



PENNSYLVANIA EMERGENCY
HEALTH SERVICES COUNCIL

Your Voice In EMS

RECOMMENDATION FOR CONSIDERATION

Board Meeting Date: June 14, 2017

Subject: Wilderness EMS Program

VTR#: 0617-02

Committee/Task Force: Medical Advisory Committee

Recommended Goal

Recommended Policy Change

Other:

Recommendation:

The Pennsylvania Department of Health should accept the recommendations contained in the attached document related to implementing a wilderness EMS program in Pennsylvania.

Rationale [Background]:

Pennsylvania's EMS system regulations, 28 Pa.C. §1027.41, defines special operations EMS services. The regulations authorize an EMS provider to have an expanded scope of practice *“that includes skills and equipment, in addition to those found in the provider's general scope of practice if the provider has received additional education by successfully completing a course approved for that type of special operations.”*

The special operations section is further expanded upon in 28 Pa.C. §1027.41(d), which specifically addresses a wilderness EMS service. *“A wilderness EMS service provides EMS in the wilderness, backcountry or other wild and uncultivated area to afford an EMS response should a person become ill or injured in that setting.”* An EMS agency licensed as a wilderness EMS service, must demonstrate that it has coordinated with a local, county or State emergency service or services and responds at their request.

This document provides the Pennsylvania Department of Health with numerous recommendations related to the wilderness EMS provider/agency including, but not limited to:

1. Educational objectives
2. Expanded scope of practice
3. Expanded medication list
4. Best practice recommendations in the areas of system integration and medical director requirements

Medical Review [Concerns]:

This VTR has been reviewed and is offered by the PEHSC Medical Advisory Committee

Fiscal Concerns:

As with any other service line expansion, EMS agencies who are exploring the feasibility of becoming a wilderness EMS service should carefully consider the costs associated with this service and how those costs will be recovered. Expected costs include initial and recurrent training, personal protective equipment and additional medical equipment and supplies. Deployment and standby services are not compensable through normal reimbursement pathways and will likely need to be recovered through an alternative pathway.

Educational Concerns:

The educational objectives described are largely based on nationally accepted principles and include both “mission essential” and “mission optional” elements. Because providers functioning at both the BLS and ALS level are eligible to participate in wilderness EMS training, the depth and breadth of some information presented in the course should be guided by class composition.

As with previous Department accepted expanded scope initiatives, the agency’s medical director play the central role in granting expanded scope of practice privileges following successful completion of a department approved education program.

Plan of Implementation:

Following acceptance of these recommendations by the Department, the committee will begin the next phase of program development, which will focus on drafting statewide protocols for wilderness EMS providers that support expanded scope of practice.

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:

None.

Signed: _____ Date _____
President

For PEHSC Use Only – PA Department of Health Response

Accept:____ Table:____ Modify:____ Reject:____

Comments:

Date of Department Response:_____



PENNSYLVANIA EMERGENCY
HEALTH SERVICES COUNCIL

Your Voice In EMS

Wilderness EMT

Proposed Standards for Expanded Scope of Practice, Medications and Educational Objectives

PEHSC Special Operations Workgroup

4/26/2017



This document is a work product of the Pennsylvania Emergency Health Services Council. It presents recommendations for the implementation of the expanded scope wilderness EMS provider within Pennsylvania's EMS system.

Table of Contents

Executive Summary	3
Introduction.....	4
Purpose.....	4
Scope and Authority	4
System Integration	5
National EMS Education Standards.....	5
Education Standard Components	6
Course Design, Sponsorship and Approval Process	7
Clinical Practicum.....	7
Competency Evaluation	8
Expanded Scope of Practice Authority	8
Continuing Education Requirements	8
Transition to Expanded Scope of Practice	9
Reciprocity.....	9
Providers above EMT Level	9
Scope of Practice.....	10
Medications.....	11
Storage and Transportation of Equipment and Supplies.....	12
Emergency Care for Service Animals.....	12
Provider Skill and Medication Administration Gap Analysis.....	13
Educational Objectives	15
Preparatory	15
Anatomy and Physiology	16
Medical Terminology.....	16
Pathophysiology.....	16
Life Span Development	16
Public Health.....	16
Pharmacology	16
Airway Management, Respiration and Artificial Ventilation	17
Assessment.....	18
Medicine	20

Shock and Resuscitation	23
Trauma	23
Special Patient Populations.....	26
EMS Operations.....	27
Clinical Behavior/Judgment.....	30
Medical Director Requirements	32
Medical Command.....	34
Statewide Wilderness EMS Protocols.....	35
Acknowledgements.....	35

Executive Summary

This document describes standards recommended by the Pennsylvania Emergency Health Services Council to the Pennsylvania Department of Health to establish the Wilderness EMT in the Commonwealth. The Wilderness EMT represents a significant step in expanding the scope of practice for providers at and above the EMT level when practicing in specialized settings.

Historically, EMS was designed to deliver for short term care based on the assumption that definitive care was nearby and could be delivered quickly. Eventually there was a realization that this training, while valuable, needed to be supplemented to deal with the extended time and limited resources inherent to a medical emergency that occurs in a wilderness or backwoods setting. In the 1950's organizations began to develop training programs to address these special needs. Following a 1966 whitepaper, that led to the passage of the National Traffic and Motor Safety Act, emergency medical services as we know it today was born. The National Highway Traffic Administration was charged with creating the system's framework, including provider definitions and standardized training. The first wilderness EMT course was taught in 1976 to help EMT's in Colorado adapt their skills and knowledge when working with search and rescue teams.



The topography of Pennsylvania, while not as remote or austere as some states, can present a significant challenge to EMS providers who are called upon to provide care in a wilderness setting. The goal of this program is to build upon a provider's current certification level by introducing an expanded scope of practice and basic operational skills to provide EMS in a wilderness, backcountry or wild and uncultivated area .

Wilderness EMS training is not standardized and varies by state according to their assessed needs. In Pennsylvania, the EMS Systems Act of 2009 and accompanying regulations provides for the expanded scope of practice for providers at or above the EMT level in order to provide care when delivering the patient to definitive medical care may be delayed due to patient location. The expanded scope of practice afforded to these providers may only be utilized when functioning with an EMS agency that is licensed as a wilderness EMS Agency by the Pennsylvania Department of Health.

Sincerely,

PEHSC Medical Advisory Committee &
Special Operations Workgroup

Introduction

Wilderness EMS is an emerging area of EMS practice in Pennsylvania that provides additional education and skills to experienced EMS providers at or above the EMT level to provide care in remote and sometimes austere environments where access to definitive medical care may be delayed due to distance, terrain or other factors.

Purpose

This project establishes educational standards and an expanded scope of practice for providers at or above the EMT level that will allow these providers to function safely and effectively as a component of a wilderness search and rescue operation.

Scope and Authority

Pennsylvania Department of Health (Department) possesses the statutory (Title 35, Health and Safety) and regulatory authority (Title 28, Health and Safety) to establish the Wilderness EMT and authorize their practice.

28 Pa Code § 1027.41. Special Operations EMS Services:

(a) *Generally.* A special operations EMS service provides EMS in austere environments that require specialized knowledge, equipment or vehicles to access a patient or it addresses patient care situations that differ from the routine situations that can be handled by a QRS, ambulance service or squad service, or some combination thereof. Depending upon the type of special operations EMS service and the circumstances presented, a special operations EMS service may be able to meet the EMS needs of the patient by itself, or may need to work with other EMS services to meet the EMS needs of the patient.

(b) *Special provisions.* The following apply to special operations EMS services:

(1) When providing EMS through a special operations EMS service, an EMS provider's scope of practice is expanded to include EMS skills and the use of equipment in addition to those included in the EMS provider's general scope of practice if the EMS provider has received education to perform those skills and use that equipment by having successfully completed a course approved by the Department for that type of special operations EMS service. The EMS provider is required to be able to document having received that education and to demonstrate competency in the performance of those skills and use of that equipment to the EMS agency medical director. Performance of those skills and use of that equipment by that level of EMS provider will be authorized by the Department as published in a notice in the *Pennsylvania Bulletin*. An EMS provider shall perform these skills as directed by the Statewide EMS protocols applicable to that type of special operations EMS service or as otherwise directed by a medical command physician.

System Integration

28 Pa. Code §1027.41 (d)

Wilderness EMS Service:

(1) *Purpose.* An EMS agency that provides a wilderness EMS service provides EMS in the wilderness, backcountry or other wild and uncultivated area to afford an EMS response should a person become ill or injured in that setting.

(2) *Coordination.* To secure and maintain an EMS agency license that authorizes the EMS agency to operate a wilderness EMS service, an EMS agency shall demonstrate that it has coordinated with a local, county or State emergency service or services and responds at their request.

(3) *Staffing.* An EMS agency that provides a wilderness EMS service shall be staffed by at least six EMS providers who have completed an educational program approved by the Department on wilderness EMS operations. The minimum staff when providing EMS as a wilderness EMS service is two EMS providers at or above the EMT level who meet these standards. EMS providers who provide EMS for a wilderness EMS service shall be 18 years of age or older.

(4) *Reporting.* The EMS agency shall provide a summary report of a wilderness EMS operation response to the regional EMS council assigned to the region in which the wilderness EMS service was provided, within 30 days of the wilderness EMS operation, on a form or through an electronic process, as prescribed by the Department.

National EMS Education Standards

In August, 1996, the *EMS Agenda for the Future* was published. This consensus document was developed by the National Association of EMS Physicians and the National Association of State EMS Directors with funding provided by the National Highway Traffic Safety Administration (NHTSA) and the Health Resources and Services Administration (HRSA).

Following the Agenda's publication, a conference of national EMS education leaders was convened by NHSTA. The resultant work product from this conference was the *EMS Education Agenda for the Future: A Systems Approach*. Based on guidance from the EMS education agenda, the following companion documents were published:

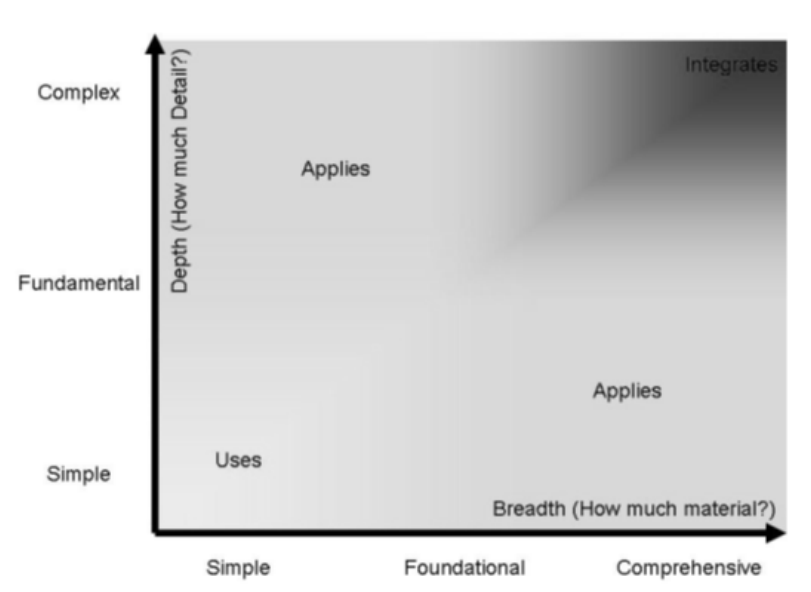
- *National EMS Core Content*
- *National EMS Scope of Practice*
- *National EMS Education Standards*

The 2009 National Education Standards replaced the NHTSA National Standard Curricula at all levels. The standards define the competencies, clinical behaviors, and judgments that must be met by EMS personnel at all levels of practice. In developing standards for the wilderness EMT, the task force felt the integrity of the NHTSA document should be maintained, therefore the wilderness EMT standards are an extension of the federal document for Pennsylvania.

Education Standard Components

1. Competency – represents the minimum competency required for an entry-level provider at each level.
2. Knowledge Required to Achieve Competency– represents an elaboration of the knowledge within each competency (when appropriate) that entry-level providers would need to master in order to achieve competency.
3. Clinical Behaviors/Judgments – describes the clinical behaviors and judgments essential for entry-level providers at each level.

The standards also assume there is a progression in practice from Emergency Medical Responder through Paramedic, and now the wilderness EMT level. The descriptors used to illustrate the increasing complexity of knowledge and behaviors are expressed in terms of their “depth” and “breadth.”



The *depth* of knowledge is the amount of detail a student needs to know about a particular topic. The *breadth* of knowledge refers to the number of topics or issues a student needs to learn in a particular competency.

For example: the Emergency Medical Responder (EMR) needs to have a thorough understanding (depth) about how to safely and effectively use the bag-valve-mask device; however, the EMR is taught a limited number of concepts (breadth) surrounding airway management.¹

¹ 2009 NHTSA National EMS Education Standards

To describe the intended depth of knowledge of a particular concept the terms *simple, fundamental, and complex* are used. This terminology better illustrates the progression of the depth of knowledge from one level to another. For example, the EMT's *depth* of knowledge for bleeding control is simple while the Paramedic's *depth* of knowledge for bleeding control is fundamental.

To describe the intended breadth of knowledge of a concept within a provider level, the terms *simple, foundational, and comprehensive* are used. This terminology also better illustrates the progression of the breadth of knowledge from one level to another. For example, the EMT's *breadth* of knowledge for cardiovascular disorders is foundational while the Paramedic's *breadth* of knowledge for cardiovascular disorders is comprehensive.

Course Design, Sponsorship and Approval Process

The design of the wilderness EMT course curriculum will be determined by the course sponsor and should be based on the student's intended practice environment.

The course sponsor should be accredited by the Pennsylvania Department of Health as a basic or advanced life support education institution, wilderness EMS agency or nationally recognized organization with expertise in wilderness EMS. The wilderness EMS agency or nationally recognized organization with expertise in wilderness EMS would be required to adhere to the same policies as accredited educational institutions with regard to course administration.



An educational institution or agency may not conduct a wilderness EMT course without first obtaining the approval of the Pennsylvania Department of Health. As part of its approval process the Department may require the course sponsor to submit course objectives, content outline, instructional guidelines or other information as may be needed in order for the Department, or its designee, to determine if the proposed course meets the educational standards outlined in this document.

Clinical Practicum

An EMT [or higher level provider] enrolled in a Department approved wilderness EMT course may benefit from engaging in a clinical practicum in order to gain real-life experience in both the clinical and operational aspects of wilderness medicine.

Completion of a clinical practicum is not required for a wilderness EMT endorsement by the Department, however it is highly recommended. The clinical experience may be provided as an integral part of a wilderness EMT course or may be provided by the wilderness EMS agency.

Competency Evaluation

The process to evaluate a student's entry-level mastery of the information presented in the wilderness EMT course is the responsibility of the course sponsor. This can be accomplished through the use of both cognitive and psychomotor examinations covering previously presented didactic and lab material. Course sponsors are permitted to incorporate the successful completion of a 3rd party exam as part of their course requirements, however the Department will not independently require such an exam following successful completion of an approved course as a prerequisite for expanded scope of practice.

The second level of competency evaluation, and arguably the most important, is that which is conducted by the wilderness EMS agency medical director as part of the agency's credentialing process. The medical director has the sole discretion to grant, restrict or deny [expanded] practice privileges, in total or in part, pursuant to 29 Pa. Code §1023.01 (a)(1):

(vi) Making an initial assessment of each EMS provider at or above the AEMT level to determine whether the EMS provider has the knowledge and skills to competently perform the skills within the EMS provider's scope of practice, and a commitment to adequately perform other functions relevant to the EMS provider providing EMS at that level. This subparagraph does not apply if the EMS provider was working for the EMS agency at the same level prior to the physician becoming the medical director for the EMS agency and the EMS provider was credentialed at that EMS agency within the last 12 calendar months as being able to perform at the EMS provider's certification level.

(vii) Making an assessment, within 12 calendar months of the last assessment, of each EMS provider at or above the AEMT level to determine whether the EMS provider has demonstrated competency in the knowledge and skills to perform the skills within the EMS provider's scope of practice, and a commitment to adequately perform other functions relevant to the EMS provider providing EMS at that level.

Expanded Scope of Practice Authority

The wilderness EMT will only be permitted to utilize the approved expanded scope of practice when providing care for a licensed wilderness EMS agency, or in other patient settings authorized by the Department of Health.

The wilderness EMT's expanded practice authority will be based on:

1. Completion of a Department approved education course or equivalent process.
2. The agency medical director's initial and annual review.
3. Other requirements as may be determined by the Department and/or licensed wilderness EMS agency.

Continuing Education Requirements

Continuing education requirements for providers with expanded scope of practice privileges will be determined by the EMS agency in consultation with the EMS agency medical director, who will determine the required number of continuing education hours and/or core content. Credits earned in wilderness subjects may be applied towards the Wilderness EMS provider's biannual registration requirement.

Transition to Expanded Scope of Practice

A provider, at or above the EMT level, who desires to obtain expanded scope of practice privileges to provide care on behalf of a wilderness EMS service, shall submit to the EMS agency medical director for review Documentation of successful completion of a Department approved course in wilderness EMS as posted on the Department's website.

Following approval by the EMS agency medical director, the agency will maintain a list of providers who have been granted expanded scope privileges. This list will be updated following the medical director's annual provider review and shall be made available to the Department and/or regional EMS council upon request.

Reciprocity

1. Complete the process established by the Department to obtain reciprocity as a Pennsylvania EMS provider.
2. Provide the EMS agency medical director with documentation of successful completion of a Department approved educational program in wilderness EMS as posted on the Department's website or an approved equivalent process.
3. If the EMS provider has completed a wilderness EMS course that does not appear on the Department's approved list, the provider may submit a request to the Department for review of the course for equivalency. The Department will determine the documentation required for such a review.

Providers above EMT Level

To accordance with Pennsylvania EMS regulations, providers at or above the EMT level are eligible for expanded scope of practice following completion of an approved educational program. As you review the recommended scope of practice, medication list and, in particular the education objectives, please be mindful that these standards were written to transition a provider at the EMT level.

It's important to note that establishing the educational objectives at the EMT level does not preclude higher level providers, i.e. AEMT, Paramedic, PHRN, PHPE and PHP, from completing an approved educational program and practice at an expanded scope level. The extent to which a provider's knowledge or scope of practice will be enhanced by the course is dependent on their current Pennsylvania certification.

While all provider levels will benefit from certain topics, e.g. wilderness operations and subjects related to workforce wellness/care, it's recognized that areas already within the provider's regular scope of practice will be redundant. When this is the case, the provider should view this as an opportunity to review the material previously presented in their certification course. If a sponsor conducts a course whose student composition consists of all providers above the EMT level, the sponsor may, at their discretion, change the depth and breadth of topic areas currently within the advanced provider's scope of practice.

Scope of Practice

Current Scope of Practice	<p>Skills currently authorized for Pennsylvania EMTs. Consistent with current BLS operations, these skills would be utilized during a wilderness operation in both emergent/life threatening and non-emergent situations. An entry-level educational program will be required for the EMT to translate these skills for use in a wilderness environment. All wilderness EMTs in Pennsylvania will be required to demonstrate their ability to function safely and effectively in a wilderness environment.</p>	<p>Refer to current scope of practice document published in the Pennsylvania Bulletin by the Pennsylvania Department of Health, Bureau of Emergency Medical Services for a list of these skills.</p>
Expanded Scope of Practice	<p>“Mission essential” skills (Tier I). These skills would typically be used in an emergent or life threatening situation. Wilderness EMTs in Pennsylvania will be required to demonstrate competency in these skills to the wilderness EMS agency medical director.</p>	<ol style="list-style-type: none"> 1. Anesthetic Block/Infiltration (digital, intra-oral, local) 2. Blood Glucose Measurement 3. Epistaxis, Control of 4. End-Tidal CO² Measurement 5. Fracture and Joint Dislocation (w/vascular compromise), Reduction of 6. Joint Taping 7. Medication Administration: <ol style="list-style-type: none"> a. Intramuscular b. Intranasal c. Inhalation d. Oral e. Subcutaneous f. Sublingual g. Topical 8. Supraglottic Airway, Insertion of 9. Thoracic Needle Decompression 10. Wound Irrigation 11. Wound Closure, Adhesive, Tape and Staple 12. Wound Packing
	<p>“Mission-optional” skills Tier II. These skills would be used both non-emergently to address the team on-site healthcare needs and/or in an emergent or life threatening situation based on mission requirements. The wilderness EMS agency medical director would select and credential the EMT in skills that he/she deems appropriate.</p>	<ol style="list-style-type: none"> 1. Abscess Incision & Drainage 2. Blister Incision & Drainage 3. Canine, Emergency Care of² 4. Corneal Abrasion, Evaluation of 5. Ear Irrigation 6. Gastric Decompression

² Contingent upon determination of permitted emergency care under the PA Veterinary Act (49 Pa. Code §31.31)

Medications

<p style="text-align: center;">Current Scope of Practice</p>	<p>Medications currently authorized for Pennsylvania EMTs. Consistent with current BLS operations, these medications would be utilized during a wilderness operation in both emergent/life threatening and non-emergent situations. An entry-level educational program will be required for the EMT to translate their use in a wilderness environment. All Wilderness EMTs Pennsylvania will be required to demonstrate their ability to function safely and effectively in a wilderness environment.</p>	<p>Refer to the list currently approved medications for EMS providers published in the Pennsylvania Bulletin by the Pennsylvania Department of Health, Bureau of Emergency Medical Services for these medications.</p>
<p style="text-align: center;">Expanded Scope of Practice</p>	<p>“Mission-essential” medications (Tier I):</p> <p>These medications would typically be used in an emergent or life threatening situation. Wilderness EMTs in Pennsylvania will be required to demonstrate competency in the use of these medications to the wilderness EMS agency medical director. These medications will be administered, as appropriate, by intramuscular, subcutaneous, sublingual, intranasal, inhaled, oral or topical route.</p>	<ol style="list-style-type: none"> 1. Albuterol 2. Antimicrobials, NOS 3. Antiemetics, NOS 4. Diazepam 5. Diphenhydramine 6. Epinephrine 7. Glucagon 8. Fentanyl 9. Ketorolac 10. Lidocaine 11. Lorazepam 12. Marcaine 13. Midazolam 14. Morphine 15. Meloxicam 16. Oxycodone 17. Oxymetazoline Nasal Spray
	<p>“Mission-optional” medications (Tier II):</p> <p>These medications would be used both non-emergently to address the team’s on-site healthcare needs and/or in an emergent or life threatening situation based on mission requirements. The wilderness EMS agency medical director would select and credential the EMT in medications that he/she deems appropriate. These medications will be administered, as appropriate, by intramuscular, subcutaneous, sublingual, intranasal, inhaled, oral or topical route.</p>	<ol style="list-style-type: none"> 1. Alertness Aid, Prescriptive 2. Acetaminophen 3. Anti-oxidants [emergen-c] 4. Antihistamines, Non-drowsy, NOS 5. Anti-psychotics 6. Bacitracin Topical 7. Dexamethasone 8. Calcium Carbonate 9. Cyclopentolate Ophthalmic Solution 10. Fluorescein Stain, Topical Ophthalmic 11. H² Blocker, NOS 12. Ibuprofen 13. Ketoconazole Topical 14. Loperamide 15. Meclizine 16. Naproxen 17. Ophthalmic Anesthetics, Topical

		18. Pramoxine Topical 19. Pseudoephedrine 20. Steroid Cream NOS, Topical 21. Zinc Gluconate/Zinc Acetate 22. Assist team members with previously prescribed, non-schedule, medications
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Storage and Transportation of Equipment and Supplies

A licensed wilderness EMS agency and the agency medical director as responsible to ensure all equipment and supplies used in a wilderness EMS response are stored, transported and used in a manner that complies with 28 Pa.C. §10278.5(e)(2), related to medication storage, and applicable federal requirements. The specific manner in which wilderness equipment and supplies are stored and transported may vary according to local needs.

For example, the agency may require all wilderness personnel to report to a fixed deployment point and respond to the incident in a Department licensed emergency vehicles. In areas of the Commonwealth where the previously described deployment strategy would result in extended response times, the agency and its medical director may authorize certain equipment, supplies and medications to be stored upon and transported to an incident using an alternative transport method, such as a non-traditional vehicle. To ensure accountability, the EMS agency should develop policies for storage and transport of equipment, supplies and medications when using an alternative transport method.

Emergency Care for Service Animals

The use of service animals, i.e. canines, is common during special operations for search/rescue, handler protection or other purposes. Occasionally, these service animals, many of which are sworn law enforcement officers, may become ill or injured while working at an incident scene. Ideally, the service animal should receive medical care from a licensed veterinarian or veterinary technician. However, there are times when emergency veterinary care may not be readily available due to the incident's location or other extenuating circumstance.

In these situations, the Department should work with the State Board of Veterinary Medicine to determine if an appropriately trained EMS provider is permitted to administer lifesaving emergency care to an ill or injured service animal and what emergency procedures are permissible. The goal of this care is to stabilize the animal and facilitate transport to a veterinarian for definitive care.

Provider Skill and Medication Administration Gap Analysis

The table below provides a crosswalk of those proposed skills for the wilderness EMT and the current scope of practice for Pennsylvania certified providers [45 Pa.B 5451 and 45 Pa.B 5463].

Proposed Wilderness Expanded Scope Skill or Medication	Tier I or II	Current Pennsylvania Scope of Practice		
		EMT	AEMT	Paramedic & PHRN ³
Anesthetic Block/Infiltration (digital, oral, local)	I	No	No	No
Blood Glucose Measurement	I	Yes	Yes	Yes
Epistaxis, Control of	I	Yes	Yes	Yes
End-Tidal CO ² Measurement	I	No	Yes	Yes
Fracture and Joint Dislocation, Reduction of	I	No	No	No
Medication Administration:	I			
• Intramuscular		Yes ⁴	Yes	Yes
• Intranasal		Yes ⁶	Yes	Yes
• Inhalation		Yes ¹	Yes	Yes
• Oral		Yes ⁵	Yes	Yes
• Subcutaneous		No	No	Yes
• Sublingual		Yes ¹	Yes	Yes
• Topical	No	No	Yes	
Supraglottic Airway, Insertion of	I	No	Yes	Yes
Thoracic Needle Decompression	I	No	No	Yes
Wound Irrigation	I	Yes	Yes	Yes
Wound Closure, Temporary (Adhesive, Tape, Staple)	I	No	No	No
Wound Packing (for hemostasis)	I	Yes	Yes	Yes
Abscess Incision & Drainage	II	No	No	No
Blister Incision & Drainage	II	No	No	No
Canine Care, Emergency	II	No	No	No
Corneal Abrasion, Evaluation of	II	No	No	No
Ear Irrigation	II	No	No	No
Gastric Decompression	II	No	No	Yes
Albuterol	I	Yes ¹	Yes	Yes
Antimicrobials	I	No	No	Yes ²
Antiemetics	I	No	No	Yes
Diazepam	I	No	No	Yes
Diphenhydramine	I	No	No	Yes
Glucagon	I	No	Yes	Yes
Fentanyl	I	No	No	Yes
Ketorolac	I	No	No	No
Lidocaine	I	No	No	Yes
Lorazepam	I	No	No	Yes
Marcaine	I	No	No	No
Midazolam	I	No	No	Yes
Morphine Sulfate	I	No	No	Yes
Meloxicam	I	No	No	No
Oxycodone	I	No	No	No
Alertness Aid, Prescriptive	II	No	No	No
Acetaminophen	II	No	No	Yes
Anti-Oxidants (Emergen-C)	II	No	No	No
Antihistamines, Non-Drowsy	II	No	No	No
Anti-psychotics	II	No	No	No

Proposed Wilderness Expanded Scope Skill or Medication	Tier I or II	EMT	AEMT	Paramedic & PHRN³
Bacitracin Topical	II	No	No	No
Dexamethasone	II	No	No	Yes
Calcium Carbonate	II	No	No	No
Cyclopentolate Ophthalmic Solution	II	No	No	No
Fluorescein Stain, Topical Ophthalmic	II	No	No	No
Fluocinolone Topical	II	No	No	No
H ² Blockers	II	No	No	No
Hydrocortisone Topical	II	No	No	No
Ibuprofen	II	No	No	No
Ketoconazole Topical	II	No	No	No
Loperamide	II	No	No	No
Meclizine	II	No	No	No
Naproxen	II	No	No	No
Ophthalmic Anesthetics, Topical	II	No	No	No
Oxymetazoline Nasal Spray	II	No	No	No
Pramoxine Topical	II	No	No	No
Pseudoephedrine	II	No	No	No
Steroid Cream Topical	II	No	No	No
Zinc Gluconate/Zinc Acetate	II	No	No	No
Assist team members with previously prescribes, non-schedule, medications	II	Yes ¹	Yes ¹	Yes ¹

Notes:

1. May assist patient with previously prescribed medication as listed on statewide approved medication list.
2. Restricted to monitoring medications already established at a medical facility.
3. List may contain items for the PHRN that are listed as “No,” but are permitted by the Pennsylvania Nurse Practice Act when duly ordered by a licensed physician.
4. Restricted to administration by auto-injector device.
5. Restricted to administration of aspirin.
6. Restricted to administration of naloxone.

Educational Objectives

	EMT	Wilderness EMT
Preparatory	Uses simple knowledge of the EMS system, safety/well-being of the EMR, medical/legal issues at the scene of an emergency while awaiting a higher level of care.	Uses knowledge of the EMS system, safety/well-being of the EMT, medical/legal issues at the scene of an emergency while providing medical care and evacuation of an ill or injured patient from an austere environment.
EMS Systems	EMR Material PLUS: Simple depth, foundational breadth <ul style="list-style-type: none"> • EMS systems • History of EMS • Roles/ responsibilities/ professionalism of EMS personnel • Quality improvement • Patient safety 	EMT Material PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Define the role of the wilderness EMT • Compare and contrast the EMT's role in wilderness v. traditional setting • Define the role of the wilderness EMS agency medical director • Describe wilderness EMS quality improvement activities
Research	EMR Material PLUS: Simple depth, simple breadth <ul style="list-style-type: none"> • Evidence-based decision making 	Same as EMT level
Workforce Safety and Wellness	EMR Material PLUS: Fundamental depth, foundational breadth <ul style="list-style-type: none"> • Standard safety precautions • Personal protective equipment • Stress management <ul style="list-style-type: none"> ○ Dealing with death and dying • Prevention of work related injuries • Lifting and moving patients • Disease transmission • Wellness principles 	EMT Material PLUS: Fundamental depth, simple breadth Tier I: <ul style="list-style-type: none"> • Identify individual and team preparedness activities • Importance of a physical fitness and good body mechanics • Proper nutrition and hydration • Immunizations/disease prevention • Stress identification and management • Uniform elements appropriate to wilderness operations • Use of personal protective equipment
Documentation	EMR Material PLUS: Fundamental depth, foundational breadth <ul style="list-style-type: none"> • Principles of medical documentation and report writing 	EMT Material PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Importance of documenting: <ul style="list-style-type: none"> ○ Initial and ongoing assessment ○ Treatment ○ Timeline of operational events ○ Environmental [weather] issues encountered
EMS System Communications	EMR Material PLUS: Simple depth, simple breadth <ul style="list-style-type: none"> • EMS communication system • Communication with other health care professionals 	EMT Material PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Challenges of communications during wilderness operations

	<ul style="list-style-type: none"> • Team communication and Dynamics 	<ul style="list-style-type: none"> • Use of satellite v. land-based communications • Use of GPS locating systems
Therapeutic Communications	<p>EMR Material PLUS:</p> <p>Simple depth, simple breadth</p> <p>Principles of communicating with patients in a manner that achieves a positive relationship</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Adjusting communication strategies for age, stage of development, patients with special needs, and differing cultures • Interviewing techniques • Verbal defusing strategies • Family presence issues 	<p>Same as EMT level</p>
Medical-Legal and Ethics	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Consent/refusal of care • Confidentiality • Advanced directives • Tort and criminal actions • Evidence preservation • Statutory responsibilities • Mandatory reporting • Ethical principles/moral obligations 	<p>EMT Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Ethical/legal issues associated with wilderness operations: <ul style="list-style-type: none"> ○ Duty to act ○ Confidentiality ○ Good Samaritan laws ○ Abandonment
Anatomy and Physiology	<p>Applies fundamental knowledge of the anatomy and function of all human systems to the practice of EMS.</p>	<p>Review general anatomy and physiology; a more detailed review and new information should be presented in the appropriate section(s).</p>
Medical Terminology	<p>Uses foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals.</p>	<p>Review general medical terminology as well as terminology specific to wilderness medical care.</p>
Pathophysiology	<p>Applies fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management.</p>	<p>Review general pathophysiology as it relates to providing wilderness medical care.</p>
Life Span Development	<p>Applies fundamental knowledge of life span development to patient assessment and management.</p>	<p>Same as previous level</p>
Public Health	<p>Uses simple knowledge of the principles of illness and injury prevention in emergency care.</p>	<p>Same as previous level</p>
Pharmacology	<p>Applies fundamental knowledge of the medications that the EMT may assist/administer to a patient during an emergency.</p>	<p>The wilderness EMT has an expanded knowledge of pharmacology necessary to administer medications to manage both emergency and non-emergency conditions.</p>

Principles of Pharmacology	<p>Simple depth, simple breadth</p> <ul style="list-style-type: none"> • Medication safety • Kinds of medications used during an emergency 	<p>Same as EMT level</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Review fundamentals of medication administration
Medication Administration	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Within the scope of practice of the EMT how to</p> <ul style="list-style-type: none"> • Assist/administer medications to a patient 	<p>EMT Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Delivery medications by the following routes of administration: <ul style="list-style-type: none"> ○ Intramuscular ○ Intranasal ○ Inhalation ○ Oral ○ Subcutaneous ○ Sublingual ○ Topical • 6 R's of medication administration • Generic v. brand name drugs • Administration equipment • Dosage calculation/metric system • Medication induced anaphylactic reactions
Emergency Medications	<p>EMR Material PLUS:</p> <p>Fundamental depth, simple breadth</p> <p>Within the scope of practice of the EMT</p> <ul style="list-style-type: none"> • Names • Actions • Indications • Contraindications • Complications • Routes of administration • Side effects • Interactions • Dosages for the medications administered 	<p>EMT Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Medications commonly used during wilderness operations: <ul style="list-style-type: none"> ○ Anti-microbials ○ Analgesics ○ Anti-hypoglycemics ○ Anti-Inflammatories, Oral & Topical ○ Antihistamines ○ Nitrates, Sublingual <p>Tier II:</p> <ul style="list-style-type: none"> ○ Anti-fungals, Topical ○ Anti-diarrheals ○ Antiemetics ○ Anesthetics, Local ○ Ophthalmics, Topical ○ H² Blockers
Airway Management, Respiration and Artificial Ventilation	<p>Applies knowledge (fundamental depth, foundational breadth) of general anatomy and physiology to patient assessment and management in order to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages.</p>	<p>Same as EMT level</p>

Airway Management	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Within the scope of practice of the EMT</p> <ul style="list-style-type: none"> • Airway anatomy • Airway assessment • Techniques of assuring a patent airway 	<p>EMT Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Installation of supraglottic airway device, e.g. Combitube, King Airway, etc. • Confirmation of proper advanced airway device placement by: <ul style="list-style-type: none"> ○ Observation ○ Auscultation ○ End tidal CO₂ measurement • Properly securing advanced airway device
Respiration	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Anatomy of the respiratory system • Physiology and pathophysiology of respiration <ul style="list-style-type: none"> ○ Pulmonary ventilation ○ Oxygenation ○ Respiration <ul style="list-style-type: none"> - External - Internal - Cellular • Assessment and management of adequate and inadequate respiration • Supplemental oxygen therapy 	<p>EMT Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Thoracic needle decompression procedure
Artificial Ventilation	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Assessment and management of adequate and inadequate ventilation</p> <ul style="list-style-type: none"> • Artificial ventilation • Minute ventilation • Alveolar ventilation • Effect of artificial ventilation on cardiac output 	<p>Same as EMT level</p>
Assessment	<p>Applies scene information and patient assessment findings (scene size up, primary and secondary assessment, patient history, and reassessment) to guide emergency management.</p>	<p>Same as EMT level</p>
Scene Size-Up	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Scene management <ul style="list-style-type: none"> ○ Multiple patient situations 	<p>EMT Material PLUS:</p> <p>Complex depth, comprehensive depth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Single or multiple day mission • Terrain assessment • Weather assessment • Access/Extrication resources <ul style="list-style-type: none"> ○ Hiking

		<ul style="list-style-type: none"> ○ Horseback ○ ATV ○ Aircraft ● Manpower requirements ● Equipment requirements ● Immediate or delayed evacuation decisions
Primary Assessment	<p>EMR Material PLUS:</p> <p>Fundamental depth, simple breadth</p> <ul style="list-style-type: none"> ● Primary assessment for all patient situations <ul style="list-style-type: none"> ○ Initial general impression ○ Level of consciousness ○ ABCs ○ Identifying life threats ○ Assessment of vital functions ● Integration of treatment/procedures needed to preserve life 	<p>EMT level PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> ● Knowledge and techniques used to evaluate the ill or injured patient in an austere environment
History Taking	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> ● Investigation of the chief complaint ● Mechanism of injury/nature of illness ● Past medical history ● Associated signs and symptoms ● Pertinent negatives 	<p>Same as EMT level</p>
Secondary Assessment	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Techniques of physical examination</p> <ul style="list-style-type: none"> ● Respiratory system <ul style="list-style-type: none"> ○ Presence of breath sounds ● Cardiovascular system ● Neurological system ● Musculoskeletal system ● All anatomical regions 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> ● Knowledge and techniques used to evaluate the ill or injured patient in an austere environment
Monitoring Devices	<p>Simple depth, simple breadth</p> <p>Within the scope of practice of the EMT</p> <ul style="list-style-type: none"> ● Obtaining and using information from patient monitoring devices including (but not limited to) <ul style="list-style-type: none"> ○ Pulse oximetry ○ Non-invasive blood pressure 	<p>Same as EMT level</p>
Reassessment	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> ● how and when to perform a reassessment for all patient situations 	<p>Same as EMT level</p>

Medicine	Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely ill patient.	Same as EMT level
Medical Overview	EMR Material PLUS: Simple depth, foundational breadth Pathophysiology, assessment, and management of a medical complaints to include <ul style="list-style-type: none"> • Transport mode • Destination decisions 	Same as EMT level
Neurology	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment and management of <ul style="list-style-type: none"> • Stroke/ transient ischemic attack • Seizure • Status epilepticus • Headache 	EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Altitude related cerebral edema
Abdominal and Gastrointestinal Disorders	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment, and management of <ul style="list-style-type: none"> • Acute and chronic gastrointestinal hemorrhage Simple depth, simple breadth <ul style="list-style-type: none"> • Peritonitis • Ulcerative diseases 	EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Causes and management of: <ul style="list-style-type: none"> ○ Nausea & vomiting ○ Diarrhea • Oral fluid replacement • Gastric decompression
Immunology	EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment, and management of hypersensitivity disorders and/or emergencies <ul style="list-style-type: none"> • Anaphylactic reactions 	EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: <ul style="list-style-type: none"> • Indications for and administration of bronchodilators and antihistamines • Allergen exposure risks in a wilderness environment • Administration of intramuscular epinephrine, diphenhydramine and steroids Tier II: <ul style="list-style-type: none"> • Causes and treatment of contact dermatitis

<p>Infectious Diseases</p>	<p>EMR Material PLUS: Simple depth, simple breadth Assessment and management of • A patient who may have an infectious disease • How to decontaminate the ambulance and equipment after treating a patient</p>	<p>EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: • Define and describe the different type of infectious diseases • Describe the role antimicrobial drugs and review common classes of these drugs Tier II: • Importance of camp hygiene in disease prevention • Signs/Symptoms and treatment of common cold and influenza</p>
<p>Endocrine Disorders</p>	<p>EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment and management of • Acute diabetic emergencies</p>	<p>EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: • Blood glucose assessment procedure and interpretation of results • Administration of glucagon</p>
<p>Psychiatric</p>	<p>EMR Material PLUS: Simple depth, simple breadth • Basic principles of the mental health system Fundamental depth, foundational breadth Assessment and management of • Acute psychosis • Suicidal/risk • Agitated delirium</p>	<p>EMT Material, PLUS: Fundamental depth, foundational breadth Tier I: • Administration of sedatives (benzodiazepines) to control patient agitation • Review of physical restraint procedures and related patient safety issues Tier II: • Administration of anti-psychotics to control patient agitation</p>
<p>Cardiovascular</p>	<p>EMR Material PLUS: Fundamental depth, foundational breadth Anatomy, physiology, pathophysiology, assessment, and management of • Acute coronary syndrome ○ Angina pectoris ○ Myocardial infarction • Aortic aneurysm/dissection • Thromboembolism Simple depth, simple breadth • Heart failure • Hypertensive emergencies</p>	<p>Same as EMT level</p>

Toxicology	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Anatomy, physiology, pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Inhaled poisons • Ingested poisons • Injected poisons • Absorbed poisons • Alcohol intoxication and withdrawal 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Management of poisons encountered in a wilderness setting, including: <ul style="list-style-type: none"> ○ Plants ○ Food and water borne illnesses • Bites and envenomation from: <ul style="list-style-type: none"> ○ Insects ○ Snakes
Respiratory	<p>EMR Material PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Anatomy, physiology, pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Epiglottitis • Spontaneous pneumothorax • Pulmonary edema • Asthma • Chronic obstructive pulmonary disease • Environmental/industrial exposure • Toxic gas <p>Simple depth, simple breadth</p> <ul style="list-style-type: none"> • Pertussis • Cystic fibrosis • Pulmonary embolism • Pneumonia • Viral respiratory infections 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth:</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Administration of inhaled bronchodilators, steroids and antibiotics • Review relationship of intra-pleural volume and pressure as it relates to altitude and depth • Altitude related respiratory distress, i.e. high altitude pulmonary edema and acute mountain sickness <ul style="list-style-type: none"> ○ Changes in vital signs, e.g. SPO₂, due to altitude
Hematology	<p>Simple depth, simple breadth</p> <p>Anatomy, physiology, pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Sickle cell crisis • Clotting disorders 	<p>Same as EMT level</p>
Genitourinary/Renal	<p>EMR Material PLUS:</p> <p>Simple depth, simple breadth</p> <p>Anatomy, physiology, pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Complications related to <ul style="list-style-type: none"> ○ Renal dialysis ○ Urinary catheter management (not insertion) • Kidney stones 	<p>Same as EMT level</p>
Gynecology	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p>	<p>Same as EMT level</p>

	<p>Anatomy, physiology, assessment findings, and management of</p> <ul style="list-style-type: none"> • Vaginal bleeding • Sexual assault (to include appropriate emotional support) <p>Simple depth, simple breadth</p> <ul style="list-style-type: none"> • Infections 	
Non-Traumatic Musculoskeletal Disorders	<p>Fundamental depth, foundational breadth</p> <p>Anatomy, physiology, pathophysiology, assessment and management of</p> <ul style="list-style-type: none"> • Non-traumatic fractures 	Same as EMT level
Diseases of the Eyes, Ears, Nose and Throat	Same as Previous Level	Same as EMT level
Shock and Resuscitation	Applies fundamental knowledge of the causes, pathophysiology, and Management of shock, respiratory failure or arrest, cardiac failure or arrest, and post resuscitation management.	Same as EMT level
Trauma	Applies fundamental knowledge to provide basic emergency care and transportation based on assessment findings for an acutely injured patient.	EMT Material, PLUS: Compare and contrast providing emergency care to an acutely injured patient in a wilderness setting to that of a more traditional setting.
Trauma Overview	<p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of the trauma patient</p> <ul style="list-style-type: none"> • Trauma scoring • Rapid transport and destination issues • Transport mode 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Patient packaging • Extrication and transport factors to consider during wilderness operations
Bleeding	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Bleeding 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Reinforce indications for and use of commercial tourniquets, including special considerations in long extrication/transport situations • Indications for and use of hemostatic dressings
Chest	<p>EMR Material Plus:</p> <p>Fundamental depth, simple breadth</p> <p>Pathophysiology, assessment and management of</p> <ul style="list-style-type: none"> • Blunt versus penetrating mechanisms • Hemothorax • Pneumothorax <ul style="list-style-type: none"> ○ Open ○ Simple 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Review causes and treatment of pneumothorax and hemothorax • Thoracic needle compression • Review treatment of suspected rib fractures and/or flail segment

	<ul style="list-style-type: none"> ○ Tension • Cardiac tamponade • Rib fractures • Flail chest • Commotio cordis 	
Abdominal and Genitourinary Trauma	<p>EMR Material Plus:</p> <p>Fundamental depth, simple breadth</p> <p>Pathophysiology, assessment and management of</p> <ul style="list-style-type: none"> • Solid and hollow organ injuries • Blunt versus penetrating mechanisms • Evisceration • Injuries to the external genitalia • Vaginal bleeding due to trauma • Sexual assault 	Same as EMT level
Orthopedic Trauma	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Upper and lower extremity orthopedic trauma • Open fractures • Closed fractures • Dislocations • Sprains/strains • Pelvic fractures • Amputations/replantation 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Reduction of fractures and/or dislocations • Pre and post reduction assessment • Splinting using improvised devices • Joint taping techniques
Soft Tissue Trauma	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management</p> <ul style="list-style-type: none"> • Wounds <ul style="list-style-type: none"> ○ Avulsions ○ Bite wounds ○ Lacerations ○ Puncture wounds ○ Incisions • Burns <ul style="list-style-type: none"> ○ Electrical ○ Chemical ○ Thermal ○ Radiation <p>Simple depth, simple breadth</p> <ul style="list-style-type: none"> • Crush syndrome 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Wound Irrigation • Animal bite care • Review hemorrhage control techniques, including wound packing <p>Tier II:</p> <ul style="list-style-type: none"> • Local anesthesia administration • Closure using tape or adhesives • Closure using skin staples • Indications for antimicrobial administration • Incision and drainage of abscess • Incision and drainage of a blister

<p>Head, Facial, Neck and Spine Trauma</p>	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Penetrating neck trauma • Laryngeotracheal injuries • Spine trauma <p>Simple depth, simple breadth</p> <ul style="list-style-type: none"> • Facial fractures • Skull fractures • Foreign bodies in the eyes • Dental trauma 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Control of epistaxis using vasoconstrictors and/or anterior nasal packing <p>Tier II:</p> <ul style="list-style-type: none"> • Evaluation and treatment of a corneal abrasion • Ear canal irrigation (foreign body)
<p>Nervous System Trauma</p>	<p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Traumatic brain injury • Spinal cord injury 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Review the implications of spinal motion restriction v. spinal immobilization in a wilderness setting, including maintaining the patient in a position of comfort for lengthy extrication. • Use of a stokes basket or similar device for extrication
<p>Special Considerations in Trauma</p>	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of trauma in the</p> <ul style="list-style-type: none"> • Pregnant patient • Pediatric patient • Geriatric patient • Cognitively impaired patient 	<p>Same as EMT level</p>
<p>Environmental Emergencies</p>	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Near drowning • Temperature-related illness • Bites and envenomation • Dysbarism <ul style="list-style-type: none"> ○ High-altitude ○ Diving injuries • Electrical injury • Radiation exposure 	<p>EMT Material, PLUS:</p> <p>Complex depth, comprehensive breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Review signs, symptoms and treatment of: <ul style="list-style-type: none"> ○ Hypothermia <ul style="list-style-type: none"> ▪ Exposure v. immersion ○ Frostbite ○ Heat Exhaustion ○ Heat Stroke • Near drowning • Lightning strikes

Multi-System Trauma	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Pathophysiology, assessment, and management of</p> <ul style="list-style-type: none"> • Multi-system trauma • Blast injuries 	Same as EMT level
Special Patient Populations	<p>Applies a fundamental knowledge of growth, development, and aging and assessment findings to provide basic emergency care and transportation for a patient with special needs.</p>	Same as EMT level
Obstetrics	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Anatomy and physiology of normal pregnancy • Pathophysiology of complications of pregnancy • Assessment of the pregnant patient • Management of <ul style="list-style-type: none"> ○ Normal delivery ○ Abnormal delivery <ul style="list-style-type: none"> - Nuchal cord - Prolapsed cord - Breech delivery ○ Third trimester bleeding <ul style="list-style-type: none"> - Placenta previa - Abruption placenta ○ Spontaneous abortion/miscarriage ○ Ectopic pregnancy ○ Preeclampsia/Eclampsia 	Same as EMT level
Neonatal Care	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Assessment and management</p> <ul style="list-style-type: none"> • Newborn • Neonatal resuscitation 	Same as EMT level
Pediatrics	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Age-related assessment findings, age-related, and developmental stage related assessment and treatment modifications for pediatric specific major diseases and/or emergencies</p> <ul style="list-style-type: none"> • Upper airway obstruction • Lower airway reactive disease • Respiratory distress/failure/arrest 	Same as EMT level

	<ul style="list-style-type: none"> • Shock • Seizures • Sudden Infant Death Syndrome • Gastrointestinal disease 	
Geriatrics	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <p>Changes associated with aging, psychosocial aspects of aging and age-related assessment and treatment modifications for the major or common geriatric diseases and/or emergencies</p> <ul style="list-style-type: none"> • Cardiovascular diseases • Respiratory diseases • Neurological diseases • Endocrine diseases • Alzheimer’s • Dementia 	Same as EMT level
Patients with Special Challenges	<p>EMR Material Plus:</p> <p>Simple depth, simple breadth</p> <p>Healthcare implications of</p> <ul style="list-style-type: none"> • Abuse • Neglect • Homelessness • Poverty • Bariatrics • Technology dependent • Hospice/ terminally ill • Tracheostomy care/dysfunction • Homecare • Sensory deficit/loss • Developmental disability 	Same as EMT level
EMS Operations	Same as Previous Level	Operations level topics for the wilderness EMT may include, but not limited to basic map reading, navigation skills, basic survival skills and wilderness search/rescue techniques. The wilderness EMT may play either a leadership or support role during various phases of the operation as determined by the incident commander.
Principles of Safely Operating a Ground Ambulance	<p>EMR Material Plus:</p> <p>Simple depth, foundational breadth</p> <ul style="list-style-type: none"> • Risks and responsibilities of transport 	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Unimproved surface and off road operations • Use of non-traditional vehicles for evacuation

Incident Management	<p>EMR Material Plus:</p> <p>Fundamental depth, foundational breadth</p> <ul style="list-style-type: none"> • Establish and work within the incident management system 	Same as EMT level
Multiple Casualty Incidents	<p>EMR Material Plus:</p> <p>Simple depth, foundational breadth</p> <ul style="list-style-type: none"> • Triage • Performing • Re-Triage • Destination Decisions • Post Traumatic and Cumulative Stress 	Same as EMT level
Air Medical	Same as Previous Level	<p>EMT Material, PLUS:</p> <p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Setting up landing zones in a wilderness setting: <ul style="list-style-type: none"> ○ Providing navigation coordinates ○ Use of non-medical aircraft for evacuation
Vehicle Extrication	Same as Previous Level	Same as EMT level
Hazardous Materials Awareness	Same as Previous Level	Same as EMT level
Incidents due to Terrorism and Disaster (this section subject to ongoing collective and cooperative review and input from all stakeholders including the Department of Transportation, Department of Homeland Security and the Department of Health and Human Services)	Same as Previous Level	Same as EMT level
Miscellaneous Topics	Not applicable	<p>Fundamental depth, foundational breadth</p> <p>Tier I:</p> <ul style="list-style-type: none"> • Response issues, including, but not limited to: <ul style="list-style-type: none"> ○ Availability and call out ○ Medical and personal equipment needs • Back-country survival skills, including, but not limited to: <ul style="list-style-type: none"> ○ Navigation and map reading ○ Basic survival skills ○ Introduction to wilderness SAR • Camp hygiene issues: <ul style="list-style-type: none"> ○ Potable water sources, filtering and disinfection procedures ○ Waste management

		<ul style="list-style-type: none"> ○ Personal hygiene ○ Diseases associated with failed camp hygiene <p>Tier II:</p> <ul style="list-style-type: none"> ● Basic Canine emergency care *, including, but not limited to: <ul style="list-style-type: none"> ○ Anatomy and physiology overview ○ Common canine emergency conditions ○ Restraint and muzzling techniques ○ Basic canine assessment ○ Vital signs, Obtaining and interpretation of ○ Emergency treatment: <ul style="list-style-type: none"> ➤ Oxygen administration ➤ CPR ➤ Hemorrhage control ➤ Splinting/Immobilization <p><i>* Contingent upon determination of permitted care under the PA Veterinary Act (49 Pa. Code §31.31)</i></p>
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Clinical Behavior/Judgment		
	EMT	Wilderness EMT
Assessment	<p>EMR Material Plus:</p> <p>Perform a basic history and physical examination to identify acute complaints and monitor changes.</p> <p>Identify the actual and potential complaints of emergency patients.</p>	<p>EMT Material, PLUS:</p> <ul style="list-style-type: none"> • Adapts initial and ongoing assessment to consider austere and/or hazardous environment while obtaining health care data • Reinforces the importance of the ongoing assessment and monitoring vital signs trends during extended operations
Therapeutic Communications and Cultural Competency	<p>EMR Material Plus:</p> <p>Communicate in a culturally sensitive manner.</p>	Same as EMT level
Psychomotor Skills	<p>EMR Material Plus:</p> <p>Safely and effectively perform all psychomotor skills within the National EMS Scope of Practice Model and State Scope of Practice at this level.</p> <p>Airway and Breathing:</p> <ul style="list-style-type: none"> • Nasopharyngeal airway • Positive pressure ventilation • Manually-triggered ventilators • Automatic transport ventilators • Supplemental oxygen therapy • Humidifiers • Partial-rebreather mask • Venturi mask <p>Assessment:</p> <ul style="list-style-type: none"> • Pulse oximetry • Automatic B/P <p>Pharmacologic interventions:</p> <ul style="list-style-type: none"> • Assist patients in taking their own prescribed medications • Administration of OTC medications with medical oversight • Oral glucose for hypoglycemia • Aspirin for chest pain <p>Medical/Cardiac Care:</p> <ul style="list-style-type: none"> • Mechanical CPR • Assisted complicated delivery <p>Trauma care:</p> <ul style="list-style-type: none"> • Spinal immobilization • Cervical collars • Seated • Longboard • Rapid extrication • Splinting, Extremity & Traction • PASG • Mechanical patient restraint • Tourniquet 	<p>EMT Material, PLUS:</p> <p>Safely and effectively perform the following psychomotor skills defined as “mission essential” (Tier I):</p> <ul style="list-style-type: none"> • Anesthetic Block/Infiltration (digital, oral, local) • Blood Glucose Measurement • Canine, Emergency Care of • Epistaxis, Control of • Fracture and Joint Dislocation (w/vascular compromise), Reduction of • Improvised Extrication Devices, Use of • Joint Taping • Medication Administration: <ul style="list-style-type: none"> ○ Intramuscular ○ Intranasal ○ Inhalation ○ Oral ○ Subcutaneous ○ Sublingual ○ Topical • Supraglottic Airway, Insertion of • Thoracic Needle Decompression • Wound Irrigation • Wound Closure, Adhesive, Tape and Staple • Wound Packing <p>Or “mission optional” (Tier II):</p> <ul style="list-style-type: none"> • Abscess Incision & Drainage • Blister Incision & Drainage • Corneal Abrasion, Evaluation of • Ear Irrigation • Gastric Decompression

Professionalism	Demonstrate professional behavior including: but not limited to, integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communications, time management, teamwork/diplomacy, respect, patient advocacy, and careful delivery of service.	Same as EMT level
Decision Making	Initiates basic interventions based on assessment findings intended to mitigate the emergency and provide limited symptom relief while providing access to definitive care.	Same as EMT level
Record Keeping	Report and document assessment data and interventions.	Same as EMT level
Patient Complaints	Perform a patient assessment and provide prehospital emergency care and transportation for patient complaints: abdominal pain, abuse/neglect, altered mental status/decreased level of consciousness, anxiety, apnea, ataxia, back pain, behavioral emergency, bleeding, cardiac arrest, cardiac rhythm disturbances, chest pain, constipation, cyanosis, dehydration, diarrhea, dizziness/vertigo, dysphasia, dyspnea, edema, eye pain, fatigue, fever, GI bleeding, headache, hematuria, hemoptysis, hypertension, hypotension, joint pain/swelling, multiple trauma, nausea/vomiting, pain, paralysis, pediatric crying/fussiness, poisoning, rash, rectal pain, shock, sore throat, stridor/drooling, syncope, urinary retention, visual disturbances, weakness, and wheezing.	EMT Material, PLUS: <ul style="list-style-type: none"> • Additional concentration on environmental associated complaints • Minor medical illnesses associated with team wellness responsibilities
Scene Leadership	Entry-level EMTs serve as an EMS team member on an emergency call with more experienced personnel in the lead role. EMTs may serve as a team leader following additional training and/or experience.	Same as EMT level
Scene Safety	Ensure the safety of the rescuer and others during an emergency.	EMT Level PLUS: <ul style="list-style-type: none"> • Special consideration for safety issues associated with working in an austere environment.

Medical Director Requirements

The medical director serves as the chief medical officer for an EMS Agency. In this role the physician performs a variety of tasks to ensure patient care is delivered in a timely, safe and competent manner. Although a medical director may delegate some of the more routine tasks to physician or non-physician subordinates, it is essential the physician be engaged as an integral part of the prehospital healthcare delivery system.

In wilderness medicine, the physician medical director's role takes on added significance due to the complexity associated with providing advanced level care in an austere environment. The wilderness EMT represents the best of their profession, but can only provide optimal care when the agency medical director is prepared to guide and support their practice.

In Pennsylvania, the EMS Act (Act 37 of 2009) requires all licensed EMS agencies to have a medical director. The statute further provides requirements for physician qualifications and outlines their roles and responsibilities.

<i>Recommended Best Practices Recommendation:</i>
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In addition to the requirements set forth in statute, the wilderness EMS agency medical director should assume the following responsibilities:

- a. Roles and responsibilities:
 1. Provide medical guidance, advice and continuing education [didactic, skills, scenario, etc.] to the wilderness EMS agency.
 2. Perform medical audits of Wilderness EMS provided by the wilderness EMS agency's EMS providers.
 3. Review the Statewide EMS and wilderness protocols and Department-approved regional EMS protocols that are applicable to the wilderness EMS agency and ensuring that its wilderness Medics and other relevant personnel are familiar with the protocols applicable to the wilderness EMS agency.
 4. Participate in and reviewing quality improvement and peer reviews of wilderness EMS provided by the wilderness EMS agency.
 5. Review regional mass casualty and disaster plans and providing guidance to the wilderness EMS agency regarding its provision of wilderness EMS under those plans.
 6. Provide guidance to the wilderness EMS agency, when applicable, with respect to the ordering, stocking and replacement of medications and devices, and compliance with laws and regulations impacting upon the wilderness EMS agency's acquisition, storage and use of those medications.
 7. Make an initial assessment of each wilderness medic at or above the EMT level to determine whether the wilderness EMS provider has the knowledge and skills to competently perform the skills within the wilderness provider's scope of practice, and a commitment to adequately perform other functions relevant to the wilderness provider providing EMS at that level. This subparagraph does not apply if the wilderness EMS provider was working for the wilderness

EMS agency at the same level prior to the physician becoming the wilderness medical director for the wilderness EMS agency and the wilderness EMS provider was credentialed at that wilderness EMS agency within the last 12 calendar months as being able to perform at the wilderness provider's certification level.

8. Make an assessment, within 12 calendar months of the last assessment, of each wilderness EMS provider at or above the EMT level to determine whether the wilderness EMS provider has demonstrated competency in the knowledge and skills to perform the skills within the wilderness provider's scope of practice, and a commitment to adequately perform other functions relevant to the wilderness provider providing wilderness EMS at that level.
 9. Recommend to the wilderness EMS agency that a wilderness EMS provider not be permitted to provide wilderness EMS at the wilderness provider's certification level if the wilderness EMS medical director determines that the wilderness EMS provider has not demonstrated competency in the knowledge and skills to perform the skills within the wilderness provider's scope of practice, or a commitment to adequately perform other functions relevant to the wilderness provider's providing wilderness EMS at that level, and recommending restrictions on the wilderness provider's practice for the wilderness EMS agency, if appropriate, to ensure patient safety.
 10. Provide medical direction and availability for wilderness medical command for the wilderness medic or wilderness EMS agency dispatch center if the wilderness EMS agency operates a wilderness EMS agency dispatch center.
 11. Maintain a liaison with the regional EMS medical director.
 12. Participate in the regional and Statewide quality improvement programs, participate in affiliated law enforcement agencies training and quality improvement programs and cooperate with regional, State and federal agencies as needed.
 13. Recommend to the relevant regional EMS council, when appropriate, wilderness EMS protocols for inclusion in the Statewide and regional wilderness EMS protocols.
 14. Recommend to the Department the supervision, revocation or restriction of a wilderness provider's certification.
- b. Minimum qualifications:
1. Be a physician with an unrestricted license to practice medicine in Pennsylvania.
 2. Have successfully completed an emergency medicine residency accredited by a residency program crediting body recognized by the State Board of Medicine or the State Board of Osteopathic Medicine and/or be board certified or board eligible in emergency medicine by an emergency medicine certifying board recognized by the State Board of Medicine or the State Board of Osteopathic Medicine. The physician should also have successfully completed or taught the ACLS course within the preceding 2 years and have completed, the ATLS course and PALS course or APLS course, or other programs determined by the Department to meet or exceed the standards of these programs and maintain the certifications. The physician should have successfully completed and maintain certification as a Pre-Hospital Physician as recognized by the Department, or;
 1. Have successfully completed a residency program in surgery, internal medicine, family medicine, pediatrics or anesthesiology, accredited by a residency accrediting body recognized by the State

Board of Medicine or the State Board of Osteopathic Medicine. The physician should also have successfully completed or taught the ACLS course within the preceding 2 years and have completed, the ATLS course and PALS course or APLS course, or other programs determined by the Department to meet or exceed the standards of these programs and maintain the certifications. The physician should be able to meet the same educational competencies as the prehospital providers they supervise regarding medical care, mission planning and support.

3. Have successfully completed and maintain certification as a Pre-Hospital Physician as recognized by the Department.
4. Is an active medical command physician and has successfully completed the medical command course as recognized by the Department and serves or served as an ALS agency medical director having completed an EMS agency medical director course as recognized by the Department or has served as an ALS medical director under the Emergency Medical Services Act [35 P.S. &&6921-6938] [repealed by the act of August 18, 2009 [P.L.308, No. 37]] prior to February 16, 2010.
5. Have a valid Drug Enforcement Agency number.
6. Have completed an EMS agency medical director course or an EMS fellowship or other EMS training program that is determined by the Department to be equivalent. This training will ensure that the EMS agency medical director has knowledge of:
 - i. The scope of practice of the EMS providers.
 - ii. The provision of the EMS under the Statewide EMS protocols.
 - iii. The interface between EMS providers and medical command physicians.
 - iv. Quality improvement and peer review principles.
 - v. Emergency medical dispatch principles and EMS agency communication capabilities.
 - vi. EMS system design and operation.
 - vii. Federal and State laws and regulations regarding EMS.
 - viii. Regional and State mass casualty and disaster plans.
 - ix. Patient and EMS provider safety principles.

Medical Command

The licensed wilderness EMS agency should establish, by agreement, a relationship with a PA DOH accredited medical command facility(s) to provide primary online medical direction to its wilderness EMTs. Such an agreement(s) will ensure that physicians providing online medical direction are familiar with the expanded scope of practice capabilities of a wilderness EMT. This does not preclude the wilderness EMT from establishing contact with a local medical command facility if contact cannot be made with the primary medical command facility(s).

Statewide Wilderness EMS Protocols

The workgroup envisions the development of statewide wilderness EMS protocols to follow a similar path to that of the current statewide ALS protocols. These protocols should, when possible, be evidence based and developed with stakeholder input and in consultation with the PEHSC Medical Advisory Committee.

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