



U.S. Department of Transportation  
**National Highway Traffic Safety  
Administration**



1200 New Jersey Avenue SE.  
Washington, DC 20590

Date: November 1, 2017  
To: State EMS Directors  
From: Jon R. Krohmer, MD, FACEP *J. Krohmer, MD*  
Director, Office of Emergency Medical Services  
RE: 2007 National EMS Scope of Practice Model, Change Notice

The National EMS Scope of Practice Model (Model) was published in February 2007 by the National Highway Traffic Safety Administration (NHTSA). The Model was developed by the National Association of State EMS Officials (NASEMSO) with funding provided by NHTSA and the Health Resources and Services Administration (HRSA). Over the past 10 years, the Model has provided guidance for States in developing their EMS Scope of Practice legislation, rules, and regulation. While the model provides national guidance, each State maintains the authority to regulate EMS within its border, and determine the scope of practice of State-licensed EMS practitioners.

Recognizing that the Model may impact States' ability to urgently update their Scope of Practice, in 2016 the National EMS Advisory Council (NEMSAC) recommended that NHTSA develop a standardized urgent update process for the Model and urgently address the issue of naloxone administration at all levels of EMS practitioner.

As part of the Revision of the 2007 Model project, NHTSA asked NASEMSO to develop a rapid process for emergent changes to the Model. Following a deliberative process informed by peer-reviewed literature and data from the National EMS Information System (NEMSIS), NASEMSO and the project's subject matter expert panel utilized this new evidence and data to develop the two attached change notices on Naloxone and Hemorrhage Control.

I hope you find these change notices useful to you in meeting the urgent needs of your patients and the practitioners you regulate. In the very near future we will publish a revised version of the 2007 Model which incorporates these change notices.

Please feel free to contact me should you have any questions.

## 2007 NATIONAL EMS SCOPE OF PRACTICE MODEL CHANGE NOTICES

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### Change Notice 1.0

November 1, 2017

The following changes to the National EMS Scope of Practice Model (February 2007) DOT HS 810 657 are effective immediately:

Page 23. Emergency Medical Responder Psychomotor Skills/Pharmacological Interventions. The following has been added: **Administer a narcotic antagonist to a patient suspected of narcotic overdose.**

Page 26. Advanced Emergency Medical Technician Psychomotor Skills/Pharmacologic Interventions. The following has been deleted: **Administer a narcotic antagonist to a patient suspected of a narcotic overdose;** \*See Note below.

Page 30. Pharmacological Intervention Minimum Psychomotor Skill Set/Emergency Medical Responder. The following has been added: Technique of Med Administration – **Unit-dose, premeasured, intranasal or autoinjector.**

Page 30. Pharmacological Intervention Minimum Psychomotor Skill Set/Emergency Medical Responder. Administered Meds. The following has been added: **Narcotic antagonist.**

Page 30. Pharmacological Intervention Minimum Psychomotor Skill Set/Advanced Emergency Medical Technician. Administered Meds. The following has been deleted: **Narcotic antagonist;** \*See Note below.

\*Please Note: The National EMS Scope of Practice Model and National EMS Education Standards assume there is a progression in practice from the Emergency Medical Responder (EMR) level to the Paramedic level. That is, licensed personnel at each level are responsible for all knowledge, judgments, and skills at their level and all levels *preceding* their level. Therefore, content applied at the EMR level pertains to all EMS levels.

**BACKGROUND:** At the request of the National Highway Traffic Safety Administration’s Office of Emergency Medical Services under contract for 2018 National EMS Scope of Practice Revision, the National Association of State EMS Officials (NASEMSO) and a subject matter expert panel that included representatives of several national EMS organizations considered the following questions to facilitate urgent changes to the 2007 National EMS Scope of Practice Model (Model) to add the administration of opioid antagonists to the Emergency Medical Responder and Emergency Medical Technician scopes of practice:

1. Is there evidence that the procedure or skill is beneficial to public health?
2. What is the clinical evidence that the new skill or technique as used by EMS practitioners will promote access to quality healthcare or improve patient outcomes? (The base of evidence should include the best available clinical evidence, clinical expertise, and research.)

**METHODS:** NASEMSO engaged the services of a board-certified emergency physician and researcher to lead a systematic review of literature to review the available evidence. An administrative team comprised of the project leadership established the following PICO questions:

*(P) For adults with opiate/opioid toxicity in the prehospital environment, (I) does administration of naloxone (intramuscular or intranasal) by ALS (paramedics/EMT-I/AEMT) responders (C) compared to bystanders, law enforcement or BLS (EMT-B/EMT/EMR) (O) improve patient mental and respiratory status?*

This PICO question evaluated all data from 1980 to the date of the search.

**RESULTS OF SYSTEMATIC REVIEW OF LITERATURE:** The search terms were exploded and are as follows: Search 1: “ambulance” OR “emergency medical services” OR “pre-hospital care” OR “mobile health units” OR “paramedic” AND “naloxone” OR “narcan” OR “opiate antagonist”; Search 2: “bystander” OR “law enforcement” OR “rescue personnel” OR “untrained” AND “naloxone” OR “narcan” OR “opiate antagonist”. Additionally, review articles were hand searched for relevant papers. Inclusion criteria used for the evaluation of this search were manuscripts that satisfied the PICO question, were published in English, in peer-reviewed journals, and whose subjects were human (no basic science or animal models). Exclusion criteria included: studies that did not specifically compare ALS (paramedics/EMT-I/AEMT) responders to bystanders, law enforcement or BLS (EMT-B/EMT/EMR), studies not in the prehospital setting, and studies that examined perceptions of responders only (no clinical patient outcomes). Utilizing a comprehensive search strategy, a total of 850 articles were extracted. After independent evaluation by two reviewers, no manuscripts satisfied inclusion. No publications evaluated satisfied the stated PICO question concerning naloxone use between these groups. We suggest that this finding is not unusual or unreasonable since the administration of opioid antagonists at the EMR and EMT levels is not currently supported in the (2007) Model, creating a barrier to the use of naloxone by these providers.

**DISCUSSION:** Naloxone is a medication approved by the Food and Drug Administration (FDA) to reverse overdose by opioids such as fentanyl, heroin, morphine, and oxycodone. It blocks opioid receptor sites, reversing the toxic effects of the overdose. Naloxone is administered when a patient is showing signs of opioid overdose. While we were not able to determine broad patient outcomes related to BLS (EMT and EMR) administration compared to ALS practitioners, NASEMSO also considered expert medical opinion, patient care outcomes identified by consensus panels, available research on the use of naloxone administration by lay bystanders, and the outcomes of state/regional demonstration projects in an attempt to inform a recommendation. We considered the safety of the drug and relative inability to do harm, the potential lifesaving benefits for opioid overdose patients, the availability of unit dose packaging, the relatively clear indications for use of the drug, the response to the rising problem of opioid overdoses nationwide, the ease of training BLS practitioners to use the drug safely and effectively, the minimal background in patient assessment, pharmacology, pathophysiology, airway management, etc. to use this drug. We conclude that the benefits outweigh the risks of incorporating opioid antagonist administration into the scope of practice at the EMR and EMT level for patients with suspected opioid overdose.

EMRs and EMTs shall only undertake the practice if they possess the necessary educational preparation, experience and knowledge to properly administer an opioid antagonist via unit-dose, premeasured, intranasal or autoinjector routes. The execution of the procedures shall include the identification and discrimination of expected and unexpected human responses and the post-treatment management of administering opioid antagonists to EMS patients with suspected opioid overdose.

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## Change Notice 2.0

November 1, 2017

The following changes to the National EMS Scope of Practice Model (February 2007) DOT HS 810 657 are effective immediately:

Page 23. Emergency Medical Responder Psychomotor Skills/Trauma Care. The following has been added: **Use of tourniquets and wound packing for hemorrhage control.**

Page 30. Emergency Trauma Care Minimum Psychomotor Skill Set/Emergency Medical Responder. The following has been added: **Tourniquet and wound packing.**

Page 30. Emergency Trauma Care Minimum Psychomotor Skill Set/Emergency Medical Technician. The following has been deleted: **Tourniquet**; See Note below.

\*Please note: The National EMS Scope of Practice Model and National EMS Education Standards assume there is a progression in practice from the Emergency Medical Responder (EMR) level to the Paramedic level. That is, licensed personnel at each level are responsible for all knowledge, judgments, and skills at their level and all levels *preceding* their level. Therefore, content applied at the EMR level pertains to all EMS levels.

**BACKGROUND:** At the request of the National Highway Traffic Safety Administration's Office of Emergency Medical Services under contract for 2018 National EMS Scope of Practice Revision, the National Association of State EMS Officials (NASEMSO) and a subject matter expert panel were asked to consider the addition of tourniquet application and wound packing for hemorrhage control to the scope of practice for EMS personnel at all levels. The following questions were considered in support of the request for urgent changes to the 2007 National EMS Scope of Practice Model (Model).

1. Is there evidence that the procedure or skill is beneficial to public health?
2. What is the clinical evidence that the new skill or technique as used by EMS practitioners will promote access to quality healthcare or improve patient outcomes? (The base of evidence should include the best available clinical evidence, clinical expertise, and research.)

**METHODS:** NASEMSO engaged the services of a focused research team to lead a systematic review of medical literature to review the available evidence regarding tourniquet use and wound packing with hemostatic dressings. The published medical literature from 2013 through February 2017 was reviewed and evaluated. The literature review start date began with 2013 as the published prehospital hemorrhage control evidence-based guideline had previously evaluated the medical literature through 2012 on the subject. The methods and detailed results of the updated literature review are attached as Addendum 1.

**RESULTS AND DISCUSSION:** Uncontrolled bleeding remains the most preventable cause of death following traumatic injury. The increasing incidence of intentional mass-casualty and active shooter incidents has led to the development of educational initiatives designed to prepare the civilian bystander to act as an “immediate responder” to control bleeding until trained medical help arrives. The Hartford Consensus<sup>2</sup> advocated tourniquets for use by “immediate responders” and the “Stop the Bleed” campaign encourages citizen access to bleeding control equipment and immediate application of direct pressure, a tourniquet or wound packing to control active hemorrhage when indicated. Yielding low complication rates and high potential benefits, an expert panel has noted that tourniquets are already in the Model for EMTs and concluded that the application of a tourniquet should be included in the Model for all EMS personnel, including EMR.

Direct (wound) pressure is already a component of the Model for hemorrhage control for all EMS personnel. The panel’s discussion, therefore, focused on the role of wound packing (with or without hemostatic dressings) for bleeding from areas not amenable to either direct pressure or tourniquet application. Hemostatic dressings are available over-the-counter without prescription and are frequently included with commercially available bleeding control kits. It was noted that plain gauze could effectively be utilized for wound packing, but that there may be advantages to the use of specialized hemostatic dressings, which are impregnated with various compounds to enhance hemostasis. The evidence demonstrated that wound packing and hemostatic dressings are useful for this purpose. Wound packing, with a hemostatic dressing or with plain gauze, should be included in the *Practice Model* for all EMS personnel.

All EMS personnel are encouraged to undertake such practices only if they possess the necessary educational preparation, experience and knowledge to properly administer tourniquets and wound packing and manage potential complications from the procedures.

#### References:

1. Bulger et al. An Evidence Based Prehospital Guideline for External Hemorrhage Control: American College of Surgeons Committee on Trauma. [Prehosp Emerg Care](#). 2014 Apr-Jun;18(2):163-73. Downloaded 2017 August 29 at <https://www.facs.org/~media/files/quality%20programs/trauma/education/acscot%20evidencebased%20prehospital%20guidelines%20for%20external%20hemorrhage%20control.ashx>
2. Jacobs LM and the Joint Committee to Create a National Policy to Enhance Survivability for Intentional Mass Casualty Shooting Events. The Hartford Consensus III: Implementation of Bleeding Control. 2015. Downloaded 2017 August 29 at <http://bulletin.facs.org/2015/07/the-hartford-consensus-iii-implementation-of-bleeding-control/>.

## **Addendum 1**

An administrative team comprised of the project leadership established the following PICO questions, which were then investigated by the research team:

- 1. (P) In patients with severe external limb bleeding in the prehospital setting, (I) does the application of a tourniquet compared with not applying a tourniquet (C), change hemostasis, overall mortality, vital signs, functional limb recovery, complications, and blood loss (O)?*
- 2. (P) In patients with severe external bleeding, (I) does the application of topical hemostatic dressings plus standard first aid, (C) compared with standard first aid alone, (O) change overall mortality, vital signs, hemostasis, complications, blood loss, and major bleeding?*

### **RESULTS OF SYSTEMATIC REVIEW OF LITERATURE:**

Use of Prehospital Tourniquets for Hemorrhage Control: A systematic review of the literature from 2013 to 02/2017 was completed with the identification of 466 articles matching search criteria. No additional records were identified by hand searching relevant review articles.

Duplicates were removed and 415 records were screened by two independent reviewers. Of these, 21 satisfied inclusion criteria and underwent full text review for eligibility in the analysis. Multiple articles were excluded from the final inclusion list due to the lack of a control group (usual care / not applying a tourniquet). Five (5) manuscripts were selected for the final list of manuscripts that met inclusion criteria after full text review. In total, between this review and work done through the 2015 AHA Guidelines Process, 13 total manuscripts have been published that evaluate the stated PICO question concerning prehospital tourniquet use for hemorrhage control.

Use of Prehospital Hemostatic Dressings for Hemorrhage Control: Inclusion criteria used for the evaluation of this search were manuscripts that satisfied the PICO question, were published in English, in peer-reviewed journals, and whose subjects were human (no basic science or animal models). Exclusion criteria included: studies that did not specifically compare hemostatic dressing with first aid to first aid alone and studies that did not specifically examine severe external bleeding in the prehospital setting (no operating room). A systematic review of the literature from 2013 to 02/2017 was completed with the identification of 356 articles matching search criteria. No additional records were identified by hand searching relevant review articles. Duplicates were removed and 351 records were screened by two independent reviewers. Of these, 13 satisfied inclusion criteria and underwent full text review for eligibility in the analysis. Four (4) manuscripts were selected for the final list of manuscripts that met inclusion criteria after full text review. In total, between this review and work done through the 2015 AHA Guidelines Process, 15 total manuscripts have been published that evaluate the stated PICO question concerning prehospital hemostatic dressing use.