

# PENNSYLVANIA EMERGENCY HEALTH SERVICES COUNCIL

*Your Voice In EMS*

## RECOMMENDATION FOR CONSIDERATION

Board Meeting Date: June 13, 2012

Subject: Vehicle Extrication Awareness Education

VTR#: 0612-02

Committee/Task Force: Rescue Task Force

Recommended Goal

Recommended Policy Change

Other:

### Recommendation:

The Department of Health should accept the Vehicle Extrication Awareness Education instructional guidance for inclusion in Pennsylvania EMS certification programs.

### Rationale [Background]:

The purpose of this document is to provide additional instructional guidance to Pennsylvania accredited EMS educational institutions when teaching the vehicle extrication module of an EMS certification program. This information is intended to supplement, not replace, the instructional guidelines provided by the National Highway Traffic Safety Administration based on the 2009 National EMS Education Standards. Use of these "best practices" during course preparation will be at the discretion of an accredited EMS educational institution unless otherwise directed by the PA Department of Health, Bureau of EMS.

### Medical Review [Concerns]:

N/A

### Fiscal Concerns:

Depending on the depth and breadth of instruction currently used by an institute to teach this module, additional costs associated with instructor fees and the practical lab could be incurred; for other institutions there may be little or no financial impact.

### Educational Concerns:

The rescue task force believes the use of the best practices outlined in the document will provide the student with a positive educational experience regarding safe practices at the scene of a motor vehicle accident. The use of these guidelines, in whole or in part, is at the discretion of the EMS education institution.

### Plan of Implementation:

Upon acceptance of this recommendation the Department of Health should:

1. Distribute a copy of these guidelines to all accredited EMS educational institutes for their use in 2013 course planning.

The PEHSC Committee/Task Force offers consultation to the Department in regard to the content of this Vote to Recommend (VTR) and its attached documents. The PEHSC Committee/Task Force specifically offers staff or member support to participate in Department deliberations regarding this recommendation in an effort to convey committee/task force discussions.

**Board Meeting Comments/Concerns:**

No comments or concerns expressed by the Board.

Signed: J R Henry  
President

Date 6-13-12

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For PEHSC Use Only – PA Department of Health Response

Accept: \_\_\_\_\_ Table: \_\_\_\_\_ Modify: \_\_\_\_\_ Reject: \_\_\_\_\_

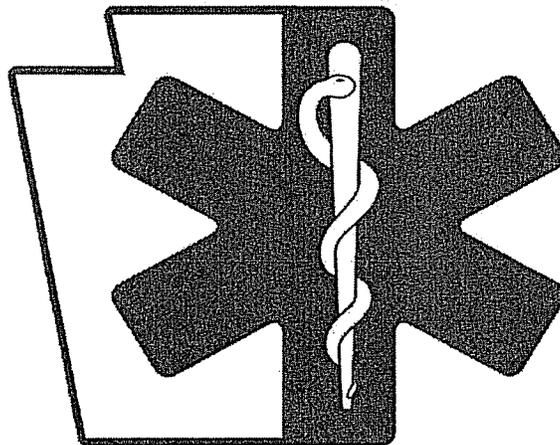
Comments:

Date of Department Response: \_\_\_\_\_

# Vehicle Extrication Awareness Education

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Instructional Guidance for Pennsylvania EMS Certification Programs



**DEVELOPED BY:**

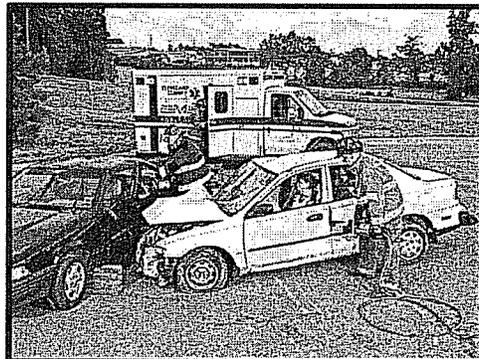
**PENNSYLVANIA EMERGENCY HEALTH SERVICES COUNCIL**

**STATEWIDE RESCUE TASK FORCE**

**2012**

## **PURPOSE**

To provide additional instructional guidance to Pennsylvania accredited EMS educational institutions when teaching the vehicle extrication section of an EMS certification program. This information is intended to supplement, not replace, the instructional guidelines provided by the National Highway Traffic Safety Administration based on the 2009 National EMS Education Standards. Use of these “best practices” during course preparation will be at the discretion of an accredited EMS educational institution unless otherwise directed by the PA Department of Health, Bureau of EMS.



## **NHTSA EDUCATION STANDARD**

“Knowledge of operational roles and responsibilities to ensure patient, public, and personnel safety.”

## **NHTSA INSTRUCTIONAL GUIDELINE**

“The intent of this section is to give an overview of vehicle extrication to ensure EMS personnel and patient safety during extrication operations. This does not prepare the entry-level student to become a vehicle extrication expert or technician.”

“Information related to the clinical management of the patient being cared for during vehicle extrication is found in the clinical sections of the National EMS Education Standards and Instructional Guidelines for each personnel level.”

## **INSTRUCTOR QUALIFICATIONS**

Primary instructors for this module should have demonstrated expertise in the area of vehicle extrication and be credentialed as a rescue instructor. Secondary instructors should be experienced in rescue operations and possess vehicle rescue certification. Depending on the primary rescue instructor’s depth and breadth of knowledge regarding direct patient care, students may benefit from a team-teaching approach utilizing both rescue and EMS instructors.

## **INSTRUCTIONAL RESOURCES**

Classroom instruction will be enhanced through the use of various audio-visual adjuncts that realistically depict the crash scene and emphasize major teaching points. If a practical lab is provided, students should be familiarized with hand tools and be provided with a safety briefing prior to the start of the lab. All participants should be outfitted in appropriate PPE including, but not limited to head, eye, hand and foot protection – turnout gear is preferable if available.

NHTSA INSTRUCTIONAL GUIDELINES	ADDITIONAL GUIDANCE
<p><b>I. Safe Vehicle Extrication:</b></p> <p><i>A. Role of EMS in Vehicle Extrication</i></p> <ol style="list-style-type: none"> <li>1. Provide patient care</li> <li>2. Perform simple extrication</li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Vehicle rescue education should be delivered at the awareness-level; emphasizing provider/ patient safety, and the role EMS plays within the global scope of the incident.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. PA Statewide BLS Protocols 180, 201, 261 and 602.</li> </ol>
<p><i>B. Personal Safety</i></p> <ol style="list-style-type: none"> <li>1. First Priority for all EMS personnel</li> <li>2. Appropriate PPE for all conditions</li> <li>3. Scene size-up</li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. All students should be equipped with appropriate PPE prior to any practical lab where the possibility for injury exists. Required PPE elements should include, but not necessarily be limited to a helmet, eye protection, hand protection and foot protection.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II</u>: Jones &amp; Bartlett, 2011.</li> <li>4. PA Statewide BLS Protocols 102, 103 and 201.</li> </ol>
<p><i>C. Patient Safety</i></p> <ol style="list-style-type: none"> <li>1. Keep them informed of your actions</li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. The importance of effective communications with the patient cannot be over-stressed and should be incorporated throughout the lesson plan.</li> </ol>
<p><i>D. Situational Safety</i></p> <ol style="list-style-type: none"> <li>1. Control traffic flow <ol style="list-style-type: none"> <li>a. Proper positioning of vehicle <ol style="list-style-type: none"> <li>i. Upwind/uphill</li> <li>ii. Protect scene</li> </ol> </li> <li>b. Use of lights and warning devices</li> <li>c. Setting up protective barrier</li> <li>d. Designate a traffic control person</li> </ol> </li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Move past the incident scene before parking if possible to shield EMS vehicle.</li> <li>2. Turn off the EMS vehicle's headlights if possible to avoid blinding oncoming traffic.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. US DOT Federal Highway Administration: Traffic Incident Management <a href="http://ops.fhwa.dot.gov/eto_tim_pse/about/tim.htm">http://ops.fhwa.dot.gov/eto_tim_pse/about/tim.htm</a></li> <li>4. National Fire Protection Association Standard 1091: <u>Standard on Traffic Control Management</u></li> <li>5. PA Statewide BLS Protocol 102.</li> </ol>
<ol style="list-style-type: none"> <li>2. 360-Degree assessment <ol style="list-style-type: none"> <li>a. Downed electrical lines</li> <li>b. Leaking fuels or fluids</li> <li>c. Smoke or fire</li> <li>d. Trapped or ejected patients</li> </ol> </li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Emphasize that the scene assessment should be conducted from an all-hazards approach, e.g. terrain, general environment, position of vehicles relative to one another or other element(s) that could endanger the safety of the provider/patient.</li> </ol>

	<p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</u></li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. PA Statewide BLS Protocol 102.</li> </ol>
<ol style="list-style-type: none"> <li>3. Vehicle stabilization <ol style="list-style-type: none"> <li>a. Put vehicle in park or in gear</li> <li>b. Set parking brake</li> <li>c. Turn off vehicle ignition</li> <li>d. Cribbing/Chocking</li> <li>e. Move seats back and lower windows</li> <li>f. Disconnect battery or power source</li> <li>g. ID and avoid hazardous components <ol style="list-style-type: none"> <li>i. seat belt pretensioners</li> <li>ii. undeployed air bags</li> <li>iii. others</li> </ol> </li> </ol> </li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Students should be provided information on stabilization efforts that may be undertaken by a rescue squad. Awareness-level stabilization efforts should be limited to activities that a person with an average knowledge of motor vehicle operations would possess, e.g. place the vehicle in park, deploy emergency brake, turn off the ignition, etc.</li> <li>2. Activities other than those recommended above require specific instruction at an operations level, e.g. disconnecting batteries/ power sources or cribbing/chocking a vehicle.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</u></li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II: Jones &amp; Bartlett, 2011.</u></li> <li>4. PA Statewide BLS Protocol 102</li> </ol>
<ol style="list-style-type: none"> <li>4. Unique hazards <ol style="list-style-type: none"> <li>1. Alternative fuel vehicles</li> <li>2. Undeployed vehicle safety devices</li> <li>3. Haz-mat</li> </ol> </li> </ol>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Students should be provided information about alternative fuel vehicles from an awareness perspective with emphasis on provider/patient safety. Information may be provided on steps that may be taken by a rescue squad to disable the power source on an electric/electric-hybrid, however operations-level knowledge/skills are required to perform these procedures.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</u></li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II: Jones &amp; Bartlett, 2011</u></li> </ol>
<ol style="list-style-type: none"> <li>5. Evaluate need for additional resources <ol style="list-style-type: none"> <li>a. Extrication equipment</li> <li>b. Fire suppression</li> <li>c. Law enforcement</li> <li>d. Haz-mat</li> <li>e. Utility companies</li> <li>f. Air medical</li> <li>g. Others</li> </ol> </li> </ol>	<p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</u></li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II: Jones &amp; Bartlett, 2011</u></li> <li>4. PA Statewide BLS Protocol 180 and 192</li> </ol>

<p>6. Extrication considerations</p> <ol style="list-style-type: none"> <li>a. Disentanglement of vehicle from patient</li> <li>b. Multi-step process</li> <li>c. Rescuer-intensive</li> <li>d. Equipment-intensive</li> <li>e. Time-intensive</li> <li>f. Access to patient <ol style="list-style-type: none"> <li>i. try to open doors</li> <li>ii. ask patient to unlock doors</li> <li>iii. ask patient to lower windows</li> </ol> </li> <li>g. Complex</li> <li>h. Tools <ol style="list-style-type: none"> <li>i. Hand</li> <li>ii. Pneumatic</li> <li>iii. Hydraulic</li> <li>iv. Other</li> </ol> </li> </ol> <p>E. <i>Determine number of patients</i></p>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Provide examples of deteriorating patient conditions that require the safe, but expeditious removal of a patient from the vehicle.</li> <li>2. The safe and proper use of hand tools to gain access to a patient requires both a didactic and practical instruction component; simply describing “how to use the tool” does not ensure safe operation.</li> <li>3. Discussion of other types of rescue tools should be limited to an awareness level so the student has a basic understanding of what to expect in an actual rescue situation. The operation of pneumatic, hydraulic or other power tools requires specific instruction and is beyond the scope of this module.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II</u>: Jones &amp; Bartlett, 2011</li> <li>4. PA Statewide BLS Protocol 180 and 201</li> </ol>
<p><b>II. Use of Simple Hand Tools</b></p> <ol style="list-style-type: none"> <li>A. <i>Hammer</i></li> <li>B. <i>Center Punch</i></li> <li>C. <i>Pry Bar</i></li> <li>D. <i>Come-Along</i></li> </ol>	<p><i>Note: PA licensed ambulances are not required to carry hand tools.</i></p> <p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Reinforce the need for proper PPE when using hand tools and need to provide appropriate protection for the victim(s).</li> <li>2. Reinforce the need for effective communication with victim(s) as to noise, motion or debris that may be created during the operation of hand tools.</li> <li>3. The safe and proper use of hand tools to gain access to a patient requires both a didactic and practical instruction component; simply describing “how to use the tool” does not enable the student to operate in a safe manner.</li> </ol> <p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II</u>: Jones &amp; Bartlett, 2011</li> </ol>
<p><b>III. Special Considerations for Patient Care</b></p> <ol style="list-style-type: none"> <li>A. <i>Removing patient</i> <ol style="list-style-type: none"> <li>1. Maintain cervical spine stabilization</li> <li>2. Complete primary assessment</li> <li>3. Provide critical interventions</li> </ol> </li> <li>B. <i>Assist with rapid extrication</i></li> <li>C. <i>Move patient, not the device</i></li> <li>D. <i>Use sufficient personnel</i></li> <li>E. <i>Use the path of least resistance</i></li> </ol>	<p><b>Reference Material:</b></p> <ol style="list-style-type: none"> <li>1. <u>Emergency Medical Responder</u>: AAOS/Jones &amp; Bartlett, 2010. Chapter 20</li> <li>2. PA Joint Rescue Program: Awareness and [portion of] Operations.</li> <li>3. <u>Vehicle Extrication Level I and II</u>: Jones &amp; Bartlett, 2011</li> <li>4. PA Statewide BLS Protocol 201, 261 and 602</li> </ol>

<p><b>IV. Additional Guidance Not Contained in NHTSA Document</b>  <b>A. Instructor Qualifications</b></p>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. Primary faculty members should be accredited rescue instructors. Secondary instructors should be accredited EMS instructors possessing rescue experience.</li> </ol>
<p><b>B. Practical Lab</b></p>	<p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. The need for a practical lab should be guided by the desired didactic and psychomotor competencies.</li> <li>2. Practical lab elements could include, but not be limited to: <ul style="list-style-type: none"> <li>a. Proper donning of PPE</li> <li>b. Scene Size-Up <ul style="list-style-type: none"> <li>• Hazard Identification</li> <li>• Number of Patients</li> <li>• Need for Additional Resources</li> </ul> </li> <li>c. Vehicle Stabilization</li> <li>d. Gaining Access <ul style="list-style-type: none"> <li>• Through Doors</li> <li>• Through Windows</li> <li>• Through Body</li> </ul> </li> <li>e. Use of Hand Tools <ul style="list-style-type: none"> <li>• Hammer</li> <li>• Metal Cutting Tool</li> <li>• Center Punch</li> <li>• Pry Bar</li> </ul> </li> <li>f. Patient Packaging <ul style="list-style-type: none"> <li>• Sitting</li> <li>• Supine</li> <li>• Prone</li> <li>• Lateral Recumbent</li> </ul> </li> <li>g. Indications for Rapid Extrication</li> <li>h. Interfacing with Rescue Personnel <ul style="list-style-type: none"> <li>• Roles &amp; Responsibilities</li> <li>• Environment during operation of air, hydraulic or other power tools</li> </ul> </li> </ul> </li> <li>3. When possible, the lab should be conducted using real vehicles in order to simulate actual field conditions.</li> <li>4. Vehicles for the lab should be inspected prior to use and made safe from any hazards that are not part of the instructional content.</li> <li>5. No student should be permitted to participate in the practical lab without proper PPE.</li> </ol>
<p><b>C. Instructional Hours</b></p>	<p><i>The NHTSA EMS Educational Standards for Vehicle Extrication recommend simple depth, simple breadth with regard to: 1) Safe vehicle extrication 2) Use of simple hand tools.</i></p> <p><b>Recommendation(s):</b></p> <ol style="list-style-type: none"> <li>1. The number of instructional hours should be guided the competencies needed to meet the NHTSA educational standards. The minimum recommended length of didactic instruction should be 1-3 hours.</li> <li>2. If a practical lab is provided, the minimum recommended length of instruction is 3-5 hours.</li> </ol>