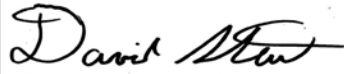


**Payson Fire Department
Standard Operating Procedures**

**Section: Safety & Health
Subject: Rehabilitation & Medical
Monitoring Policy**

**SOP # 2.5.12
Date Adopted: 09/91
Revision Hx: 11/09, 12/10, 04/13,03/20**



1. PURPOSE

- A. To provide guidance on the implementation and use of the Payson Fire Department's (PFD) rehabilitation and medical monitoring process and as needed, treatment and transportation, in compliance with National Fire Protection Association's (NFPA) 1584 Standard on the Rehabilitation Process for Members during Emergency Operations and Training Exercises and local protocols.

- B. To ensure personnel have reached a state of Recovery or "response readiness", by managing the physical and mental fatigue of personnel due to metabolic heat buildup, dehydration, physical exertion, exposure to heat or cold, and/or other exposures while performing organizational duties/activities and to ensure physical and mental deterioration does not jeopardize the safety of personnel, the public and mission success.

2. DEFINITIONS

- A. Cooling (Active):
 - i. The process of using external methods or devices (e.g., hand and forearm emersion, misting fans, ice vest) to reduce the elevated core body temperature

- B. Cooling (Passive):
 - i. The process of using natural evaporative cooling (e.g., sweating, doffing PPE, moving to cool environments) to reduce the elevated core body temperature

- C. Priority Signs and Symptoms:
 - i. This term is synonymous with Signs and Symptoms of Over-Exertion to include:
 - 1. Complaints of Chest Pain, dizziness, shortness of breath, weakness, nausea, headache, cramps, general aches and pains
 - 2. Symptoms of heat or cold related stress
 - 3. Change in gait, speech, or behavior
 - 4. Altered level of consciousness, or awareness
 - 5. Vital signs considered to be abnormal as established by protocol

- D. Recovery:
 - i. This is the purpose of Rehab and medical Monitoring, it is the returning of

personnel to a desired state of readiness with vital signs in acceptable ranges and the absence of signs and symptoms of Over-Exertion.

E. Recycle:

- i. Is part of the overall Rehab effort and should only to be used for short duration events and should not replace Rehab and Monitoring efforts
- ii. Is an opportunity to rehydrate, and for the Captain to evaluate their crew prior to re-assignment.
- iii. The Captain should be evaluating for signs and symptoms of over-exertion, dehydration and exposure.

F. Rehabilitation (Rehab):

- i. The establishment of Rehab Group/Division for the purpose of Medical Monitoring and Evaluating personnel for signs and symptoms of fatigue, over-exertion and exposure.

G. Medical Monitoring:

- i. Medical Monitoring is the process of evaluating personnel vitals to include, but not limited to, Blood Pressure, Pulse, Temperature, Respiratory Rate, SPO2 and CO Levels, and signs and symptoms of over exertion.

3. BACKGROUND

A. A strong safety minded culture supports aggressive emergency operations within a strategic risk-benefit assessment. A major component of strategic risk-benefit assessment is continuous personnel rehab and medical monitoring whenever our crews operate in extreme weather, high-stress conditions and prolonged exertion.

- i. Exertion is the leading cause of LODD and Injury in the Fire Service. In an effort to reduce the risk of LODD and Injury, our organizations have adopted a culture of rehabilitation and readiness to extend the careers of our personnel.
- ii. Rehab is more than a Division/Group. Rehab is the conscious effort to manage nutrition and rehydration and work/rest cycles both on and off scene *and before and after* the call with the purpose of ensuring personnel are in a state of readiness and have achieved Recovery.
- iii. Rehab is the process of providing rest, hydration and rehydration, nourishment, and medical monitoring/evaluation to members who are involved in extended or extreme Operations with the purpose of achieving Recovery.

B. A culture of Rehabilitation and Readiness includes:

- i. Preparing for shift by proper hydration, nutrition and rest
- ii. Managing crew and personal physical fitness
 1. On-duty exercise/drills should be focused on stretching and ensuring physical readiness with an awareness on how the workout will effect or

prolong rehab efforts

2. Workouts focused on personal records, or pushing personal limits shall be reserved for Off-Duty workout programs to reduce on-duty injuries.
- iii. Awareness of how nutrition and consumption of proper fluid is key to rehab efforts and health.
 1. Consumption of alcoholic beverages are prohibited within 8 hours prior to reporting for work/shift.
- iv. Stimulants such as coffee, energy drinks and workout supplement (pre-workout) can have significant adverse impacts on your ability to perform and recover from exertion.
 1. These products may have thermogenic effects, that do not allow pulse rates, blood pressure and body temperatures to recover after emergency incidents and can prolong rehab/recovery efforts
 2. Mixed with emergency environments these products may lead to stroke, heart attacks and injury.

4. POLICY

A. Rehab

- i. Rehab and Medical Monitoring services shall be provided when operations and/or training exercises pose a risk to the health and safety of responders with the focus of achieving Recovery.
- ii. These situations include but are not limited to Pre and Post exertion:
 1. Pre Exertions would include:
 - a. Monitoring prior to planned events such as drills, live fire training, PT tests, start of shift, etc.
 2. Post Exertions would include:
 - a. Following the use of one 45-minute SCBA cylinder.
 - i. Shorter times might be considered during extreme weather conditions.
 - b. For personnel demonstrating Priority Signs and Symptoms such as, but not limited to:
 - i. Fatigue, Weakness, Pale clammy skin, Heat or Cold Stress, Nausea, Headache , Unsteady Gate, Slurred Speech, Chest Pain, Irregular HB, Difficulty Breathing
 - c. Exertion on the part of responders
 - d. Large Scale and/or Long Duration incidents
 - i. On any event or incident lasting more than one (1) hour
 - e. Extreme weather conditions
 - i. Climatic or environmental conditions that indicate the need to establish Rehab are a heat stress index above

90 degrees Fahrenheit or wind-chill index below 10 degrees Fahrenheit.

- f. Highly Charged events such as;
 - i. Mass Casualty, Active Shooter, traumatic pediatric calls, difficult extrications, etc.
 - g. Any Exposure to IDLH atmospheres that full PPE was required.
- B. This policy shall apply to all Town of Payson Fire Department activities including but not limited to; fire ground operations, EMS operations, training exercises/ drills and situations where strenuous mental and physical activities or exposure to heat or cold exist.
- C. Circumstances surrounding each activity/incident shall be considered and adequate provisions made early in the incident for the rest and rehabilitation for all members operating at the activity/ incident. These provisions may include: medical evaluation, treatment and monitoring; food and fluid replenishment; physical and mental rest; relief from extreme environmental factors caused by the activity/ incident.

ROLES AND RESPONSABILITIES

- D. Incident Commander
- i. The Incident Commander (IC) shall have the responsibility and authority to implement and monitor all provisions of this operational procedure. Rehabilitation shall be conducted at the Advanced Life Support (ALS) level when available.
 - ii. The IC responsible for the following:
 - 1. Include Rehab needs in incident/event action planning.
 - 2. Establish a Rehab Group to meet forecasted needs when warranted by incident or environmental conditions
 - 3. Ensure sufficient resources are assigned to Rehab Group.
 - 4. Ensure EMS personnel of at least a Basic Life Support level are available for medical care of responders as required.
 - iii. Extra efforts should be considered during and after extreme conditions
 - 1. Additional crews should be placed on deck to allow for shortened work cycles during extreme heat and cold weather
 - 2. Highly Emotionally Charged events such as active shooter, mass casualty, pediatric incidents and prolonged rescues should require rehab and medical monitoring as emotional stress can have a significant effect on vital signs.
- E. The Rehab Group Supervisor shall be responsible for the following:
- i. Location
 - 1. Whenever possible, select a location for rehabilitation with the following characteristics:
 - a. It shall be in a location that will provide physical rest by allowing

the Personnel to recuperate from the demands of the emergency operation or training evolution.

- b. It shall be far enough away from the scene so that personnel may safely remove and stow their Personal Protective Equipment, and be afforded physical and mental rest from the stress and pressure of the emergency operation or event (hazardous atmospheres including apparatus exhaust fumes, smoke, and toxins often encountered on the incident scene, including those used in the Rehab Group).
 - i. This includes PPE; rehab personnel shall ensure that personnel in rehab doff their PPE to promote cooling and limit exposure to all personnel prior to entering the rest area
- c. Large enough to accommodate the number of personnel expected with a separate area for members to remove personal protective clothing (PPE)
- d. It should be accessible for an ambulance and EMS personnel should emergency medical care be required
- e. Should provide reprieve from the elements such as heat or cold
- f. Stocked with rehydration fluids (water and electrolytes)
 - i. Food may be appropriate based on work cycles
- g. It shall allow prompt re-entry to the incident

ii. Site Designation

- 1. Tents/Shelters as appropriate (rehab bus)
- 2. Ambulance(s)
- 3. School buses, buses
- 4. Nearby buildings, stores or other structures.
- 5. If in a high-rise, a minimum of 3 floors below the incident.
 - a. All personnel working in the involved structure shall be certified and cleared to don SCBA's and PPE
- 6. An open area where tarps, fans, heaters, etc. can be set up.

iii. Resources

- 1. Medical monitoring equipment (blood pressure cuffs, stethoscopes, check sheets, etc.)
- 2. When possible The Rehab Group Supervisor shall:
 - a. Maintain at least one (1) non-transport Advanced Life Support Ambulance for people undergoing formal rehabilitation
 - b. Maintain one (1) Paramedic for every 10 people and one (1) EMT-B for every four (4) people undergoing rehabilitation in the Rehab location.
- 3. Potable drinking water for hydration and Sports drinks (to replace electrolytes and calories) for long-duration incidents (working more than

one hour)

4. Active cooling measures
5. Nutritional snacks or meals and a means to wash or clean hands and face prior to eating
 - a. If food is required or provided, it should be soups, broths, fruits (bananas, apples, oranges) or other easily digested foods.
 - b. Fast food sandwiches, fatty or salty foods should be avoided.
6. Blankets and warm, dry clothing for winter months
7. Bathroom facilities

iv. Other Duties

1. Time personnel in Rehab to ensure that personnel receive adequate rest typically at least 10- 20 minutes.
2. Ensure personnel rehydrate themselves.
3. Ensure personnel are provided a means to be actively cooled where required.
4. Maintain accountability and remain within rehab at all times.
5. Inform the IC and the member's supervisor if a member requires transportation to a medical facility for treatment.
6. Serve as a liaison with EMS personnel.

F. Division/Group Supervisions and Company Officers

- i. Division/Group Supervisions and Company Officers shall be responsible for the following:
 1. Be familiar with and monitor the company for the signs and symptoms of heat and cold stress.
 2. Ensure the crews remain hydrated and fluids are available.
 3. Continually assess crews every 45 minutes or more frequently when working in extreme conditions and determine their need for rehabilitation.
 4. Notify the IC when stressed members require relief, rotation, or reassignment according to conditions.
 5. Proceed to the Rehab area as directed or provide access to rehab services if a Rehab Group has not been established.
 6. Ensure that the company checks in and out of the Rehab area and maintains the accountability profile of the crew.

G. Line Personnel

- i. Each member is responsible for his/her preparedness prior to an incident, including; sufficient rest prior to reporting for duty, pre-hydration, proper dress and ensuring that protective clothing and equipment is present and in good working order.
- ii. All members are to immediately report to their respective supervisor and advise when their ability to perform is approaching a level that could affect themselves, their crew, or the operation in which they are involved.

- iii. Promptly inform the supervisor when members require rehabilitation and/or relief from assigned duties.
- iv. Maintain awareness of themselves and company members for signs and symptoms of fatigue, heat and cold stressors.
- v. Maintain unit integrity

H. Treatment and Transportation

- i. All Personnel referred to be Transported to a Hospital and/or released from Duty shall do so as a work assignment
- ii. Personnel who refuse to be treated and transported may face discipline up to and including termination.
- iii. All Personnel referred to be Transported to a Hospital and/or released from Duty shall be cleared by the PFD medical provider prior to returning to Shift
- iv. All injury reports shall remain part of the employee's protected medical file and treated as other confidential medical records.
- v. Any/all Rehab reports involving Mutual or Auto Aid personnel shall be made available to their respective departments.

5. PROCEDURE

A. Recycle

- i. This is a dedicated time for Company Officers to quickly evaluate their Crews for signs and symptoms of Over-exertion, ensure crews are hydrating and provide proper time for rest prior to reassignment.
- ii. If crews show signs and symptoms of Over-exertion, and the allotted time has not provided for adequate recovery to be reassigned, the Company Officer should consider the need for Rehab.

B. Rehab and Medical Monitoring

- i. Command shall establish a Rehab Division/Group as outlined in this policy
- ii. The Rehab Supervise shall establish the rehab site as outlined in this policy and compensatory to the size of the vent. (tail board or full tarps and tents)
- iii. All Rehab shall be documented on a PFD REHAB TRACKING FORM and shall become a permanent record attached to the incident report
- iv. All personnel assigned to rehab shall doff their gear/PPE the appropriate PPE staging (or at their apparatus) and report to the Rehab Supervisor with their passport.
 - 1. Upon entering Rehab Personnel shall
 - a. Receive hydration
 - b. Be clocked in to establish time on the PFD Rehab Tracking Form
 - c. Have a set of vitals taken to begin trending
 - d. Receive passive or active cooling/warming as indicated
 - 2. Personnel who do not present with Priority Signs and Symptoms shall continue with standard rehab procedures.

3. Personnel who do present Priority Signs and Symptoms shall receive and immediate ALS assessment a patient care report, which shall be attached to the incident report and shall be treated and/or transported as local protocol directs
- v. Rest/Rehab shall be no less than 10 minutes and preferably 20 minutes
 1. Personnel who do not present with Priority Signs and Symptoms shall have their vitals taken every 10 minutes to monitor trending.
 - a. The goal is a downward trend to meet minimum vital sign guidelines as outlined on the Payson Fire Department Rehab Tracking Sheet:
 - i. Blood Pressure
 - ii. Heart Rate
 - iii. Respirations
 - iv. Temperature
 - v. Pulse Oximetry (SPO2)
 - vi. Carbon Monoxide (CO)
 2. Personnel that requires receive IV Fluid shall receive an ALS assessment and treated and transported to a medical facility and released from Duty
 3. Personnel who do not fall within the vital sign guideline within the first 20 minutes and:
 - a. Are not presenting with Priority Signs and Symptoms may be provided an additional 20 minutes and shall receive an ALS assessment.
 - i. Vital signs will be taken every 5 minutes.
 - ii. The full twenty minutes do not have to be given.
 1. The Rehab supervisor or medical provider may transport sooner based on presentation.
 - b. Are now presenting with Priority Signs and Symptoms shall receive an ALS assessment, a patient care report, which shall be attached to the incident report and treated and transported to a medical facility and released from Duty
 4. Personnel who do not fall within the vital sign guideline within the second 20 minutes (40 minute total) shall receive an ALS assessment, a patient care report, which shall be attached to the incident report and treated and transported to a medical facility and released from Duty
- vi. No tobacco use shall be permitted in or near the rehabilitation area.

C. Release from Rehab

- i. Crews shall not leave the Rehabilitation Area until Recovery has been achieved and authorized to do so by the Rehab Supervisor
- ii. The Rehab Supervisor shall notify Command of units ready for reassignment.

- iii. Personnel released by the Rehab Supervisor shall maintain crew integrity and follow proper order model communications for reassignment.
- iv. Crews placed out of service due to a member being placed out of service will report to Incident Command for further direction and assignment.

6. EXEMPTIONS

- A. Any exceptions will be approved with the IC, with careful consideration given to the safety of the personnel involved in the operation.
- B. At times, Life safety such as gaining a primary or performing a rescue may necessitate an exception to the rehab policy.
 - i. As soon as life safety benchmarks have been addressed, rehab must be implemented
- C. At times the speed and extent of the emergency may necessitate an exception to the rehab policy.
 - i. As soon as incident stabilization has been achieved rehab must be implemented
- D. At no time shall personnel be allowed to work beyond these exemptions when the lives of personnel are at risk and little to no reward is achievable.

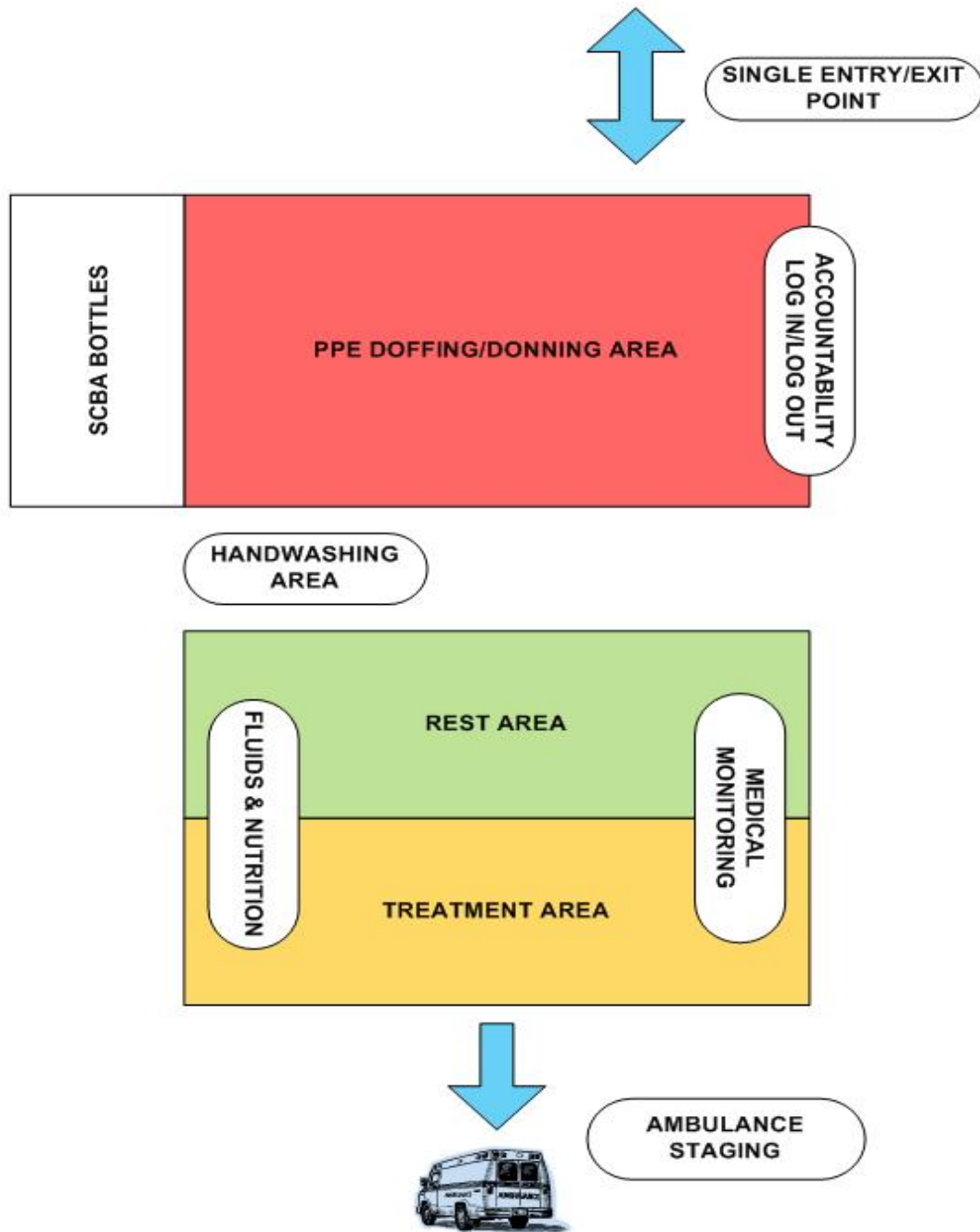
7. REFERENCES

- A. NFPA 1500, 1584

8. FORMS

- A. PFD REHAB TRACKING FORM
- B. "Example" Rehab site blue print/Lay Out
- C. Rehab Algorithm

EXAMPLE OF REHAB AREA LAYOUT



PFD REHAB TRACKING FORM

Name	Unit ID		Time	Pulse	BP	Resp	Pulse Ox	CO	Temp	Priority S&S / Med Complaint
		1st VITALS	:		/					
Time in	:	2nd VITALS	:		/					
Released	:	3rd VITALS	:		/					
		4th VITALS	:		/					
Transported	YES	NO		Destination/Unit						
Name	Unit ID		Time	Pulse	BP	Resp	Pulse Ox	CO	Temp	Priority S&S / Med Complaint
		1st VITALS	:		/					
Time in	:	2nd VITALS	:		/					
Released	:	3rd VITALS	:		/					
		4th VITALS	:		/					
Transported	YES	NO		Destination/Unit						

To be reassigned – Members must have:						
Blood Pressure	Systolic below 160		Temperature		>96 F or <100.6° F	
	Diastolic below 100		Pulse Oximetry (SPO2)		Normal: 94%-100%	
Heart Rate	Sustained rate of less than 100 bpm with no irregular beats		Carbon Monoxide (CO)	0%-5%:	Normal in non-smoker	
Respirations	between 12-20 per minute			5%-10%:	Normal in smoker	Abnormal in non-smoke
AND no Priority S&S such as Fatigue, Weakness, Pale clammy skin, Heat or Cold Stress, Nausea, Headache , Unsteady Gate, Slurred Speech, Chest Pain, Irregular HB, Difficulty Breathing						

If vitals do not meet the above criteria after 20 minutes in Rehab, an ALS evaluation is required.

Payson Fire Department Rehab
and
Medical Monitoring Algorithm

Rehab Considerations Per NFPA 1584

GUIDE LINE #1 Informal Rehab

The company or crew must self-rehab (rest with hydration) **for at least 10 minutes following:**

- Depletion of one 45-minute SCBA cylinder
- Or after 20 minutes of intense work without wearing an SCBA

Company Officer (CO) or crew leader must ensure that all members are fit to return to duty before resuming operations

GUIDE LINE #2 Formal Rehab Group

Company or crew must enter formal rehab area, drink appropriate fluids, be medically evaluated, and rest **for minimum of 20 minutes** after any of the following:

- One 45- 60 minute SCBA cylinder
- Encapsulating chemical protective clothing is worn
- Following 40 minutes of intense work without SCBA

Proceed to Rehab Group
Click HERE

