PENNSYLVANIA EMERGENCY HEALTH SERVICES COUNCIL

Your Voice In EMS

RECOMMENDATION FOR CONSIDERATION

Board Meeting Date: June 19, 2013

Subject: Critical Care Paramedic Project – Phase II

VTR#: 0613-01 Committee/Task Force: Air Medical Task Force

☒Recommended Goal ☐Recommended Policy Change ☐Other:

Recommendation:

The Pennsylvania Department of Health should adopt the standards for resource typing, scope of practice, critical care drugs and medical director requirements detailed in the attached document entitled, "Establishing the Critical Care Paramedic in Pennsylvania – Phase II."

Rationale [Background]:

Critical care transport is the delivery of complex health care to patients experiencing acute life threatening conditions. This care is delivered using both aircraft and ground vehicles to patients in the prehospital setting and those who require interfacility transport to a higher level of care. In Pennsylvania, critical care transport is typically provided by highly experienced paramedics and prehospital registered nurses (PHRNs).

Phase I of this project established educational standards that will take the paramedic working on a licensed air or critical care transport ambulance to the next level and permit these allied health professionals to function more effectively as part of the critical care transport team.

In Phase II, we focused on those areas which make the critical care paramedic operational by further defining their scope of practice, critical care transport drug list and introducing the concept of "resource typing." We also made recommendations related to additional requirements for Type I & II critical care team medical directors to ensure these physicians are prepared to guide and support the critical care paramedic's practice.

The vision to establish the critical care paramedic in Pennsylvania is embodied in the proposed rulemaking for Pennsylvania's EMS Act (Act 37 of 2009) in §1027.36 - §1027.37:

> *"An EMS Agency that operates a critical care transport ambulance service [or air ambulance service] employs one or more ALS [air]ambulances staffed by a crew capable of providing medical assessment, observation, triage, monitoring, treatment and transportation of patients who require EMS at the skill level needed to attend to and transport critically ill or injured patients between receiving facilities."*
>
> *"The minimum staffing for a critical care transport crew or air ambulance when responding to a call to provide critical care transport is an Emergency Medical Services Vehicle Operator (EMSVO) [Pilot] and two (2) EMS providers above the Advanced EMT (AEMT) level with at least one of the EMS providers being a Paramedic, Prehospital Registered Nurse (PHRN), Prehospital Physician Extender (PHPE) or Prehospital Physician (PHP) who has successfully completed a critical care transport educational program approved by the Department of Health."*

"When providing EMS through a critical care transport ambulance service or air ambulance service, the scope of practice for an EMS provider above the AEMT level will be expanded. This expansion will include EMS skills, 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 a critical care transport educational program approved by the Department of Health."

Medical Review [Concerns]:
Phase II of this project had integral physician involvement during its development. On May 15, 2013, the PEHSC Medical Advisory Committee reviewed the Phase II document and voted its unanimous support.

Fiscal Concerns:
Individual costs will vary and be based on the cost of the critical care education program and fees associated with obtaining Board for Critical Care Transport Paramedic Certification. EMS agency costs will also vary and could include financial support for a critical care education program, field internship or fees associated with obtaining and/or maintaining BCCTPC certification.

Based on their completion of a Department of Health approved critical care transport educational program and authorized expanded scope of practice, the Critical Care Paramedic meets the definition established by the Centers for Medicare and Medicaid Services (CMS) for SCT as it relates to a "paramedic with additional training." This provides a mechanism for a licensed critical care transport ambulance service or air ambulance service to seek reimbursement for specialty care transport.

CMS [Medicare] Definition: Specialty Care Transport (SCT)

"Specialty care transport (SCT) is the interfacility transportation of a critically injured or ill beneficiary by a ground ambulance vehicle, including the provision of medically necessary supplies and services, at a level of service beyond the scope of the EMT-Paramedic. SCT is necessary when a beneficiary's condition requires ongoing care that must be furnished by one or more health professionals in an appropriate specialty area, for example, emergency or critical care nursing, emergency medicine, respiratory care, cardiovascular care, or a paramedic with additional training."

"The EMT-Paramedic level of care is set by each State. Care above that level that is medically necessary and that is furnished at a service level above the EMT-Paramedic level of care is considered SCT. That is to say, if EMT-Paramedics – without specialty care certification or qualification – are permitted to furnish a given service in a State, then that service does not qualify for SCT. The phrase "EMT-Paramedic with additional training" recognizes that a State may permit a person who is not only certified as an EMT-Paramedic, but who also has successfully completed additional education as determined by the State in furnishing higher level medical services required by critically ill or critically injured patients, to furnish a level of service that otherwise would require a health professional in an appropriate specialty area (for example a nurse) to provide. "Additional training" means the specific additional training that a State requires a paramedic to complete in order to qualify to furnish specialty care to a critically ill or injured patient during an SCT."

Educational Concerns:
The educational requirements were outlined in Phase I and reviewed by EMS education experts.

Plan of Implementation:
Upon acceptance of this VTR, the PA Department of Health should:

1. Provide guidance to licensed air ambulance services and ALS agencies that provide specialty care transport (e.g. tertiary care facility retrieval teams) to begin internal planning processes while the draft rules and regulations continue through the regulatory review process.
2. Prepare to implement this program upon promulgation of rules and regulations for PA's EMS Act.
3. Provide guidance to regional EMS councils as needed.
4. Serve notice in the Pennsylvania Bulletin of the approved critical care paramedic expanded scope of practice and drug list.

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:
1. Regarding the future role an Advanced Emergency Medical Technician (AEMT) could play in a Type III transport team; PEHSC will revisit this issue post promulgation of the rules and regulations for Act 37 and after a scope of practice has been established for the AEMT.
2. Regarding the financial implications with operating a critical care transport team; PEHSC should develop an educational program that highlights the differences in reimbursement for agencies that are considering a critical care transport service line.

Signed: David James Date 6/27/13
President

For PEHSC Use Only – PA Department of Health Response

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

Comments:

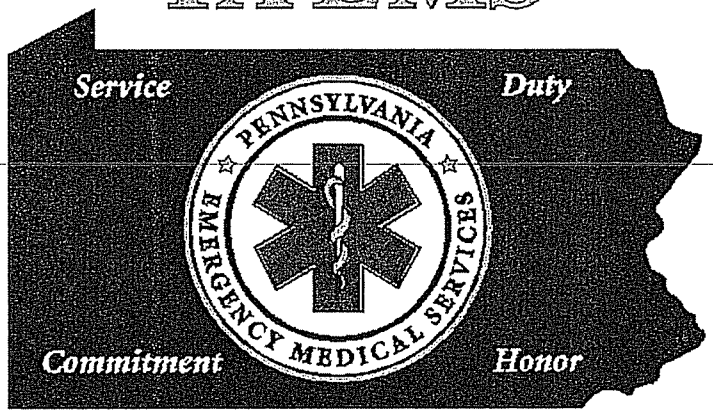
Date of Department Response:_____

Establishing the Critical Care Paramedic In Pennsylvania – Phase II

- Educational Standards
- Competency Verification
- Continuing Education
- **Resource Typing**
- **Scope of Practice**
- **Statewide CCT Drug List**
- **Medical Director Requirements**

Developed by:
Pennsylvania Emergency Health Services Council
Statewide Air Medical Task Force:
Critical Care Transport Workgroup

PA EMS



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Executive Summary

This document represents the second phase of the process to establish the Critical Care Paramedic and begin the associated development of the ground-based critical care transport agency in Pennsylvania. In the first phase of the project, we established educational standards, competency verification and continuing education standards for those paramedics who desire to practice at a critical care level.

In the Phase II of the project, we focused on those areas which make the critical care paramedic operational by further defining the proposed scope of practice and introducing the concept of a statewide drug list for critical care transport. We have also made recommendations related to additional requirements and best practices for physicians assuming the role of a critical care agency medical director. The role of the physician, while always a key component in EMS, takes on special significance in critical care due to complexity of the care provided to higher acuity patients. Critical care providers, whether nurses, paramedics or other healthcare professionals represent the best of their respective profession, but they can only provide optimal care when their medical director is prepared to guide and support their practice.

The workgroup also identified that critical care transport is not a one-size-fits-all proposition and has worked to identity the various crew configurations that may be tasked to perform a transport through "resource typing." With the patient and provider safety at the forefront, a resource typing will be used to define the critical care paramedic's scope of practice and available drug formulary. This type of resource definition will be familiar to most emergency services providers because the concept is based on the Federal Emergency Management Agency's (FEMA) resource management program. Critical care transport resources are "typed" to one of three levels: a Type I Team caring for the highest acuity patient using a multidisciplinary team approach in an air or ground ambulance, through a Type III Team which uses a traditional ALS ambulance crew.

In Phase III, the workgroup will explore the concept of establishing statewide critical care transport protocols and agency-defined protocols for high functioning programs.

Sincerely,

PEHSC Critical Care Transport Workgroup

Introduction

Phase II of the critical care paramedic (CCT-P) project is focused on making this advanced practice provider operational. Looking forward to the promulgation of rules and regulations for Pennsylvania's EMS Act (Act 37 of 2009), the workgroup is recommending additional requirements and industry best practices for physicians who will serve as critical care transport agency medical directors. In the future, Phase III will explore the concept of statewide critical care transport protocols.

Resource Typing

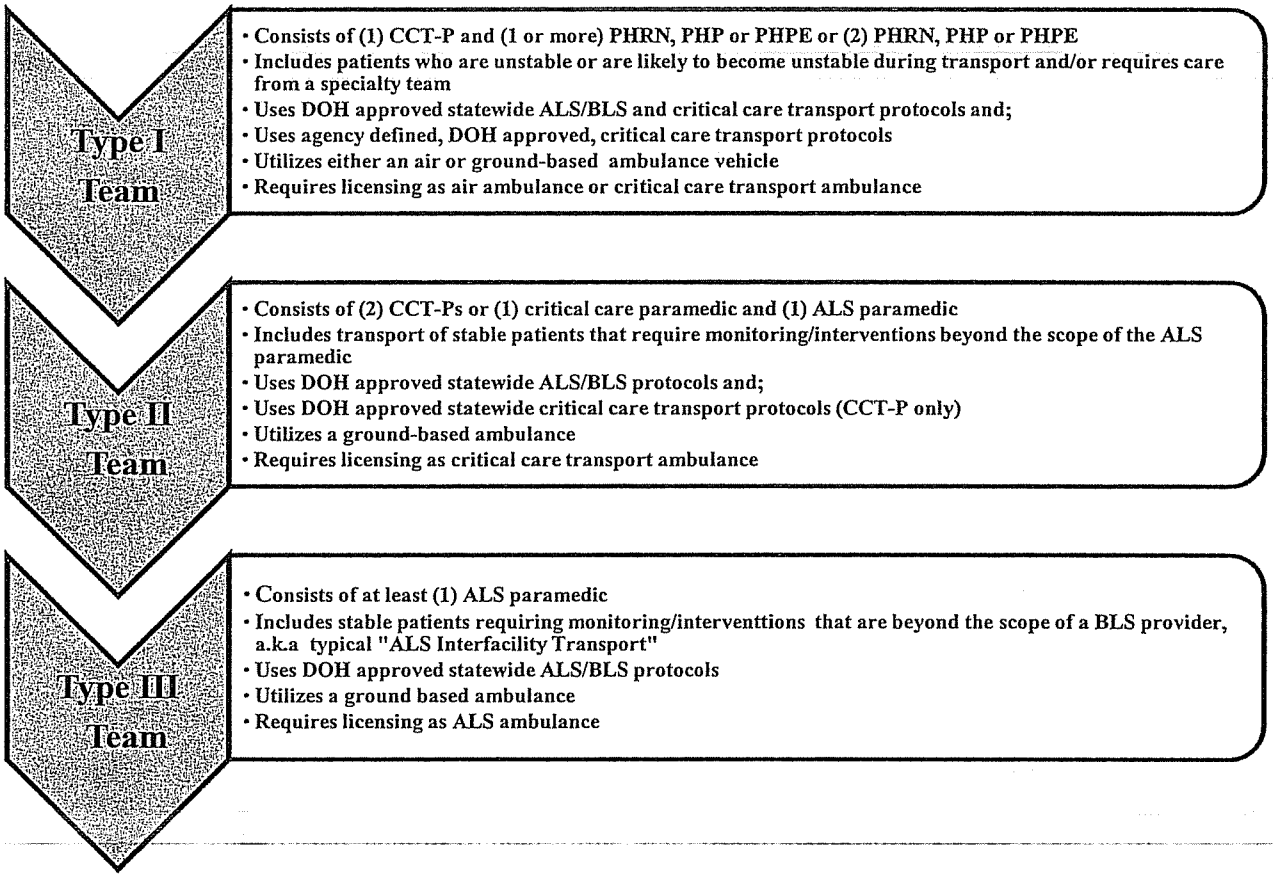
Resource typing is defined by the Federal Emergency Management Agency in FEMA 508-3, March 2009, as *"the categorization and description of resources that are commonly exchanged in disasters via mutual aid, by capacity and/or capability."* Within the FEMA standard, EMS resources are "typed" using metrics that describe a particular resource's overall function, personnel, capability and equipment and supplies.

Although FEMA does not have a specific typing definition for critical care transport, this concept was applied, in part, to differentiate the levels of critical care transport resources that may be tasked to perform an interfacility transport. Currently, a critical care transport crew is commonly thought of as a multidisciplinary team comprised of nurses, paramedics and healthcare professionals in an air or ground ambulance. In the future, crew configuration will be based on the patient's acuity and anticipated need for care during the transport. This is consistent with Pennsylvania's initiative to create a culture of EMS safety and is a positive step to ensure appropriate resource utilization.

The metrics used for resource typing in this project are:

1. Patient Acuity
2. Crew Configuration
3. Authorized Protocols and Formularies
4. DOH Licensing Requirements
5. Vehicle Type(s)

Based on these metrics, three (3) levels of critical care transport have been established ranging from the high-level multidisciplinary team to the traditional ALS ambulance crew who transport the low acuity patient that requires monitoring or care beyond the scope of a BLS ambulance.



Scope of Practice

CCT-P scope of practice is integral to team resource typing. When functioning with a Type I team, the CCT-P is given greater latitude in their practice because they are part of a multidisciplinary team that includes prehospital nurses, physicians and/or other healthcare professionals. In the Type II team setting, the CCT-P still has considerable expanded scope of practice, including the ability to maintain certain higher level therapies initiated by the sending facilities.

The Type III team was included in the resource typing scheme because stable patients, with ongoing therapies authorized in the PA ALS protocols and statewide ALS drug list, can still be safely monitored and transported by a traditional ALS ambulance crew.

The following list incorporates the current scope of practice for Pennsylvania paramedics (Type III team) and proposes an expanded scope for CCT-Ps practicing on Type I and II transport teams:

Area	Skill	Type III Team	Type II Team	Type I Team
Airway/Vent.	Nonsurgical Alternative/Rescue Airway	Yes	Yes	Yes
	Oral and Nasal Airway	Yes	Yes	Yes
	Pharyngeal Tracheal Lumen Airway	No	Yes	Yes
	BVM-ETT Ventilation	Yes	Yes	Yes
	BVM-In Line Small Volume Nebulizer	Yes	Yes	Yes
	BVM Ventilation	Yes	Yes	Yes
	Chest Needle Decompression	Yes	Yes	Yes
	CPAP/BiPAP	Yes	Yes	Yes
	BiPAP chronic	No	Yes	Yes
	BiPAP acute or titrated	No	No	Yes
	Cricoid Pressure	Yes	Yes	Yes
	Cricothyrotomy – Needle	Yes	Yes	Yes
	Cricothyrotomy – Open/Surgical	Yes	Yes	Yes
	Cricothyrotomy – Overwire (Seldinger)	Yes	Yes	Yes
	ETCO2 Monitoring	Yes	Yes	Yes
	Extubation	Yes	Yes	Yes
	Demand Valve Device	Yes	Yes	Yes
	Gastric Decompression via NG/OG Tube	Yes	Yes	Yes
	Gastric Tube Insertion – NG/OG	Yes	Yes	Yes
	Head-tilt/Chin Lift	Yes	Yes	Yes
	Inspiratory Impedance Threshold Device	Yes	Yes	Yes
	Intubation – Digital & Lighted Stylette	Yes	Yes	Yes
	Intubation – ET Tube	Yes	Yes	Yes
	Intubation – Med. Assisted Neuromuscular Blockage (RSI)[1]	No	No	Yes
	Intubation – Maintenance of Previously Initiated Neuromuscular Blockage[1]	No	Yes	Yes
	Intubation – Nasotracheal/ Orotracheal	Yes	Yes	Yes
	Intubation – Retrograde Technique	No	No	No
	Intubation – Translumination/Lighted Stylette	Yes	Yes	Yes
	Intubation – Laryngeal Mask Airway	No	Yes	Yes
	Mouth to Mouth, Nose, Stoma w/ Barrier	Yes	Yes	Yes
	Obstruction - Direct Laryngoscopy w/ Forceps	Yes	Yes	Yes
	Obstruction – Manual (Abd/Chest Thrust)	Yes	Yes	Yes
	Transtracheal Jet Ventilation	Yes	Yes	Yes
	Transport Ventilator, Automated Chronic	Yes	Yes	Yes
	Transport Ventilator, Acute	No	Yes	Yes
	Transport Ventilator Titrated	No	No	Yes
	Tracheostomy, Management of	No	Yes	Yes
Oxygen Therapy	Blow by Device	Yes	Yes	Yes
	Humidifiers	Yes	Yes	Yes
	Nasal Cannula	Yes	Yes	Yes
	Non-Rebreather Mask	Yes	Yes	Yes
	Partial Rebreather Mask	Yes	Yes	Yes
	Regulators	Yes	Yes	Yes
	Simple Face Mask	Yes	Yes	Yes

Area	Skill	Type III Team	Type II Team	Type I Team
	Venturi Mask	Yes	Yes	Yes
	Expiratory Peak Flow, Assessment of	Yes	Yes	Yes
	Pulse Oximetry	Yes	Yes	Yes
Suctioning	Meconium Aspiration	Yes	Yes	Yes
	Stoma/Tracheostomy	Yes	Yes	Yes
	Tracheobronchial	Yes	Yes	Yes
	Upper Airway	Yes	Yes	Yes
Assessment	Blood Pressure, Non-Invasive	Yes	Yes	Yes
	Blood Pressure, Invasive	No	Yes	Yes
	Arterial Line – Capped for Transport	Yes	Yes	Yes
	Cardiac Monitoring, Single & Multi-lead	Yes	Yes	Yes
	CPR, Adult/Child/Infant	Yes	Yes	Yes
	Carotid Massage	Yes	Yes	Yes
	Defibrillation	Yes	Yes	Yes
	PA Catheter Monitoring	No	No	Yes
	Intra-Aortic Balloon Pump, Monitoring/Assist	No	No	Yes
	Mechanical CPR Device	Yes	Yes	Yes
	Thrombolytic Therapy, Initiation of	No	No	Yes
	Thrombolytic Therapy, Monitoring of	No	No	Yes
	Transcutaneous Pacing	Yes	Yes	Yes
	Transvenous or Epicardial Pacing, Management of	No	No	Yes
	Pacemaker/AICD Magnet, Use of	Yes	Yes	Yes
	Extracorporeal Membrane Oxygenation (ECMO), Management of	No	No	Yes
	Invasive cardiac assist device, Management of	No	No	Yes
	Ventricular Assist Device, Transport of (Stable Patient)	Yes	Yes	Yes
	Ventricular Assist Device, Management of (Acute or VAD related complication)	No	No	Yes
Communications	Verbal Report to Receiving Personnel	Yes	Yes	Yes
	Verbal Report from Sending Personnel	Yes	Yes	Yes
	Communications w/ PSAP, Hosp & Med Com	Yes	Yes	Yes
Documentation	OOH Do Not Resuscitate Order	Yes	Yes	Yes
	Patient Care Report Completion	Yes	Yes	Yes
	Refusal of Transportation and/or Care	Yes	Yes	Yes
Haz-Mat	Contaminated Equipment, Disposal of	Yes	Yes	Yes
	~~Decontamination/Disinfection~~	~~Yes~~	~~Yes~~	~~Yes~~
	Personal Protective Equipment, Use of	Yes	Yes	Yes
Immobilization	Helmet Removal or Stabilization	Yes	Yes	Yes
	Long Spine Board	Yes	Yes	Yes
	Cervical Spine, Manual Stabilization of	Yes	Yes	Yes
	Rapid Extrication	Yes	Yes	Yes
	KED, Short Spine Board, Etc	Yes	Yes	Yes
	Manual, Ridged, Soft, Vacuum Splints	Yes	Yes	Yes
	Traction Splint	Yes	Yes	Yes

Area	Skill	Type III Team	Type II Team	Type I Team
IV Initiation	Central Venous Cannulation – Femoral	No	No	No
	Central Venous Catheter, Access of Indwelling (Dialysis lines and Ports for Chemotherapy should only be accessed in extremis)	Yes	Yes	Yes
	Clean Technique	Yes	Yes	Yes
	External Jugular Vein, Catheterization of	Yes	Yes	Yes
	Saline Lock Insertion	Yes	Yes	Yes
	IV Catheters (28 Pa Code), Insertion of	Yes	Yes	Yes
	IO Needle Insertion (Tibia, Femur, Humerous)	Yes	Yes	Yes
	Peripheral IV Cannulation	Yes	Yes	Yes
	Sub-Cutaneous Indwelling Catheters, Accessing	Yes	Yes	Yes
	Accessing Existing Vascular Devices in Home Healthcare	Yes	Yes	Yes
	Venous Blood Sampling	Yes	Yes	Yes
	Blood Sampling from Central Venous Line	No	Yes	Yes
	Blood and Blood Products (Initiation)	No	No	Yes
	Blood and Blood Products (Continuation)	No	No	Yes
	Portable Blood Analysis Devices, Use of	No	Yes	Yes
Lift/Moving	Patient Lifting, Moving & Transfer	Yes	Yes	Yes
	Patient Restraints on Transport Devices	Yes	Yes	Yes
Management	Restrain of Violent Patient	Yes	Yes	Yes
	Blood Glucose Measurement	Yes	Yes	Yes
	Burns	Yes	Yes	Yes
	Childbirth – Umbilical Cord Cutting	Yes	Yes	Yes
	Childbirth – Abnormal/Complications	Yes	Yes	Yes
	Childbirth – Normal Cephalic Delivery	Yes	Yes	Yes
	Carbon Monoxide Monitoring	Yes	Yes	Yes
	Dislocations, Reduction of	No	No	Yes
	Eye Irrigation/Care	Yes	Yes	Yes
	Hemorrhage Control	Yes	Yes	Yes
	Intracranial Pressure Monitoring	No	No	Yes
	Pulmonary Artery Catheter monitoring	No	No	Yes
	Per Approved DOH Protocols	Yes	Yes	Yes
	Per Approved Critical Care Agency Protocols[4]	No	No	Yes
	MCI Management/Incident Command System	Yes	Yes	Yes
	Triage	Yes	Yes	Yes
	Urinary Catheterization, Insertion/Monitoring of	Yes	Yes	Yes
	Tube Thoracotomy, Management of Existing	No	Yes	Yes
	Tube Thoracotomy, Placement or Management of recently placed	No	No	Yes
	Wound Drainage Devices, Management of	No	Yes	Yes
	Enteral Feeding Devices, Management of	No	Yes	Yes
Rescue	Vehicle Access and Extrication	Yes	Yes	Yes

Area	Skill	Type III Team	Type II Team	Type I Team
Medications	Endotracheal Route	Yes	Yes	Yes
	Inhalation Route	Yes	Yes	Yes
	Intramuscular Route	Yes	Yes	Yes
	Intranasal Route	Yes	Yes	Yes
	Intraosseous Route	Yes	Yes	Yes
	Intravenous Route (incl. by IV infusion pump or mechanical device)	Yes	Yes	Yes
	Intravenous Bolus Route	Yes	Yes	Yes
	Nasogastric Route	Yes	Yes	Yes
	Oral Route	Yes	Yes	Yes
	Rectal Route	Yes	Yes	Yes
	Subcutaneous Route	Yes	Yes	Yes
	Sublingual Route	Yes	Yes	Yes
	Topical Route	Yes	Yes	Yes
	Auto-Injectors, Use of	Yes	Yes	Yes
	Immunizations, Administration of	Yes	Yes	Yes
	Medications: Published in PA Bulletin[2]	Yes	Yes	Yes
	Medications: Authorized by Agency Medical Director[3, 4]	No	No	Yes
	Activated Charcoal	Yes	Yes	Yes
	Oral Glucose	Yes	Yes	Yes
	Over-The-Counter-Medications	No	Yes	Yes
	Oxygen	Yes	Yes	Yes

Definitions

Acute: Intervention performed or requiring significant change in the last 24 hours.

Chronic: Intervention that has been in place for greater than 24 hours and does not require any changes for management.

Continued: Therapies started by the referring physician and continued by the prehospital provider.

Initiated: Therapies started by the prehospital provider.

Titrated: Therapies that require ongoing management or adjustment to ensure patient safety and stability.

Notes

1. Procedure that requires 100% QA review by agency medical director.
2. Includes approved medications for use by Type II and Type III transport teams.
3. Restricted to critical care certified paramedics functioning with another licensed prehospital healthcare professional.
4. Subject to DOH approval.

Statewide Critical Care Drug List

In addition to the existing approved statewide ALS ambulance drug list, authority to administer additional medications is necessary for the critical care paramedic to provide higher level care. Again, as with scope of practice, the CCT-P's authority to administer additional medications is dependent on the typed resource on which he/she is functioning.

Drug Class/Name	Type III Team[4]	Type II Team	Type I Team[3]
Analgesics:			
1. Acetaminophen[4]	Yes	Yes	Yes
2. Benzocaine – Topical[4]	Yes	Yes	Yes
3. Dilaudid[4]	Yes[1]	Yes[1]	Yes
4. Fentanyl[4]	Yes	Yes	Yes
5. Ketorolac	No	Yes[1]	Yes
6. Morphine Sulfate[4]	Yes	Yes	Yes
7. Nitrous Oxide[4]	Yes	Yes	Yes
8. Tetracaine – Topical[4]	Yes	Yes	Yes
Sedatives:			
1. Diazepam[4]	Yes	Yes	Yes
2. Etomidate[4]	Yes[2]	Yes	Yes
3. Lorazepam[4]	Yes	Yes	Yes
4. Midazolam[4]	Yes	Yes	Yes
5. Propofol	No	Yes[1]	Yes
Paralytics:			
1. Non-Depolarizing Agents	No	Yes[1]	Yes
2. Succinylcholine	No	Yes[1]	Yes
Anti-Hypertensives:			
1. All Types (Not otherwise specified)	No	No	Yes
2. Captopril[4]	Yes	Yes	Yes
3. Enalapril[4]	Yes	Yes	Yes
4. Hydralazine	No	Yes[1]	Yes
Volume Expanders:			
1. Albumin	No	Yes[1]	Yes
2. Blood Products	No	No	Yes
3. Dextran	No	Yes[1]	Yes
4. Hespan	No	Yes[1]	Yes
5. Plasmanate	No	Yes[1]	Yes
Vasopressors:			
1. Dobutamine[4]	Yes	Yes	Yes
2. Dopamine[4]	Yes	Yes	Yes
3. Milrinone	No	Yes[1]	Yes
4. Norepinephrine	No	No	Yes
5. Phenylephrine	No	No	Yes

Drug Class/Name	Type III Team[4]	Type II Team	Type I Team[3]
Bronchodilators:			
1. Abuterol[4]	Yes	Yes	Yes
2. Epinephrine[4]	Yes	Yes	Yes
3. Ipratropium Bromide[4]	Yes	Yes	Yes
4. Levalbuterol[4]	Yes[1]	Yes[1]	Yes
5. Metaproterenol	No	Yes[1]	Yes
6. Racemic Epinephrine[4]	Yes	Yes	Yes
7. Terbutaline[4]	Yes	Yes	Yes
8. Theophylline	No	Yes[1]	Yes
Anti-Anginals:			
1. Atenolol	No	Yes[1]	Yes
2. Labetolol	No	Yes[1]	Yes
3. Metoprolol	No	Yes[1]	Yes
4. Nitroglycerine (All Forms)[4]	Yes	Yes	Yes
5. Propranolol	No	Yes[1]	Yes
Fibrinolytics/Thrombolytics:			
1. All Types	No	No	Yes
Anti-Coagulants/Anti-Platelets:			
1. All Types (Not otherwise specified)	No	No	Yes
2. Aspirin[4]	Yes	Yes	Yes
3. Bivalirudin[4]	Yes[1]	Yes[1]	Yes
4. Clopidogrel	No	Yes[1]	Yes
5. Heparin[4]	Yes[1]	Yes[1]	Yes
6. Abciximab[4]	Yes[1]	Yes[1]	Yes
7. Eptifibatide[4]	Yes[1]	Yes[1]	Yes
8. Tirofiban[4]	Yes[1]	Yes[1]	Yes
Anti-Microbials:			
1. All Types[4]	Yes[1]	Yes[1]	Yes
Anti-Arrhythmics:			
1. Adenosine[4]	Yes	Yes	Yes
2. Amiodarone[4]	Yes	Yes	Yes
3. Atropine[4]	Yes	Yes	Yes
4. Digoxin[4]	No	No	Yes
5. Diltiazem[4]	Yes	Yes	Yes
6. Esmolol	No	No	Yes
7. Lidocaine[4]	Yes	Yes	Yes
8. Magnesium Sulfate[4]	Yes	Yes	Yes
9. Procainamide[4]	Yes	Yes	Yes
10. Quinidine Sulfate/Gluconate	No	No	Yes
11. Verapamil[4]	Yes	Yes	Yes
Anti-Convulsants:			
1. Barbiturates	No	No	Yes
2. Other Non-Benzodiazepine Anti-Convulsants	No	No	Yes
3. Phenytoin/Phosphenytoin	No	Yes[1]	Yes

Drug Class/Name	Type III[4] Team	Type II Team	Type I[3] Team
Electrolytes/Electrolyte Solutions:			
1. Dextrose[4]	Yes	Yes	Yes
2. Ringer's Lactate[4]	Yes	Yes	Yes
3. Sodium Chloride[4]	Yes	Yes	Yes
4. Normosol[4]	Yes	Yes	Yes
5. Potassium Chloride[4]	Yes[1]	Yes[1]	Yes
Diuretics:			
1. Furosemide[4]	Yes	Yes	Yes
2. Mannitol	No	No	Yes
Steroids:			
1. Glucocorticiods/Mineralcorticoids	No	Yes[1]	Yes
2. Dexamethosone Sodium Phosphate[4]	Yes	Yes	Yes
3. Hydrocortisone[4]	Yes	Yes	Yes
4. Methylprednisolone[4]	Yes	Yes	Yes
Anti-Emetics:			
1. All Types (Not otherwise specified)	No	Yes[1]	Yes
2. Ondanestron[4]	Yes	Yes	Yes
Antidotes & Reversal Agents:			
1. Activated Charcoal[4]	Yes	Yes	Yes
2. Antivenom	No	Yes[1]	Yes
3. Calcium Gluconate[4]	Yes	Yes	Yes
4. Hydroxocobalamin	No	Yes[1]	Yes
5. Naloxone[4]	Yes	Yes	Yes
6. Pralidoxime[4]	Yes	Yes	Yes
7. Romazicon	No	No	Yes
8. Sodium Thiosulfate[4]	Yes	Yes	Yes
Prostaglandins:			
1. All Types	No	No	Yes
Tocolytics:			
1. All Types (Not otherwise specified)	No	No	Yes
Miscellaneous:			
1. Calcium Chloride[4]	Yes	Yes	Yes
2. Calcium Gluconate[4]	Yes	Yes	Yes
3. Diphenhydramine[4]	Yes	Yes	Yes
4. Glucagon[4]	Yes	Yes	Yes
5. Insulin	No	No	Yes
6. Oxytocin[4]	Yes	Yes	Yes
7. Sodium Bicarbonate[4]	Yes	Yes	Yes
8. Sterile Water for Injection[4]	Yes	Yes	Yes
9. Total Parenteral Nutrition[4]	Yes[1]	Yes[1]	Yes

Notes:

1. Restricted to maintenance of medications initiated at sending facility.
2. Approved agencies only.
3. Level I transport team CCTP may administer additional medications based on agency developed, DOH approved protocols.
4. Current PA approved ALS drug list.

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 medical director be engaged as an integral part of the prehospital healthcare delivery system.

In critical care transport, the physician medical director's role takes on added significance due to patient acuity and the complex treatment modalities that must be undertaken in order to maintain the standard of care established by the sending facility. Critical care providers, whether nurses, paramedics or other healthcare professionals, represent 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. This development document provides references to Section 8125 of Act 37 (related to EMS agency medical directors), and outlines additional requirements and best practices for a physician serving as critical care transport agency medical director.

PA Title 35, Chapter 81 § 8125: EMS Agency Medical Directors

(a) Qualifications

To qualify and continue to function as an EMS agency medical director, an individual shall:

(1) Be a physician.

(2) Satisfy one of the following:

(i) Have successfully completed an emergency medicine residency program accredited by a residency program accrediting body recognized by the State Board of Medicine or the State Board of Osteopathic Medicine.

(ii) Have successfully completed a residency program in surgery, internal medicine, family medicine, pediatrics or anesthesiology, accredited by a residency program accrediting body recognized by the State Board of Medicine or the State Board of Osteopathic Medicine. The physician shall also have successfully completed or taught an advanced cardiac life support course acceptable to the department within the preceding two years and have completed, at least once, an advanced trauma life support course acceptable to the department and an advanced pediatric life support course acceptable to the department, or other programs determined by the department to meet or exceed the standards of these programs.

Critical Care Transport – Type I & II Teams: Additional Requirements

Medical Directors shall possess the following additional qualifications:

- ***Be board certified [eligible] in emergency medical services or;***
- ***Be board certified in emergency medicine, internal medicine, anesthesiology, critical care, family practice or trauma surgery.***

(iii) Have served as an advanced life support service medical director under the act of July 3, 1985 (P.L.164, No.45), known as the Emergency Medical Services Act, prior to the effective date of this chapter.

(3) Have a valid Drug Enforcement Agency number.

(4) Have completed the EMS agency medical director's course, an EMS fellowship or other EMS training program that is determined by the department to be equivalent.

This training shall assure that the EMS agency medical director has knowledge of:

(i) The scope of practice of EMS providers.

(ii) The provision of EMS pursuant to department-approved protocols.

(iii) The interface between EMS providers and medical command physicians.

(iv) Quality improvement 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.

Critical Care Transport – Type I & II Teams: Additional Requirements[1]

A medical director should have 2 years of experience in air and/or ground EMS and shall complete additional Department approved education or be board eligible or certified in EMS. The content of educational program should include:

- ***Altitude physiology/stressors of flight (if involved in rotor or fixed wing operations)***
- ***Appropriate utilization of medical ground and air transport service.***
- ***Human factors – Crew Resource Management***
- ***Hazardous materials recognition and response***
- ***Infection control***
- ***"Just Culture" or equivalent education***
- ***Patient care capabilities and limitations***
- ***Stress recognition and management***
- ***Sleep deprivation, sleep inertia, circadian rhythms and recognizing signs of fatigue***

In addition, the medical director should be current and demonstrate competency or provide documentation of equivalent education experiences as directed by and appropriate to the agency's mission statement [scope of services].

[1] Medical Director Standards 02.02.02; CAMTS 2012

(b) Roles and Responsibilities

An EMS agency medical director is responsible for the following:

(1) Reviewing department-approved EMS protocols that are applicable to the EMS agency and ensuring that its EMS providers and other relevant personnel are familiar with the protocols applicable to them.

Critical Care Transport: Best Practice Recommendation

Medical Directors who are board certified [eligible] in emergency medical services may create agency specific, Department approved critical care transport treatment protocols.

(2) Conducting for and reporting to the EMS agency the following:

(i) An initial assessment of an EMS provider at or above the advanced EMT level to determine whether the EMS provider has demonstrated competency in the knowledge and skills one must have to competently perform the skills within the scope of practice of the EMS provider at that level, 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 year as being able to perform at the EMS provider's certification level.

(ii) At least annually, an assessment of each EMS provider at or above the advanced EMT level as to whether the EMS provider has demonstrated competency in the knowledge and skills an EMS provider must have to competently perform the skills within the scope of practice of the EMS provider at that level, and a commitment to adequately perform other functions relevant to the EMS provider providing EMS at that level.

(3) Participating in and reviewing quality improvement reviews of patient care provided by the EMS agency and participating in the Statewide and regional quality improvement program.

Critical Care Transport: Best Practice Recommendation[2]

The critical care agency medical director plays an integral role, through direct participation or delegated authority, in the following quality improvement activities:

Prospective Activities

- ***Participates in policy and procedure development and rollout***
- ***Participates in clinical equipment purchase decisions***
- ***Involved in design of orientation and/or mentoring programs***
- ***Develops agency specific, Department approved, protocols (Type I Team)***
- ***Participates in communicable disease prevention program development***

Concurrent Activities

- ***Performs direct field observation of clinical operations through ride-a-longs or similar programs at least four times per year***

Retrospective Activities

- ***Leads clinical research studies and pilot programs***
- ***Participates in communicable disease prevention program monitoring***

Critical Care Transport – Type I & II Teams: Additional Requirements

Prospective Activities

- ***Establishing clinical performance and benchmarking standards***
- ***Participates in policy and procedure compliance monitoring***
- ***Participates in clinical staff hiring***

Concurrent Activities

- ***Conducts grand rounds or other continuing education programs for clinical staff at least four times per year***

Retrospective Activities

- ***Conducts protocol compliance audits for:***
  - ***Patient refusal of care and/or transport***
  - ***Appropriate transport resource utilization***
  - ***Release of patient to lower level care***
  - ***Focused patient care topics selected by QI committee***
  - ***Randomly selected cases***
- ***Leads clinical care concern investigations***

(4) Providing medical guidance and advice to the EMS agency.

Critical Care Transport: Best Practice Recommendation

- ***Participates in agency strategic plan development***

(5) Providing guidance with respect to the ordering, stocking and replacement of drugs, and compliance with laws and regulations impacting upon the EMS agency's acquisition, storage and use of those drugs.

[2] Handbook for EMS Medical Directors; FEMA 2012

(6) *Maintaining a liaison with the regional EMS medical director.*

Critical Care Transport – Type I & II Teams: Additional Requirements:
- ***Attends regional and statewide critical care transport committees or task forces and;***
- ***Complies with established committee/task force attendance guidelines or;***
- ***Sends physician designee if unable to attend***

(7) *Recommending to the department suspension, revocation or restriction of EMS provider's certifications.*

(8) *Reviewing regional mass casualty and disaster plans.*

(9) *Performing other functions as the department may impose by regulation.*

Critical Care Transport – Type I & II Teams: Additional Requirements:[3]

The medical director, or other physician designee, will maintain open communications with referring and accepting physicians, to ensure the appropriate critical care transport resources have been requested to safeguard the patient and crew during transport.

To maintain this open communication, the medical director will:
- ***Participate in prospective educational activities on available transport resources available within both the agency and EMS system.***
- ***Be available, or ensure physician coverage, to provide consultation to transport team in situations where patient care requirements are found to exceed team resource or for questions related to agency specific protocols.***
- ***Investigate concerns expressed by a referring or accepting physician regarding controversial issues and patient management.***

Statewide Critical Care Transport Protocols

In Phase III of the project, the workgroup will explore the concept of creating statewide critical care transport protocols. These protocols will be used by Type I and II transport teams and will contain management strategies for the most common issues encountered during an interfacility transport.

Although no comprehensive list of statewide critical care transport protocols has been developed at this point, intent can be demonstrated by way of the following example:

A Type I and II transport team is permitted maintain therapeutic paralysis initiated by the sending facility. In order to maintain the patient in this state, a protocol would be developed to address

- Criteria for use
- Exclusion criteria
- Treatment, including monitoring requirements and drug dosages
- Possible medical command orders
- Performance parameters to be used in the QI process

[3] Medical Director Standards 02.01.13: CAMTS 2012

In addition to the statewide protocols, critical care agency medical directors who meet the additional requirements set forth in this document, may create agency defined critical care transport protocols, which are subject to approval by the Department of Health. This recommendation is consistent with the current (and continuing) practice of air medical agency medical directors creating clinical protocols specific to their individual programs.

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