardless of the rehab site, all protocols and procedures will be adhered to.
- e) Rehab will be established in a location that will provide physical rest by allowing the body to recuperate from the demands of the incident.
- f) Rehab will be established in the cold zone yet on the edge of the warm zone.
- g) Rehab must be located far enough from the incident to allow the firefighters to relax in safety and close enough to prevent excessive travel for firefighters.
- h) Rehab will be established in an area well away from vehicle fumes and byproducts from the incident.
- i) Rehab will be established in an area that protects the firefighters from spectators and Media.
 - No one will be permitted in the Rehab area except the Rehab staff and firefighters receiving rehabilitation assistance.
- j) Rehab will be positioned to allow easy access by EMS units and ambulances.



Rehabilitation Protocol:

- a) The IC shall monitor and rotate personnel to Rehab based on work responsibilities, time on incident and exposure to the elements.
- b) As a rule, the IC should **consider** rehabbing firefighters after 45 minutes of intense work performance.
- c) Personnel will report to Rehab as a company unit and return to operations as a company
 - Companies will report to and from Rehab as a unit unless the IC directs otherwise.
 - A Company will be logged into Rehab using the Rehab Tracking Form when they are assigned to report.
- d) Members directed to report to Rehab will receive a base-line evaluation.
 - Mental status
 - Evaluate skin condition
 - Vitals: Pulse, Blood Pressure, Respirations
- e) Members directed to report to Rehab will remain in Rehab for no less than 15 minutes. During this time, the firefighter's vital signs are given a chance to recover to an acceptable level.
- f) Members will rehab inside Rehab 70, this will allow them to rehab in a temperature-controlled environment.
 - It is best to remove all gear prior to entering the Rehab apparatus.
 - At the least, remove the jacket and helmet prior to entering Rehab 70. This will reduce the amount of contaminants inside Rehab.
 - If too many personnel report to Rehab at one time, the Rehab Officer may utilize a rescue module as a second rehab apparatus.
 - It may be necessary to set chairs up in an area which best protects the firefighters from temperature conditions and on scene exposures and dangers.



- g) Members will rehydrate with Gatorade or water.
- Minimum of 8 ozs. but not to exceed 32 ozs. per hour.
 - Do not dilute sports drinks, it dilutes the electrolytes.
 - It is best to alternate water and sports drinks for prolonged hydration.
 - Avoid caffeine if possible, caffeine acts as a diuretic and could increase dehydration rate.
- h) Members who have not recovered after 15 to 20 minutes or who show signs of medical concern shall be moved directly to Medical Rehab. These signs include but are limited to:
- Blood Pressure > 150 systolic or > 100 diastolic
 - Pulse greater than > 110
 - Respirations >20
 - Altered mental status
 - Injury, chest pain, shortness of breath, nausea
- i) Members with vital signs equal to or greater than the above values shall be given no less than a twenty (20) minute recovery period. Begin active cooling or warming depending on weather conditions.
- Forearm submerged in ice water
 - Cold towels on head and neck
 - Misting devices
- j) If at the end of this period critical vital signs persist, as set by the value above, the firefighter shall be moved to Medical Rehab and transported to the Emergency Room.
- These individuals will be moved out of Rehab to a Rescue Module for medical treatment.
 - Separating this member from the rehab area will allow for privacy and avoidance of treatment interference.
- k) If an I.V. is administered or the member's vitals fail to improve, medical treatment and transport shall be in accordance with State EMS protocols.
- The IC is to be notified when members are transported.
 - Additional EMS personnel will be required if treating EMS personnel ride to the hospital.

Accountability:

- a) Members directed to the Rehab Sector shall report as a company unless otherwise directed by the Incident Commander.
- b) The company or unit designation number and times of entry and exist to and from Rehab shall be recorded on the company check in/out sheet.
- c) The Emergency Incident Rehabilitation Report and Rehab Tracking Form shall be completed by the Rehab Officer, and at the termination of the incident shall be forwarded to the EMS Control Officer.
- d) These reports shall be maintained at the EMS Operations Office for future reference as needed.
- e) Upon completion of Rehab, members will report to Staging.
- f) Unless directed by the IC, all personnel will report to Staging or incident activities as a complete unit. (Unless a member is unable due to medical condition)
- g) The Rehab Officer will advise the IC of the units leaving Rehab. (Include company number and number of personnel) *Example:* “IC from Rehab, three E-7 personnel are reporting to Staging; firefighter Smith remaining for further treatment.”)

Bottle Exchange:

- a) IC and Company Officers must monitor the length of time and work load of those involved in emergency incidents to anticipate a need for bottle exchange or assignment to Rehab.
- b) It is important that the Company Officer advise, over the radio, that a member is leaving to exchange bottles.
 - The person receiving the information must advise when the member has arrived at the bottle change location and when the member is returning to the Company Officer.



- The Company Officer must advise, over the radio, that the member has returned from the bottle exchange.
- If a member appears physically or medically unstable during bottle exchange, the person making the exchange must notify the IC immediately.

Note: Maintain personnel accountability throughout the incident regardless of activity or operational tasks.

Monitoring Post-incident Hydration

Once the rehab operation has been terminated and all the resources returned to service, the job of those who were assigned to provide rehab services is complete. However, the firefighters who received the service of the rehab operation must continue to monitor their own well-being. Company Officers must encourage their personnel to complete the necessary rehydration, rest, and nourishment required to bring them back to a total state of well-being.

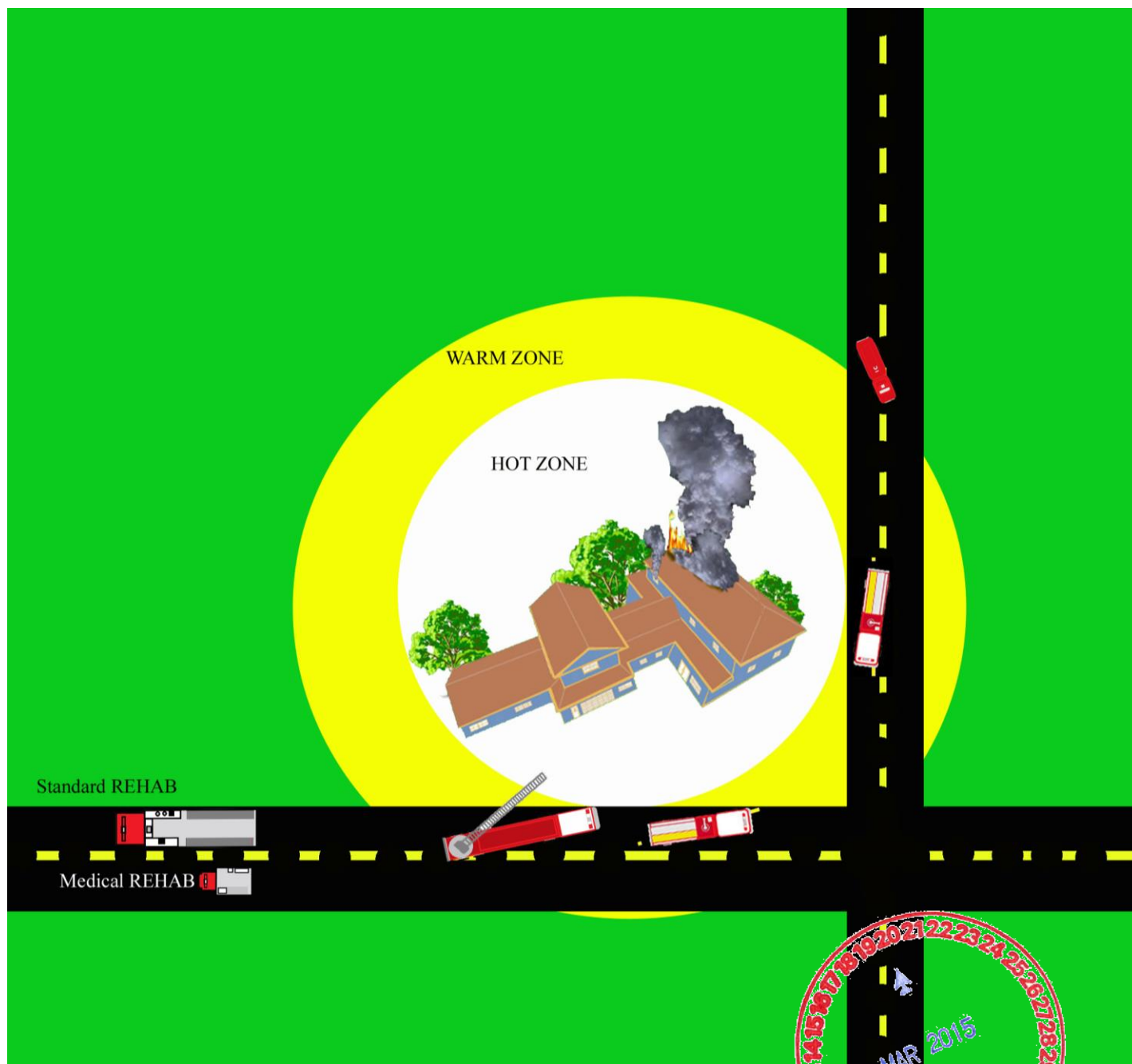
A properly run and used rehab area at the incident will go a long way towards making sure personnel are medically evaluated, treated, rehydrated, and that they receive food when necessary. However, the job cannot be totally completed in a rehab setting. Additional rest, fluid intake, and in some cases, food intake will be needed after the incident to ensure that proper metabolic levels are restored.

For the safety and well-being of all firefighters, it is recommended that firefighters drink an additional 12 to 32 ounces of electrolytes and carbohydrate-containing fluids within the 2 hours following emergency operations. A properly hydrated person should have a reasonable volume of urine output and that urine should be relatively clear and odor-free.

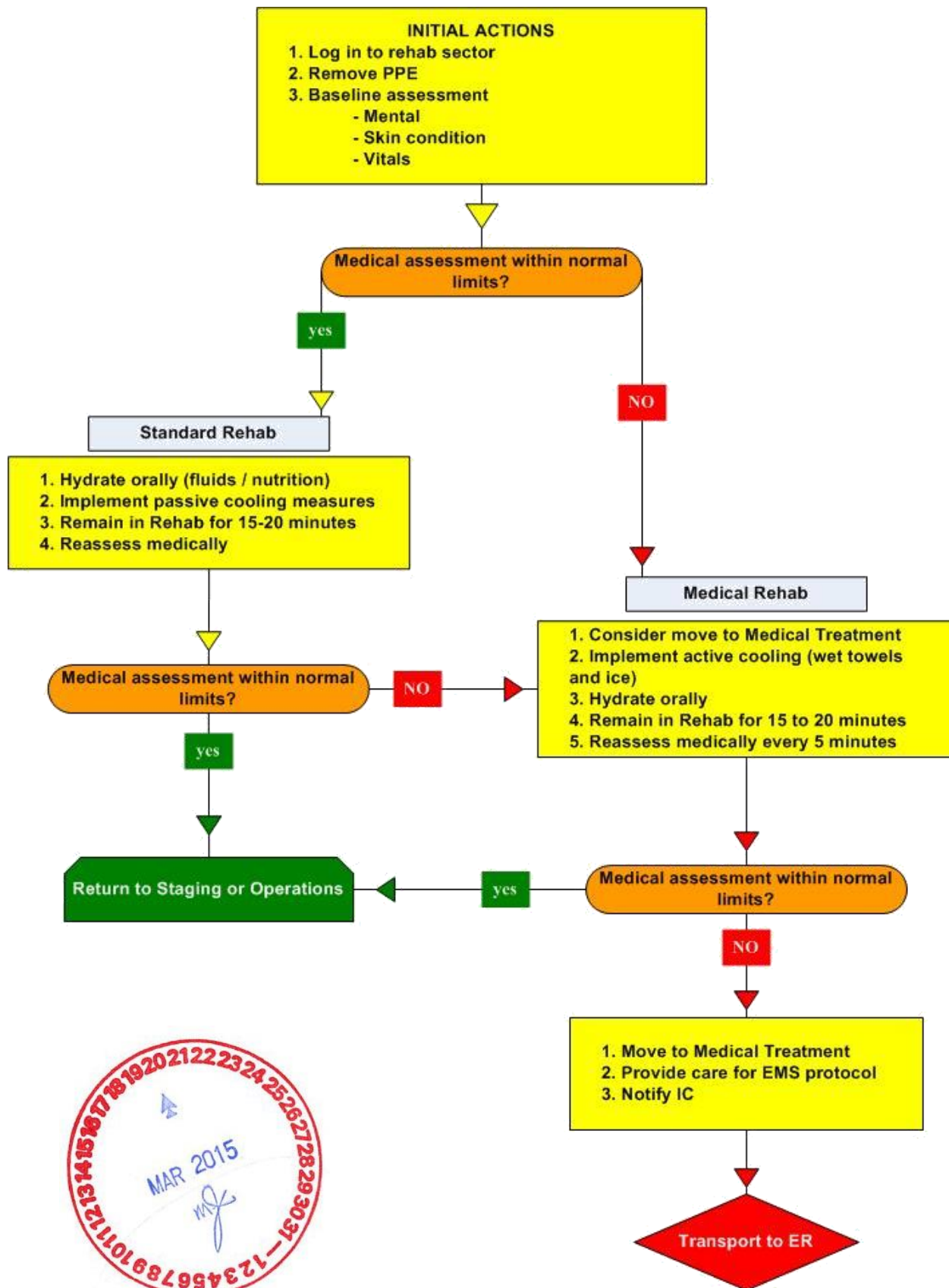


REHAB Location

No one shall forgo safety for convenience when determining the placement of the Rehab Sector. Consideration must be made as to the ability to give ambulances access and egress from the Rehab Sector.



REHAB FLOW





REHAB Officer: _____ Date: _____

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MONTGOMERY FIRE / RESCUE

Emergency Incident Rehabilitation Report

/ /

Date

Company

Incident Address

Last Name

First Name

:

Log-In Time

:

Log-Out Time

VITAL SIGNS

Time	B/P	Pulse Rate	Respirations	SpO2	Temperature
:	/				
:	/				
:	/				

COMPLAINTS / SYMPTOMS

<input type="checkbox"/> Nausea <input type="checkbox"/> Weakness <input type="checkbox"/> Headache <input type="checkbox"/> Numbness	<input type="checkbox"/> Muscle Pain <input type="checkbox"/> Cramping <input type="checkbox"/> Flushed Skin <input type="checkbox"/> Pale Skin	<input type="checkbox"/> Clammy Skin <input type="checkbox"/> Blisters <input type="checkbox"/> Short of Breath <input type="checkbox"/> Rapid Heart Rate	<input type="checkbox"/> Altered Mental Status <input type="checkbox"/> Weak Pulse <input type="checkbox"/> Unstable gait/walk <input type="checkbox"/> NORMAL APPEARANCE
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Check all Complaints/Symptoms that apply to the Firefighter

☐ Released to Operations

☐ Received Medical Treatment

☐ Transported

Monitor (Print)

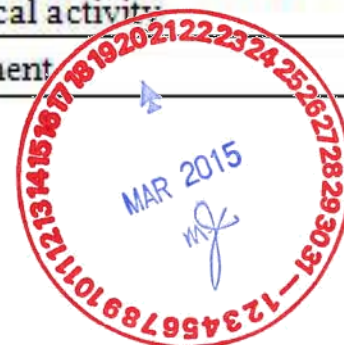
Monitor (Signature)



Heat Stress Chart

		Air Temperature (°F)										
		70	75	80	85	90	95	100	105	110	115	120
		Apparent Temperature (°F)										
Relative Humidity (%)	0	64	69	73	78	83	87	91	95	99	103	107
	10	65	70	75	80	85	90	95	100	105	111	116
	20	66	72	77	82	87	93	99	105	112	120	130
	30	67	73	78	84	90	96	104	113	123	135	148
	40	68	74	79	86	93	101	110	123	137	151	
	50	69	75	81	88	96	107	120	135	150		
	60	70	76	82	90	100	114	132	149			
	70	70	77	85	93	106	124	144				
	80	71	78	86	97	113	136	157				
	90	71	79	88	102	122	150	170				
100	72	80	91	108	133	166						

	Apparent Air Temperature (°F)	Danger Category	Injury Threat
	Below 80	None	Little or no danger under normal conditions
	80-90	Caution	Fatigue possible if exposure is prolonged and there is physical activity
	91-100	Extreme Caution	Heat cramps and heat exhaustion possible if exposure is prolonged and there is physical activity
	100-130	Danger	Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged and there is physical activity
	Above 130	Extreme Danger	Heat stroke imminent



Heat and Chill Index Charts

