

**SOUTHEASTERN
MASSACHUSETTS EMS
COUNCIL**



REGION V

**EMERGENCY INCIDENT
REHABILITATION GUIDELINES**

SOUTHEASTERN MASSACHUSETTS EMS COUNCIL
P.O. BOX 1197
HYANNIS, MA 02601
508/771-4510 & 1-800-932-REG5 (1-800-932-7345)

DATE: October 1, 1999

TITLE: Guidelines for Emergency Incident Rehabilitation.

I. Purpose: To ensure that the physical and mental condition of emergency service workers operating at the scene of an emergency or training exercise does not deteriorate to a point which affects the safety of each member or that jeopardizes the safety and integrity of the operation.

II. Definitions: None

III. Policy/Procedure: This procedure shall apply to all emergency operations and training exercises where strenuous physical activity or exposure to heat or cold exist.

A. **Responsibilities**

1. **Rehab Officer.** An EMT/Basic, Intermediate, or Paramedic should be designated as "Rehab Officer" (EMT-P is preferred). This person may be part of the Rehab Ambulance crew, or another qualified emergency worker already on-scene, provided that he/she is assigned no other responsibilities. The Rehab Officer will typically report to the Incident Commander, although he/she may report to the Logistics Officer on larger-scale incidents.
2. **Rehab Team.** The Rehab Team should be comprised of sufficient personnel to perform monitoring, vital signs, rehydration, and manage food and medical supplies for the maximum number of personnel anticipated to be in the Rehab Area at any given time. Generally, a ratio of one Team member for every ten emergency service personnel on scene is recommended. The team should include sufficient EMS-certified personnel to perform medical monitoring tasks, but may include non-EMS personnel. Generally, at least one of every three team members should be EMS-certified.
3. **Incident Commander.** The Incident Commander shall consider the circumstances of each incident and make adequate provisions early in the incident for the rest and rehabilitation of all members operating at the scene. These provisions shall include: medical evaluation, treatment and monitoring; food and fluid replenishment; mental rest; and relief from extreme climatic conditions and the other environmental parameters of the incident.

4. **Supervisors/Company Officers.** All supervisors and company 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.
5. **Personnel.** During periods of hot weather, members should be encouraged to drink water and activity beverages throughout the work day. During any emergency incident or training evolution, all members should advise their supervisor(s) when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could affect them, their crew, or the operation in which they are involved. Members should also remain aware of the health and safety of other members of the crew.

B. Establishment of the Rehabilitation Sector

1. **When To Implement.** 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. This determination should be made based upon (1) the duration of the operation, (2) level of physical exertion, and (3) environmental conditions, including temperature, humidity, and wind-chill factors. Additional guidelines include:
 - a. Heat stress index >90 degrees fahrenheit (see table)
 - b. Wind chill index <10 degrees fahrenheit (see table)
 - c. Personnel will utilize more than 2 air bottles, or will utilize SCBA for >45 minutes of work.
2. **Implementation.** It is recommended that an EMS unit not otherwise involved in emergency operations at the scene be established as the Rehab Unit. If required, an ambulance should be requested to the scene for this purpose. Except under extreme circumstances, this ambulance should not be used for transport of patients.
3. **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 shall select an appropriate location based on the site characteristics and designations below:

- a. It should be far enough away from the emergency scene that personnel may safely remove their SCBA and turnout gear, and that they are removed from the urgency of the emergency scene.
- b. It should provide suitable protection from the prevailing environmental conditions, i.e. during hot weather it should be in a cool, shaded area; during cold weather, it should be in a warm, dry area.
- c. It should be easily accessible by EMS units
- d. It should enable members to be free of exhaust fumes from apparatus or equipment (including those involved in the Rehab Sector operations).
- e. It should be large enough to accommodate multiple crews, based on the size of the incident
- f. It should allow prompt re-entry into the emergency operation upon complete recuperation.

Examples of appropriate locations include:

- a. Nearby building, garage, church, building lobby
- b. School bus, tour bus, van
- c. Fire or EMS Apparatus (space usually limited)
- d. Open, shaded area in which fans, chairs, etc. can be utilized (warm-weather operations)

C. **Rehab Operations**

1. **Resources.** The Rehab Sector officer should secure, via the Incident Commander (or Logistics Officer) all necessary resources to properly supply the sector. These include:
 - a. Fluids: water, activity beverage, ice, hot/cold beverage cups
 - b. Foods: soup, broth, or stew, hot cups, plastic spoons
 - c. Medical: Blood pressure cuffs, stethoscopes, oxygen administration

equipment, cardiac monitor, thermometers (tympanic thermometers recommended), IV solutions & supplies, Rehab Sector tracking forms, pens, clipboards

d. Miscellaneous: Awnings, fans, tarps, smoke ejectors, heaters, dry clothing, floodlights, blankets, towels, area marking equipment

2. **Rotation of Personnel.** Companies will be assigned to the Rehab Sector by the Incident Commander. Company officers should advise the I.C. when their personnel are in need of rehabilitation. Whenever possible, the entire Company should be assigned to the Rehab Sector as a group.

Personnel should remain in the Rehab Sector for a minimum of 10 minutes before returning to duty.

Personnel rotated to the Rehab Sector shall not leave until directed by the Sector Officer.

3. **Medical Evaluation.** A medical evaluation should be made of each member upon arrival at the Sector by appropriately trained and certified EMS personnel. If the initial evaluation indicates conditions outside the parameters listed below, a second evaluation should be done following a five-minute "cool-down" (or "warm up") period. If evaluation remains outside the parameters, appropriate disposition should be made per CIEMSS Treatment Protocols and Policies. The medical evaluation should include:

(Continued on next page)

HEART RATE	<p><110 = within normal limits on arrival <100 = within normal limits 5 min. after arrival</p> <p>If > 110-100, check temperature</p>
TEMPERATURE	<p><100.6 = within normal limits</p> <p>If >100.6, monitor q 5 min until wnl</p> <p>If >100.6 after 15 min, consider transport</p> <p>If temp <100.6 but heart rate >110, increase rehab time</p>
RESPIRATIONS	<p><26 = within normal limits on arrival <20 = within normal limits 5 min. after arrival</p> <p>If >26 after 15 min, consider transport</p>
BLOOD PRESSURE	<p>Systolic <150 Diastolic <100 = wnl on arrival Systolic <140 Diastolic < 90 = wnl 5 min after arrival</p> <p>If Systolic >140 or Diastolic >90 after 15 min, consider transport</p>
SKIN CONDITION	<p>May be somewhat flushed on arrival Should be improved within 5 min of arrival</p> <p>If skin remains flushed, re-check temperature</p>
MENTAL STATUS	<p>Should be alert, oriented on arrival</p> <p>If any alteration of mental status, TRANSPORT</p>
HISTORY/MEDS	<p>Antihistamines (Actifed, Benadryl, etc.) may impair the body's ability to sweat.</p> <p>History of cardiac, respiratory, or hypertension problems should be considered when evaluating personnel</p>

4. **Recovery.** Personnel in the Rehab Sector should maintain a high level of hydration. They should not be moved directly from a hot environment to an air-conditioned area. An air-conditioned area is acceptable after a cool-down period at ambient temperature with sufficient air movement and shade.
5. **Hydration Guidelines.** During stress, personnel should consume at least **one quart per hour** of water, activity beverage, or combination of the two. This applies to both hot and cold weather activities. Carbonated or caffeine beverages should be avoided. Rehydration beverages should be at or about 40 degrees F.
6. **Nourishment Guidelines.** Food should be provided whenever operations are engaged for three or more hours. This period may be shortened when operations extend during a normal meal time.

Soups, broth, or stew are recommended because they are digested more quickly than sandwiches and fast food products (although either may be used). Apples, oranges, and bananas are also recommended. Fatty and/or salty foods should be avoided.

7. **Accountability.** Personnel should enter the Rehab Sector as a crew. The crew designation, names of members, times of entry and exit, and appropriate medical information should be documented by the Rehab Officer or his/her designee on the appropriate form. Crews should not leave the Rehab Area until authorized to do so by the Rehab Officer. The Rehab Officer will notify Incident Command when a company is ready for reassignment.

If anyone requires transport to a medical facility, the Rehab Officer should notify the Incident Commander at once. This information should be relayed via a messenger, and should not be broadcast over the radio.

The "Rehab Ambulance" (as identified in section 3b2) should not be used to transport any patients from the scene, except in the most extreme circumstances. If the Rehab Ambulance is used for transport, Command should request the response of an additional ambulance to take its place.

- D. **Cessation of Operations.** When the incident commander has determined that no further personnel will need to be rotated to the Rehab Sector, he/she should advise the Rehab Officer. The Rehab Officer should advise the Incident Commander when the last crew/patient has been discharged from the Sector. In securing operations, the Rehab Officer should ensure that:

1. All unused food and beverage items are disposed of appropriately (returned to station, packaged for disposal, etc.)
2. Cups, empty containers, etc. are appropriately disposed of
3. Any personal items left at the sector are turned in to the Incident Commander or appropriate company officer
4. Sector Report Forms are completed and turned over to the Incident Commander
5. Any items borrowed from the community (chairs, fans, etc.) are properly returned, and any buildings used are properly secured

E. **Critical Incident Stress Management.** The Incident Commander, Company Officers, Rehab Officer, and Rehab Team should assess the situation and personnel for any condition which would warrant notification of the Critical Incident Stress Management Team. If the response of the CISM Team is warranted, they should be notified through Barnstable County Control or via C-MED radio. The Incident Commander may request:

1. Response by a CISM Team Member to the scene for on-site evaluation and defusing.
2. Response by a CISM Team Member to the fire station for evaluation and defusing
3. CISM Coordinator set up a debriefing within 24-48 hours of the incident.

If CISM response to the scene is requested, the CISM Team Representative will report to the Incident Commander. The I/C should consider assigning the CISM Team member to the Rehab Sector to perform the CISM evaluation and defusing process.

		RELATIVE HUMIDITY								
		10%	20%	30%	40%	50%	60%	70%	80%	90%
T E M P E R A T U R E	104	98	104	110	120	132				
	102	97	101	108	117	125				
	100	95	99	105	110	120	132			
	98	93	97	101	106	110	125			
	96	91	95	98	104	108	120	128		
	94	89	93	95	100	105	111	122		
	92	87	90	92	96	100	106	115	122	
	90	85	88	90	92	96	100	106	114	122
	88	82	86	87	89	93	95	100	106	115
	86	80	84	85	87	90	92	96	100	109
	84	78	81	83	85	86	89	91	95	99
	82	77	79	80	81	84	86	89	91	95
	80	75	77	78	79	81	83	85	86	89
	78	72	75	77	78	79	80	81	83	85
	76	70	72	75	76	77	77	77	78	79
	74	68	70	73	74	75	75	75	76	77

NOTE: Add 10 Degree Farenheit when protective clothing is worn and add 10 Degrees Farenheit when in direct sunlight.

HUMITURE DEF F	DANGER CATEGORY	INJURY THREAT
Below 60 Deg	None	Little or no danger under normal circumstances
80-90 Deg	Caution	Fatigue Possible if exposure prolonged and there is physical activity
90-105 Deg	Extreme Caution	Heat cramps and heat exhaustion possible if exposure is prolonged and there is physical activity
105-130 Deg	Danger	Heat cramps or exhaustion likely, heat stroke possible if exposure is prolonged & there is physical activity
Above 130 Deg	Extreme Danger	Heat stroke imminent!

WIND CHILL INDEX

		TEMPERATURE (DEG FARENHEIT)											
		40	35	30	25	20	15	10	5	0	-5	-10	-15
W I N D S P E E D (M P H	5	37	32	27	22	16	11	6	0	-5	-10	-15	-21
	10	28	22	16	10	3	-3	-9	-15	-22	-27	-34	-40
	15	23	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51
	20	19	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60
	25	16	8	1	-7	-15	-22	-29	-36	-44	-51	-59	-66
	30	13	6	-2	-10	-18	-25	-33	-41	-49	-56	-64	-71
	35	12	4	-4	-12	-20	-27	-35	-43	-52	-58	-67	-75
	40	11	3	-5	-13	-21	-29	-37	-45	-53	-60	-69	-76
45	10	2	-6	-14	-22	-30	-38	-46	-54	-62	-70	-78	

A

B

C

	WIND CHILL TEMPERATURE	DANGER
A	ABOVE -25 DEG F.	Little Danger for properly clothed person
B	-25 TO -75 DEG F.	Increasing danger, flesh may freeze
C	BELOW -75 DEG F.	Great danger, flesh may freeze in 30 seconds

REHAB SECTOR

INCIDENT: _____

DATE: _____

NAME / UNIT	IN	OUT	PULSE	TEMP	RESP	BP	SKIN	LOC	EMT	COMMENTS