

# **The Phoenix Document**

## **An Evolution from National Standard Curriculum to the Virginia EMS Education Standards**

Training Levels Included:

- Intermediate



### **Introduction:**

This document identifies the differences in essential knowledge content between the National Standard Curricula/Virginia Standard Curricula and the 2010 Virginia EMS Education Standards (VEMSES). **EMS Instructors and Coordinators should use this document as a tool in conjunction with the specific *Instructor Guidelines (IG)* for the certification level(s) that are being instructed and the *Virginia Scope of Practice – Procedures & Formulary* to ensure that the required material/skills are appropriately covered by the instructor/coordinator.**

Instructor/Coordinators may also use this document to identify topics for continuing education programs to assure current certified Virginia Providers meet the same knowledge competencies of Virginia Providers certified after the implementation of the VEMSES.

## **Intermediate**

### **Knowledge and Skill Comparison**

The order of content is not meant to imply the order of delivery.

#### a. Intermediate: New Course Considerations

When planning and conducting a new Intermediate course, the Program Director or Course Coordinator must incorporate all considerations at the EMR, EMT, and AEMT levels plus:

- Reference Virginia Office of EMS Accreditation of EMS Programs Standards and Guidelines
- Review and verify integration of the clinical behavior/judgment section of the Virginia EMS Education Standards, particularly related to lab and clinical and field activities.
- Include affective evaluation and professional behavior in student assessment.

#### b. Intermediate: Skills

- Refer to the Virginia Scope of Practice document

For a current 1999 EMT-Intermediate, the following skills are now taught in the 2009 EMR, 2009 EMT or 2009 AEMT and are to be considered new:

- Self or peer use of an auto-injector (introduced at the EMR level)
- Use of mechanical CPR devices (introduced at EMT level)

For a current 1999 EMT- Intermediate, the following skills may be new:

- Use of BiPAP/CPAP
- Waveform capnography
- Interpretation and monitoring of end-tidal carbon dioxide (including waveform capnography)
- Use of therapeutic positive end-expiratory pressure (PEEP)
- Multi-lead ECG interpretation
- Performing electrical synchronized cardioversion
- Performing carotid massage
- Central line monitoring
- Initiation of intraosseous (IO) infusion in all patients (previously used IOs on children only)
- Initiation and maintenance of intravenous medication drips
- Intranasal medication administration
- Nasogastric medication administration
- Oral medication administration
- Eye irrigation with the Morgan® lens
- Obtaining venous blood samples
- ⊖ Blood chemistry analysis (this includes the psychomotor skills involved with collection of blood for analysis [point of care testing] and the cognitive material necessary to understand the implications of the results)
- Accessing indwelling catheters and implanted central IV ports

c. Intermediate: Content

**Preparatory – EMS Systems**

- EMS Systems – more detailed discussion on patient safety issues
- Research – the section is primarily focused on evidence based decisions and how to interpret research; the section on conducting research is gone.
- Workforce Safety and Wellness – the 1999 EMT-Intermediate National Standard Curriculum mentioned CISM. The new standards does not use that term instead focusing more on stress management issues.
- Documentation - Health Insurance Portability and Accountability Act (HIPAA) did not exist when the 1999 EMT-Intermediate National Standard Curriculum was authored
- Therapeutic Communications – increased depth of cultural competence issues.

- Medical/Legal/Ethics – Health Insurance Portability and Accountability Act (HIPAA) did not exist when the 1999 EMT-Intermediate National Standard Curriculum was authored; increased depth of discussion regarding advance directives; the term "end-of-life" was not previously used; there is an increased emphasis on end of life issues; increased depth and breadth on ethics

### **Anatomy and Physiology**

- The current recommendation calls for more comprehensive coverage of A&P than provided in the previous 1999 EMT-Intermediate National Standard Curriculum. Programs should evaluate their current A&P program to see how much upgrade they need to reach a comprehensive and complex understanding, especially in the cardiovascular, respiratory, and neurological systems.

### **Pathophysiology**

- The current recommendation calls for more comprehensive coverage of pathophysiology than provided in the previous 1999 EMT-Intermediate National Standard Curriculum. Programs should evaluate their current pathophysiology program to see how much upgrade they need to reach a comprehensive and complex understanding, especially in the cardiovascular, respiratory, and neurological systems.

### **Public Health**

- Consistent with the EMS Agenda for the Future, there is a greater emphasis on public health issues

### **Pharmacology**

- Principles of Pharmacology – programs should evaluate their current pharmacology program to see how much upgrade they need to reach a comprehensive and complex understanding
- Medication Administration – programs should evaluate their current pharmacology program to see how much upgrade they need to reach a comprehensive and complex understanding
- Emergency Medications – In the 1999 EMT-Intermediate National Standard Curriculum, there was no list of medications; the list below represents medications commonly used in numerous Virginia EMS systems and is a minimum list that all Intermediates should know. This list may become dated quickly.

### **Airway Management, Respiration, and Oxygenation**

- Confusion exists about the differences between oxygenation, ventilation, and respiration. The Education Standards were organized to attempt to highlight the differences between the concepts. There is a greater emphasis on ventilation and respirations and the importance of artificial ventilation. Research suggests that EMS can make a difference in this area.

### **Patient Assessment**

- Scene Size-Up – no new information here but a re-emphasis on the need for scene safety for everyone present
- Primary Assessment - new terminology that more closely mimics other health care professionals
- History Taking - new terminology that more closely mimics other health care professionals
- Secondary Assessment - new terminology that more closely mimics other health care professionals; more thorough than in the previous curriculum
- Monitoring Devices – includes capnography, non-invasive blood gas and chemistry monitoring (e.g. capnography, pulse oximetry, etc.)
- Reassessment - new terminology that more closely mimics other health care professionals; more thorough than in the previous curriculum

### **Medicine**

- Medical Overview – re-use of the new assessment terminology; emphasis on pathophysiologic basis; updated destination decisions for some medical conditions such as stroke and acute coronary syndrome,
- Neurological Disorders - the term "demyelinating" was not used in the 1999 EMT-Intermediate National Standard Curriculum; more detailed information on stroke assessment and management
- Abdominal and Gastrointestinal Disorders – in the 1999 EMT-Intermediate National Standard Curriculum, the topic was gastroenterology; new section on mesenteric ischemia, rectal foreign body obstructions and rectal abscess
- Immunology – the term anaphylactoid is used here; that term was not used in the 1999 EMT-Intermediate National Standard Curriculum; transplant related problems ~~and collagen vascular disease added~~
- Infectious Diseases – refocused with more of an emergency medicine flavor; drug-resistant bacteria discussed
- Endocrine Disorders - added long term effects of diabetes and how the disease impacts other conditions
- Psychiatric – includes new material on excited delirium; other psychiatric conditions are re-categorized with an increase in depth and breadth
- Cardiovascular – increased emphasis on anatomy, physiology and pathophysiology; acute coronary syndrome, 12-lead interpretation; updated information on heart failure

- Toxicology - includes section on over-the-counter medication toxicology
- Respiratory – more in-depth evaluation of a patient with respiratory problems.
- Hematology – reorganized with added section on blood transfusion reactions
- Genitourinary/Renal - urinary catheter management (not insertion)
- Non-Traumatic Musculoskeletal Disorders – added section on disorders of the spine, joint abnormalities, muscles abnormalities, and overuse syndromes
- Diseases of the Eye, Ears, Nose and Throat - new section emphasizing major eye, ear, nose, and throat disease

### **Shock and Resuscitation**

- Reorganized for emphasis, more pathophysiology

### **Trauma**

- Overview – discussion on the Centers for Disease Control (CDC) Field Triage Decision Scheme: The National Trauma Triage Protocol and trauma scoring
- Bleeding – increased emphasis on pathophysiology
- Chest Trauma – more detailed discussion, added section on **commotio cordis**
- Abdominal Trauma – increased emphasis on pathophysiology
- Orthopedic Trauma - greater emphasis on pathophysiology
- Soft Tissue Trauma - added section on high pressure injection
- Head, Facial, Neck, and Spine Trauma – grouped these conditions separately from neurological trauma
- Nervous System Trauma - added section on **cauda equina syndrome**
- Special Considerations in Trauma – more detailed discussion concerning pregnancy, pediatric, elderly, cognitively impaired
- Environmental – increased emphasis on pathophysiology
- Multi-system Trauma – more detailed discussion; critical thinking skills emphasized, blast injuries

### **Special Patient Populations**

- Pregnant Patient – added section on **hyperemesis gravidarum**
- Pediatrics – more detailed discussion
- Geriatrics – added section on **Herpes zoster**
- Patients with Special Challenges – added section on **bariatrics**

### **EMS Operations**

- Principles of Safely Operating a Ground Ambulance - all material at this level represents the same depth and breadth as at the EMT level

- Incident Management – references the incident management system and the federal requirements for compliance
- Multiple Casualty Incidents – all material at this level represents the same depth and breadth as at the EMT level
- Air Medical – updated material at this level concerning risks/needs/advantages of air transport
- Vehicle Extrication – all material at this level represents the same depth and breadth as at the EMT level
- Hazardous Materials Awareness – all material at this level represents the same depth and breadth as at the EMT level
- Mass Casualty Incidents Due to Terrorism or Disaster – all material at this level represents the same depth and breadth as at the EMT level

**Appendix A: Common Drug List**

The drugs listed in this appendix MUST be covered as an educational minimum as indicated by the level of certification being instructed.

DRUG	EMR	EMT	AEMT	I	P
OXYGEN	•	•	•	•	•
ORAL GLUCOSE		•	•	•	•
EPI PEN		•	•	•	•
NITRO (Patient Assist)		•	•	•	•
INHALED BRONCHODILATORS		•	•	•	•
NITROUS OXIDE			•	•	•
ALBUTEROL			•	•	•
ATROPINE				•	•
DEXTROSE 50%			•	•	•
DIPHENHYDRAMINE				•	•
EPINEPHRINE 1:10,000				•	•
FUROSEMIDE				•	•
GLUCAGON			•	•	•
MAGNESIUM SULFATE				•	•
NALOXONE			•	•	•
NITROGLYCERIN TABS/SPRAY/PASTE			•	•	•
ADENOSINE				•	•
DIAZEPAM				•	•
EPINEPHRINE 1:1,000			•	•	•
MORPHINE				•	•
AMIODARONE				•	•
ASPIRIN		•	•	•	•
IPRATROPIUM					•
MIDAZOLAM					•
LIDOCAINE				•	•
DOPAMINE				•	•
THIAMINE				•	•
ACTIVATED CHARCOAL					•
AMYL NITRITE					•
FENTANYL					•
OXYTOCIN					•
PROMETHAZINE					•
LORAZEPAM					•
DILTIAZEM					•

## **Appendix B: Virginia Scope of Practice – Procedures & Formulary**

The Virginia Scope of Practice demonstrates the “practice maximum” for each certification level established by the Virginia Office of EMS. Please utilize this document when instructing EMS programs.

- To link to the Procedures click on the following web link:  
[http://www.vdh.virginia.gov/OEMS/Files\\_page/Training/ScopeOfPractice-Procedures.pdf](http://www.vdh.virginia.gov/OEMS/Files_page/Training/ScopeOfPractice-Procedures.pdf)
- To link to the Formulary click on the following web link:  
[http://www.vdh.virginia.gov/OEMS/Files\\_page/Training/ScopeOfPractice-Formulary.pdf](http://www.vdh.virginia.gov/OEMS/Files_page/Training/ScopeOfPractice-Formulary.pdf)

## **Appendix C: PES Practice Analysis**

- To link to the PES Practice Analysis click on the following web link:  
[http://www.vdh.virginia.gov/OEMS/Files\\_page/Training/PESPracticeAnalysis.pdf](http://www.vdh.virginia.gov/OEMS/Files_page/Training/PESPracticeAnalysis.pdf)