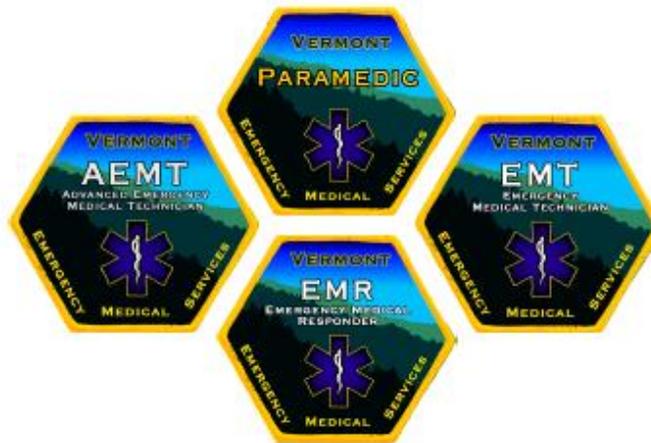




Vermont Statewide Emergency Medical Services Protocols



Protocol Education Modules – Resource Kit

Table of Contents	
Content	Page Number
Overview of Education Module	3
Quick Reference Table	6
Systems of Care	8
MCI Triage	9
Advanced Spinal Assessment	11
Resuscitation Initiation and Termination	15
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest	16
Application of 12-Lead	19
Glucometer	22
BLS Intranasal Naloxone (Narcan)	26
CPAP	29
Adult IO Medication Administration	32
Epinephrine 1:10,000 for AEMT Use	33
Venous Blood Draw for AEMTs	35
Class Roster for Record Keeping	36
EMR Tracking Document	37
EMT Tracking Document	38
AEMT Tracking Document	39
Paramedic Tracking Document	40
Continuing Education Map	41
Acknowledgements	42

***Note:** the information contained in this resource kit serves as guidance from VT EMS on the subject of protocol education/training. It is not intended to take the place of comprehensive initial or continuing education, including transition courses, and is designed to be used in conjunction with other educational resources such as VT EMS developed presentations, knowledgeable instructors, etc.*

Overview of the Education Module - Resource Kit for the Vermont Statewide EMS Protocols

This document has been created as a guide for both EMS providers and EMS Services to complete the education modules for the Vermont Statewide EMS Protocols. **This training is required for any level of licensure and does not require the provider to be transitioned to the new education standards.** Thus, a provider that has not transitioned and completes this training will be authorized to use these new skills, but will still have to complete a transition course within their recertification period as outlined by the National Registry (see previously published guidance and FAQs on the VT EMS website). This training will also be required within all initial EMR, EMT, AEMT, and Paramedic courses commencing after October 15, 2013.

If an EMS Service does not carry the equipment necessary for a protocol, then that protocol cannot be used and the training does not need to be completed (examples: 12-lead ECG, CPAP, etc.). When an EMS Service purchases the necessary equipment, it will be expected that the training will then be completed.

If a district or EMS Service has already completed training on a skill listed due to a waiver granted under the previous set of EMS protocols, providers and/or services must be able to provide documentation to VT EMS that verifies the curricula and attendance of members.

This Resource Kit has been developed to provide both providers and EMS Services with multiple options for completing the education.

Each new protocol topic that requires education has been broken down into the following reference categories:

Presentation Methods: There are several possible formats in which topics may be presented and learned:

- **Individual learning:**
 - **CentreLearn:** All presentations are on CentreLearn and can be accessed by logging in. The course title and course number (if applicable) are listed. Presentations on Centrelearn may be viewed individually or as a group. Some of the presentations have quizzes; the quiz does not have to be completed to receive credit, but is a useful review.
 - **Some topics require additional practical skills component that must be completed at the EMS Service level (see below).**
- **EMS Service-level Trainings (at the department, agency, squad, etc.):** To benefit from group learning opportunities, the protocol material can be delivered in a classroom

setting by several methods, making use of qualified instructors including Training Officers, VT EMS I/Cs, hospital staff, senior EMS crew members, etc.

- **CentreLearn:** As stated above, the presentations on Centrelearn can be done as a group. (Example: Training Officer connects a projector to a computer at the station, logs into Centrelearn and runs the course live for the group.)
Alternatively, the Power Points downloaded off the CentreLearn website can be facilitated at the Service level via projection or printed handouts.
- **The Vermont EMS Website:** Certain power point presentations will be available for download off the VT EMS website. Presentations may be facilitated by qualified instructors including Training Officers, VT EMS I/Cs, hospital staff, senior EMS crew members, etc.
- **Physician/Allied Health Qualified Instructors:** These instructors may use their own educational material as long as it is in line with the Vermont Statewide EMS Protocols. For example, a respiratory therapist can deliver instructions on the indications for CPAP and principles of use for CPAP, but they should be familiar with the nuances of the protocol. *****Exceptions to this option: Resuscitation Initiation and Termination and Advanced Spinal Assessment – for which the Vermont EMS Presentation must be used.*****
- **EMS Conference Offering (if applicable):** If there will be an offering at the 2013 VT EMS Conference at Jay Peak October 24-27th that addresses the subject, it is listed here. Please go to www.vtemsconference.com for the complete schedule and to register.

Required Participants: Who is required to complete this education? The options are for FRECA/EMR, EMT-B/EMT, EMT-I/AEMT, and/or EMT-P/Paramedic. Both the Quick Reference Chart beginning on page 6 and each individual topic list will include which license level is required to take each course.

Practical Skills: Is there a practical requirement for the topic? If yes, this section will provide guidance for how to perform that training at the EMS Service level. The practical component must be instructed by a higher level licensure. For example: AEMT can instruct a practical for EMTs, or a Paramedic/RN/RT/MD can instruct a practical for AEMT. At the EMT-P/Paramedic level, the only practical, at this time, is for Advanced Spinal Assessment. This practical should be facilitated by the Paramedic's training officer.

Documentation: Documentation of completion of both the presentation and practical components should be completed at the EMS Service level with a roster. (The exceptions are all courses *individually* completed in CentreLearn, which that system tracks automatically. Enhanced permissions for Training Officers will eventually allow for group training to be entered and tracked in the CentreLearn accounts of all participants.) A sample roster can be found on page 36 of this document. The roster should be kept at the EMS Service. In addition,

each provider should keep track of their own protocol education. At the end of this document is a tracking template that can be utilized. Both the provider and service should track all protocol training hours as they do for all other continuing education requirements.

Implementation:

The final protocols were released in early October. Once posted, EMS Services and districts are authorized to begin training their personnel. Before an agency may begin to use the new protocols, **ALL** of the agency's providers must be trained on the new protocols. Once an agency has trained all of their providers, they **MAY** begin to use the new protocols as of **00:01 hours on January 1st, 2014**. **ALL** agencies **MUST** begin to use the new protocols no later than **11:59 hours on March 31, 2014**.

Any questions or concerns should be directed to Jessica Freire, State Training Coordinator Vermont EMS. Jessica may be reached at 802-863-7255 or jessica.freire@state.vt.us

Quick Reference Chart					
Topic/Skill	Presentation Availability/Practical Component	FRECA/EMR	EMT-B/EMT	EMT-I/AEMT	EMT-P/Paramedic
<i>Systems of Care:</i> Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update	CentreLearn: Systems of Care VT EMS Website: Systems of Care EMS Service Level Training: Strongly recommend using the Systems of Care presentation Practical: No	X	X	X	X
MCI Triage	CentreLearn: SALT Triage VT EMS Website: Not available EMS Service Level Training: Strongly recommend using Centrelearn or www.saltriage.org Practical: No	X	X	X	X
Advanced Spinal Assessment	CentreLearn: Advanced Spinal Assessment VT EMS Website: Advanced Spinal Assessment EMS Service Level Training: Required to use the Advanced Spinal Assessment presentation Practical: Yes		X	X	X
Resuscitation Initiation and Termination	CentreLearn: Resuscitation Initiation and Termination VT EMS Website: Resuscitation Initiation and Termination EMS Service Level Training: Required to use the Resuscitation Initiation and Termination presentation Practical: No		X	X	X
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest	CentreLearn: Induced Hypothermia Mild Hypothermia VT EMS Website: Induced Mild Hypothermia EMS Service Level Training: Strongly recommend using the protocol review as a starting point Practical: Yes		X	X	X

Quick Reference Chart					
Topic/Skill	Presentation Availability/Practical Component	FRECA/EMR	EMT-B/EMT	EMT-I/AEMT	EMT-P/Paramedic
Application of 12-Lead	No Specific Lecture Necessary Practical: Yes		X	X	
Glucometer	No Specific Lecture Necessary Practical: Yes		X		
BLS Intranasal Naloxone (Narcan)	CentreLearn: BLS Intranasal Naloxone VT EMS Website: BLS Intranasal Naloxone EMS Service Level Training: Strongly recommend using the BLS Intranasal Naloxone presentation Practical: Yes		X		
CPAP	CentreLearn: AEMT Introduction to CPAP VT EMS Website: AEMT Introduction to CPAP EMS Service Level Training: Applicable Practical: Yes			X	
Adult IO Medication Administration	CentreLearn: IO Infusion (ALS407-29:57) VT EMS Website: Not available EMS Service Level Training: Applicable Practical: Yes			X	
Epinephrine 1:10,000 for AEMT Use	CentreLearn: Epinephrine for AEMT Use VT EMS Website: Epinephrine for AEMT Use EMS Service Level Training: Applicable Practical: Yes			X	
Venous Blood Draws for AEMTs	No Specific Lecture Necessary Practical: Yes			X	

Systems of Care

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *Systems of Care*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *Systems of Care*. The presentation can be viewed individually or as a group.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *Systems of Care*.
 - Physician/Allied Health Qualified Instructors: It is strongly recommend that the *Systems of Care* presentation be used for an in-service training.

EMS Conference Offering: Dr. Wolfson – “When Time Counts-Managing the Big Three”

Required: FRECA/EMR, EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: There is no practical component necessary.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document

MCI Triage

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *SALT Triage*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *SALT Triage*.
 - The Vermont EMS Website: The presentation is not available on the website.
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that CentreLearn is used. The training can also be completed at www.salttriage.org

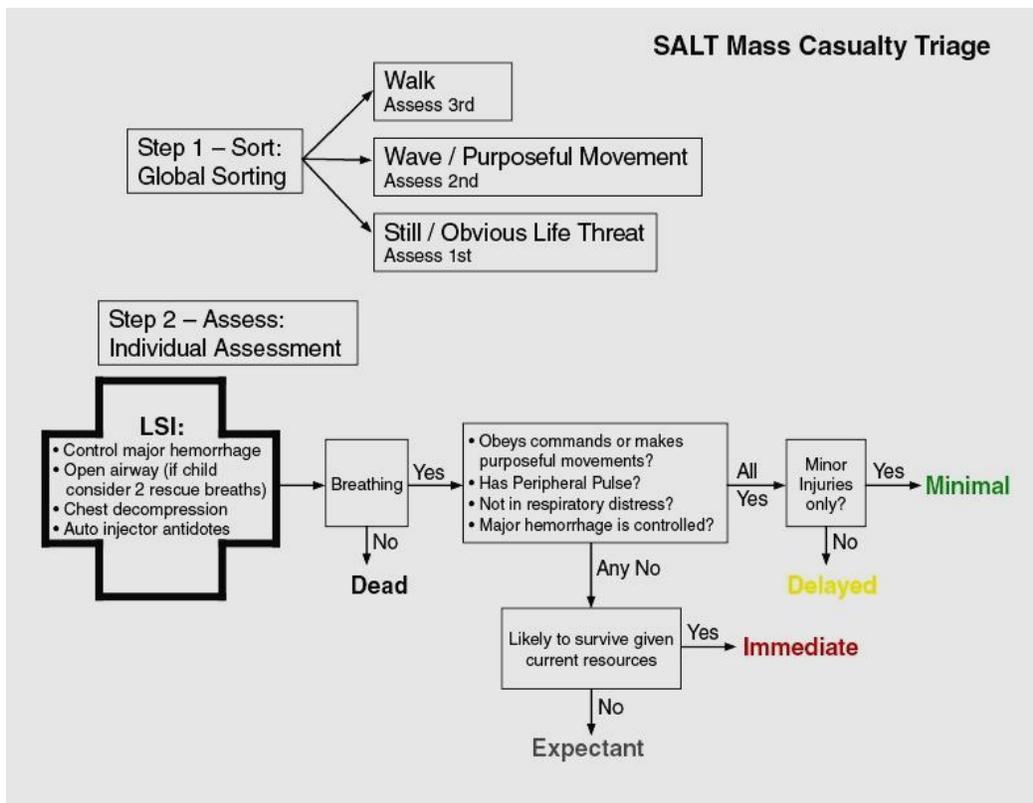
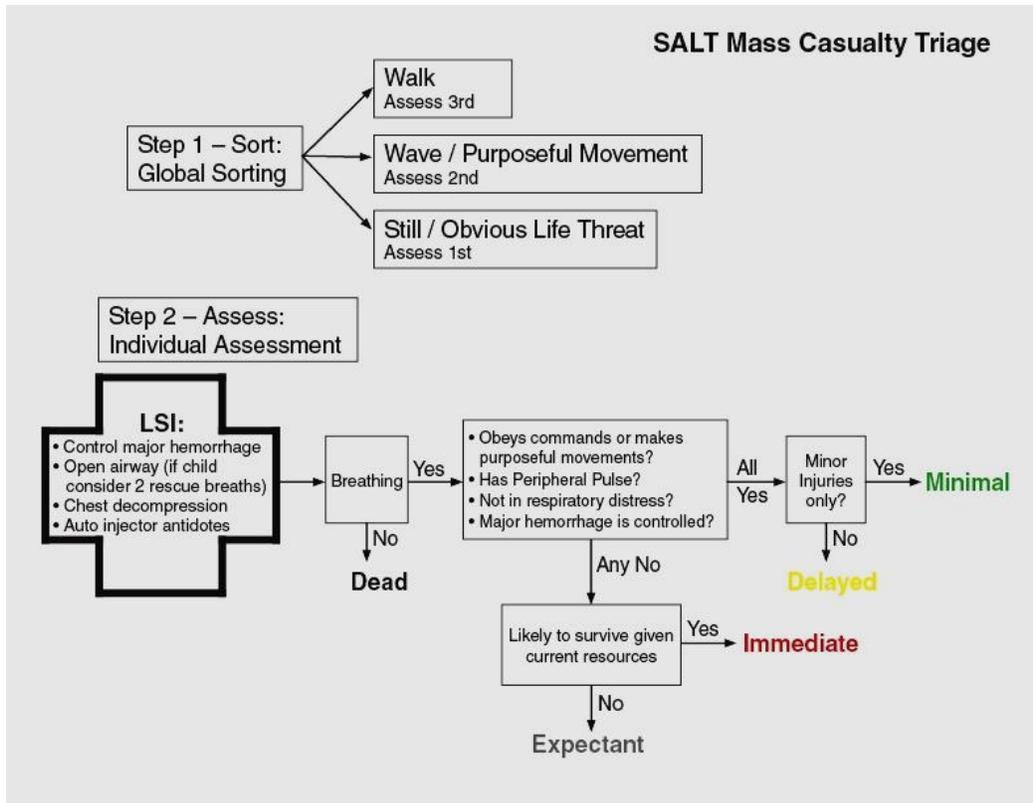
EMS Conference Offering: Dr. E. Brooke Lerner – “SALT Triage”

Required: FRECA/EMR, EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: There is no practical component necessary. On page 10 is the SALT Mass Casualty Triage Algorithm that can be disseminated. It is repeated on the page for easier printing.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document



Advanced Spinal Assessment

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *Advanced Spinal Assessment*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *Advanced Spinal Assessment*.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *Advanced Spinal Assessment*.
 - Physician/Allied Health Qualified Instructors: The *Advanced Spinal Assessment* presentation is required to be used for an in-service training.

EMS Conference Offering: Dr. Laurel Plante – “Advanced Spinal Assessment” & Bill Kane “Advanced Spinal Assessment”

Required: EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: See page 12. The EMS Service’s Training Officer should facilitate this training.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

Advanced Spinal Assessment Practical

- Show protocol
 - The instructor will demonstrate the general assessment of a patient with a possible spinal cord injury and determine the proper treatment plan using the Advanced Spinal Assessment per the Vermont Statewide EMS Protocols. The instructor should demonstrate a variety of scenarios that show students examples of each of the treatment plans
 - The student will then demonstrate the general assessment of a patient with a possible spinal cord injury and determine the proper treatment plan using the Advanced Spinal Assessment per the Vermont Statewide EMS Protocols
 - If the patient has unstable vital signs or abnormal peripheral perfusion, spinal immobilization is required.
 - Determine patient reliability
 - Reliable
 - Must be over 9 years old, calm, cooperative, sober, and alert and oriented to person, place, and time
 - If reliable, then may continue assessment
 - Unreliable
 - Age less than 9 years
 - Anxious and uncooperative
 - Communication barriers (e.g., deafness, hard of hearing, language, understanding)
 - Altered mental status (not alert and oriented x3)
 - Evidence of alcohol or drug intoxication
 - Distracted by circumstances or injuries to self or others (i.e., any other injury capable of producing significant pain in this patient)
 - Performs motor exam
 - Any abnormal neurologic function in extremities requires spinal immobilization, including:
 - Numbness or tingling (paresthesia)
 - Motor strength not full and symmetrical
 - Sensation not intact and symmetrical
 - Palpate entire spine for tenderness
 - Explain to the patient the actions that you are going to take. Ask the patient to immediately report any pain, and to answer questions with a “yes” or “no” rather than shaking the head
 - With the patient’s spine supported to limit movement, begin palpation at the base of the skull at the midline of the spine

- Palpate the vertebrae individually from the base of the skull to the bottom of the sacrum
- On palpation of each vertebral body, look for evidence of pain and ask the patient if they are experiencing pain. If evidence of pain along the spinal column is encountered, the patient should be immobilized
- If patient meets above criteria are they able to rotate neck?
 - If the capable patient is found to be pain free, ask the patient to turn their head first to one side (so that the chin is pointing toward the shoulder) then, if pain free, to the other. If there is evidence of pain the patient should be immobilized
 - With the head rotated back to its normal position, ask the patient to flex and extend their neck. If there is evidence of pain, the patient should be immobilized. Do not assist patient in attempts to rotate neck.
- There may be the rare exception and there are different levels of provider comfort. With that in mind, each provider and team must determine a management plan on a case-by-case basis, and when in doubt may fully immobilize the patient
- Perform on-going assessment
- Communication
 - What
 - Assessment findings (including the results of Advanced Spinal Assessment)
 - Treatments
 - Results of treatments
 - Who
 - Personnel at receiving facility
 - Other EMS providers
- Documentation
 - What
 - Assessment findings (including the results of Advanced Spinal Assessment)
 - Treatments
 - Results of treatments
 - Where
 - PCR/SIREN
 - Performance improvement – Quality improvement

The chart below can be utilized for practicing Advanced Spinal Assessment:

Step	Yes	No
Scene Safety & BSI		
Manual immobilization		
Determines high risk or questionable injury mechanism		
Determines if patient has unstable vital signs or abnormal and/or abnormal peripheral perfusion – if yes, must immobilize		
Determines reliable patient (over 9 years of age, calm, cooperative, sober, alert and oriented to person, place, and time, etc.)		
Performs motor exam in all extremities assessing for numbness, tingling, motor strength, and sensation		
Palpates the entire spine for tenderness		
If patient meets above criteria, has patient flex, extend, and rotate their neck without pain		
Verbalize documentation		
Instructor asks the candidate what action would be taken if one of the above criteria resulted in an abnormal exam		
Student indicates appropriate actions		

Resuscitation Initiation and Termination

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *Resuscitation Initiation and Termination*. If interested in more in-depth information, the CentreLearn course titled *Death & Dying (BLS290/ALS290-31:00)* is available. This presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *Resuscitation Initiation and Termination*. If interested in more in-depth information, the CentreLearn course titled *Death & Dying (BLS290/ALS290-31:00)* is available. This presentation can be viewed individually or as a group
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *Resuscitation Initiation and Termination*.
 - Physician/Allied Health Qualified Instructors: The *Resuscitation Initiation and Termination* presentation is required to be used for in-service training.

EMS Conference Offering: Dr. Wolfson – “Termination of Resuscitation” & Erin Ingebretsen – “Tell me what Happened” (This talk reviews the stages of grief, what coping mechanisms are involved in human nature, and how to help not only family members of the deceased, but your fellow peers.)

Required: EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: There is no practical component necessary.

Documentation:

- EMS Service Level: Roster
- Individual Provider: Protocol tracking document

Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *Induced Mild Hypothermia*. If interested in more in-depth information on induced mild hypothermia for comatose survivors of cardiac arrest, the CentreLearn course titled *Induced Hypothermia (BLS291/ALS291-25:54)* is available. This presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *Induced Mild Hypothermia*. If interested in more in-depth information on induced mild hypothermia for comatose survivors of cardiac arrest, the CentreLearn course titled *Induced Hypothermia (BLS291/ALS291-25:54)* is available.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *Induced Mild Hypothermia*.
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that the presentation *Induced Mild Hypothermia* be used for an in-service training.

EMS Conference Offering: Jane Bedford – “Induced Hypothermia in Pre-hospital Settings” & Bill Mapes – “EMS Pit Crew & I.C.E.: Let’s Just Chill Out”

Required: EMT-B/EMT, EMT-I/AEMT, EMT-P/Paramedic

Practical: See page 17. The EMS Service’s Training Officer should facilitate this practical.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest Practical

- Review the protocol
 - Review of squad specific equipment and clinical skill required for initiation
 - Advanced airway (if applicable)
 - Quantitative wave form capnography
 - Tympanic Temperature
 - Neurological exam review (GCS, cranial nerves, reflexes, general motor tone, seizure activity)
 - 12 Lead
 - Cerebral cooling collar
 - Follow the manufacturer's training requirements:
<http://cryothermicsystems.com/live/wp-content/uploads/2012/11/Insert-07.12.V1.pdf>
 - Ability to initiate cold saline bolus at the Paramedic level
 - Run a cardiac arrest scenario including Induced Mild Hypothermia:
 - 45 y/o male patient who had been complaining of severe sharp chest pain with radiation to the left arm. Three minutes prior to EMS arrival, patient collapsed and a bystander initiated compression only CPR. Upon EMS arrival, ACLS guidelines should be initiated for ventricular fibrillation. No history of blunt/penetrating trauma
 - BLS: AED shocked twice, BLS airway
 - ALS: 1 mg Epinephrine, supraglottic airway/endotracheal tube, defibrillated x2
 - ROSC, GCS=7, ETCO₂=22 mmHg (if applicable)
 - Initiate Induced Hypothermia protocol
 - Vitals: BP 108/50, HR 66, RR 16 assisted, Rhythm: Sinus with pre-mature atrial contractions, ETCO₂=35 mm Hg, Weight: 70 kg

The chart below can be utilized for practicing Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest:

Step	Yes	No
Scene Safety & BSI		
Runs Code scenario with ROSC		
Identifies that ALL criteria are present for therapeutic hypothermia: <ul style="list-style-type: none"> • ROSC after cardiac arrest not related to blunt/penetrating trauma • Age greater than 18 without identified pregnancy or obviously gravid uterus • Quantitative wave form capnography > 20 mmHg if available • Measure & record initial tympanic temperature. Initial temp. > 34C (93.2F) • Remains comatose: Patient must have GCS<8 or not following commands 		
EMT: <ul style="list-style-type: none"> • Call for Intercept • Maintain oxygen saturation greater or equal to 94% • Acquire and transmit 12-Lead ECG, if available • Perform neurological exam (GCS, cranial nerves, reflexes, general motor tone, seizure activity) • Expose patient and apply cerebral cooling collar if available. Collar may be applied by EMT even without advanced airway in place. Replace cooling pack every 20 minutes. • Apply ice packs to axilla & groin 		
AEMT: <ul style="list-style-type: none"> • Establish IV access • Establish advanced airway 		
Paramedic: <ul style="list-style-type: none"> • Administer cold normal saline (4C/40F) bolus 30 mL/kg to max of 2000 mL • For shivering or sedation: <ul style="list-style-type: none"> ○ Midazolam 2.5 mg IV/IO/IN may repeat once in 5 min.; or 5mg IM, may repeat once in 10 min OR ○ Lorazepam 1-2 mg IV/IO may repeat every 15 min as needed with max 10 mg • Monitor quantitative wave form capnography • Maintain systolic blood pressure of >90 mmHg <ul style="list-style-type: none"> ○ Consider vasopressors 		

Application of 12-Lead

Presentation Methods:

- **Individual Learning** There is **NO** presentation required. If interested in more in-depth information on the application of a 12-Lead, the CentreLearn course titled, *Basic 12-Lead Operation & Interpretation (BLS233-37:22)*, is available.

EMS Conference Offering: Alan Beebe – “12-Lead for the EMT/AEMT”

Required: EMT-B/EMT, EMT-I/AEMT

Practical: See page 20. An EMT-P/Paramedic or higher should facilitate this practical.

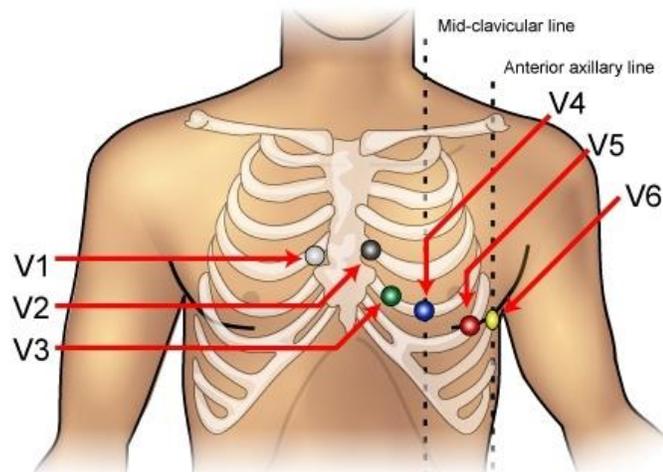
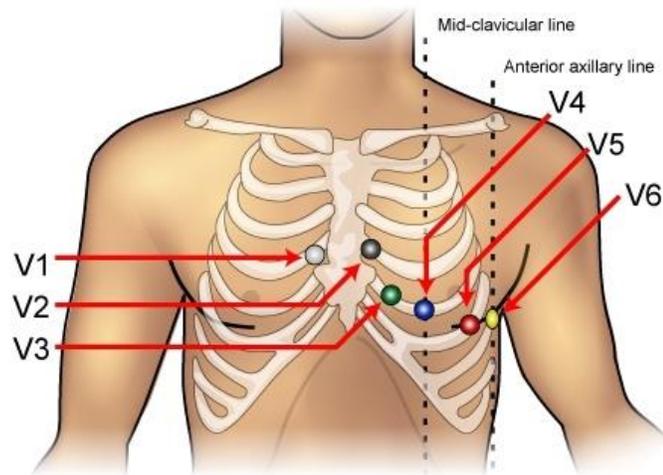
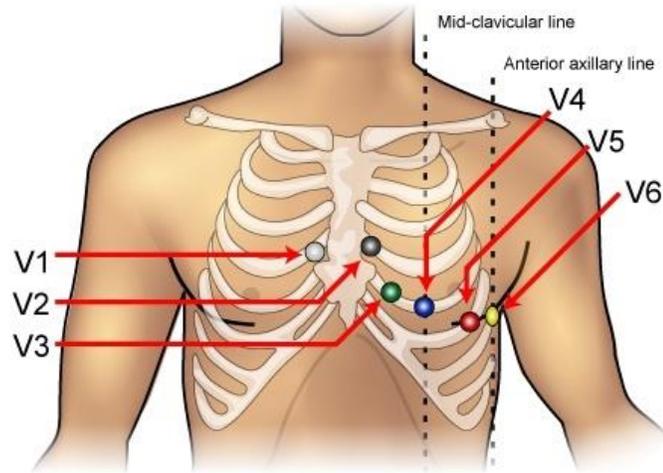
Documentation:

- EMS Service Level: Roster for the practical
- Individual Provider: Protocol tracking document

Application of a 12-Lead Practical

- Required materials (to be completed with squad specific equipment):
 - Monitor
 - Electrodes
- Objectives:
 - The EMT will verbalize the anatomical location of V2, V4, and V6.
 - The EMT will demonstrate proper placement of ten surface electrodes for traditional 12-Lead EKG.
 - The EMT will demonstrate the proper sequence of buttons
 - The EMT will verbalize correct placement of AED pads when 12-Lead EKG electrodes are present.
- Instructors will cover these points:
 - Lead placement
 - Locate V2, V4, V6 – odd chest leads are found based on these. Students must demonstrate the ability to locate these anatomical locations:
 - V2 – 4th intercostal space, left of sternum
 - V4 – 5th intercostal space, midclavicular line
 - V6 – 5th intercostal space, midaxillary line
 - V1 to the right of sternum, 4th intercostal space
 - V3 is midway between V2 & V4 – 5th intercostal space
 - V5 is midway between V4 & V6 – 5th intercostal space
 - Limb Leads: RA/LA – deltoids
 - Limb Leads: RL/LL – medial gastrocnemius
 - Patient care & instructions
 - Professional explanation
 - Utilize sheets/towels to allow for privacy for female patients. Unnecessary exposure should be firmly discouraged. Bra may remain on. Move breast up and out of the way using back of hand with fabric barrier (shirt, sheet, etc.)
 - Patient positions for clean data:
 - Full fowlers, arms at side, relaxed
 - Semi-fowlers (as in stretcher), arms at side, head relaxed back
 - Demonstrate poor quality data by having patient model hold head forward or activate chest/abdominal muscles
 - 12-Lead EKG data acquisition:
 - Teach 2-button method versus holding down RECORD for three seconds.
 - Discuss 12-Lead Transmission
 - Strive for acquisition within the first 10 minutes of patient care. Remember, Paramedics may interpret, while EMTs and AEMTs should read the computer print-out. Show the protocol and discuss STEMI Alert criteria

Below is a 12-Lead reference information that may be disseminated:



Glucometer

Presentation Methods:

- There is **NO** presentation required. If interested in more in-depth information on diabetic emergencies, the CentreLearn course titled *Diabetic Emergencies Part 1 and Part 2 (BLS 268/B269 – 25:30/22:50)* is available.

EMS Conference Offering: There is no conference offering specific to this topic.

Required: EMT-B/EMT

Practical: See page 23. An EMT-I/AEMT or higher should facilitate this practical.

Documentation:

- EMS Service Level: Roster for the practical
- Individual Provider: Protocol tracking document

Glucometer Practical

- Materials required (to be completed with squad specific equipment):
 - Glucometer and Test Strips
 - IV Hand
 - Alcohol Preps
 - Non-Latex Gloves
 - Calibration Chemicals
- Objectives:
 - State when blood glucose measuring is indicated
 - Describe the importance of a full patient assessment in conjunction with test results
 - Demonstrate accurate calibration
 - Demonstrate appropriate procedures for measuring blood glucose
 - Explain proper maintenance, care & storage
- Discussion Points:
 - Review of appropriate signs and symptoms of all the disease processes that would be appropriate for usage of a glucometer: CVA, TIA, Altered Mental Status, Known Diabetic, Head/Spinal Trauma, Combative Patient, Seizures, etc.
 - Review of common AMS causes
 - Review of appropriate scene management and assessment. Emphasis needs to be placed on the fact that glucometer usage does not alter the ALS Response. Be sure to have a discussion on how body temperature can affect the accuracy of the glucometer and obtaining of peripheral capillary blood for analysis. Review of SAMPLE History that can provide valuable information to the assessment process and narrowing of a differential diagnosis. Reinforce importance of baseline vitals before any treatments, other than airway management and bleeding control.
 - Review of appropriate usage of oral glucose. Dose, indications, contraindications.
 - Review of appropriate BLS procedures for patients with AMS.
 - Discussion of different devices. Reinforce need to know your service machine and the manufacturer recommendations. Some machines will accept both venous and capillary blood (i.e. One Touch). Iterate the need for competency training if a machine is replaced at any time by the service, with an in-depth review of the appropriate procedures for that manufacturer's device.
 - Glucometer Usage Procedures. Emphasis on aseptic technique for blood sample. Review sharps safety and appropriate disposal procedures.

Reminder of BSI & safety at all times. Discussion on why the first drop of blood should be discarded (i.e. alcohol present secondary to skin absorption, small percentage of time it can affect accurate sample reading)

- Review of materials needed and required for glucometer analysis.
- Operation of machine: Powering up, confirmation of code (if applicable), and proper insertion of the test strip. Stress the importance of checking the codes. Discussion of data code chip that needs to be changed in machines to match the test strip code. (Many of these have been discontinued but there are still some out in circulation.)
- Site selection for blood sample acquisition. Use side of finger, more success, especially with patients that already have peripheral vasculature issues.
- Review of machine-specific blood sample introduction. Does the blood sample go in the side of the strip, on top, machine-facilitated introduction (sucks it in)? Discussion of how to handle situations where not enough blood sample has been obtained. Discard strip, attempt to gain a new sample from original site or try a different site.
- Discussion of blood sample analysis results. What does LO flashing mean (i.e., some devices will display this if lower than 10 mg/dl)? What does HI flashing mean (i.e., on most devices it is glucose of greater than 500 mg/dl)? What does ER flashing mean (i.e., error in sample analysis with a need to restart the process; may also be temperature that the machine has been exposed to, i.e. left in cold cabinet on rig, jump-kit in car, direct sunlight exposure)?
- Appropriate treatment discussion based on patient presentation and the analysis results. Reiterate the importance of treating the patient and not the machine. Discussion to reiterate the appropriate times for oral glucose and times when patient support is appropriate (i.e. Oxygen therapy, suction, position of comfort and safety, ALS intercept).
- Discussion of calibration and maintenance procedures for the particular device being used by the service. Discuss importance of documenting the calibration of the machine (time/date done, results if any). Have an in depth discussion on proper storage (i.e. normal temperature environment, no direct sunlight).
- Review appropriate documentation procedures. Reinforce the point that this is an invasive procedure that can cause long-term effects if done wrong or inappropriately. Need for documentation of process is very important.
- Discussion on the process of appropriate decontamination of the device. Following manufacturer recommendations for cleaning is strongly

- advised. Reiterate fact that this is a procedure that involves blood and appropriate documentation of exposures needs to take place.
- Using an IV hand, each student should be able to show appropriate aseptic technique and proper skin puncture to obtain a blood sample for glucose analysis. Each student should be able to show proficiency in the following:
 - Powering on of device
 - Checking code for device against the test strips to be used
 - Appropriate discarding of lancet and used strip
 - Appropriate covering of puncture site
 - Powering down of device
 - Clearly state how they would document the process and findings
 - A demonstration of the appropriate calibration and maintenance of the device being used by the service should be done. This can be done as a group or based on group size/instructor preference, individually.

BLS Intranasal Naloxone (Narcan)

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *BLS Intranasal Naloxone*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *BLS Intranasal Naloxone*.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *BLS Intranasal Naloxone*.
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that the *BLS Intranasal Naloxone* presentation be used for an in-service training.

EMS Conference Offering: Mike Leyden – “Opioid Overdose Treatment by the BLS Provider”

Required: EMT-B/EMT

Practical: See page 27. An EMT-I/AEMT or higher should facilitate this practical.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

BLS Intranasal Naloxone Practical

- Materials required:
 - Drug delivery devices (atomizer, syringe, etc.)
 - Salt water (1 cup warm water, $\frac{1}{4}$ tsp. salt, $\frac{1}{8}$ tsp. baking soda) or saline from a sterile bottle
 - Paper towels, tissue, or cloth towel
 - Student human subjects or may use manikin instead
- Objectives:
 - Recognize the signs and symptoms of an overdose
 - Identify the indications, contraindications, and adverse reactions of Naloxone (Narcan)
 - Prepare and administer intranasal Naloxone
 - Describe how continued support will be provided to the patient
- Procedure Practice: All students should practice with an atomizer to understand how it generates an atomized mist. The device operates via hydraulic forces, so adequate compression is required to create an atomized mist. The harder you push the plunger on the syringe, the better misting effect you will achieve.
 - Using the device - general:
 - Have students draw up 2 mL of salt water into a 3 mL luer lock syringe
 - Expel all air from the syringe
 - Connect the atomizer tip to the syringe
 - Briskly compress the syringe plungers to atomize the fluid
 - Vary the pressure applied to the syringe and note that slow compression fails to create an adequate atomized mist
 - Now practice atomizing a single mL of solution and stopping, then atomizing the remainder
 - Practice procedure on students or on manikin:
 - Students should pair up
 - One student should lie supine
 - The second student should draw up 2 mL of salt water into a 3 mL luer lock syringe. This volume mimics 2mL of naloxone (preferred concentration is 2 mL of 1 mg/mL naloxone)
 - Expel all air from the syringe
 - Connect the atomizer tip to the syringe
 - Hold the student “patient’s” head with one hand
 - Place atomizer 1.5 cm within one nostril with the other hand
 - Briskly compress syringe to administer 1 mL of atomized spray (this may irritate the nose slightly so have the towel handy to catch any secretions)

- Remove and repeat in other nostril, so all 2 mL of solution are administered
- Switch places and let the second student perform the same procedure

CPAP

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *AEMT Introduction to CPAP*. If interested in more in-depth information on CPAP, the CentreLearn course titled *Non-Invasive Positive Pressure-NiPPV (BLS405 – 32:24)* is available. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *AEMT Introduction to CPAP*. If interested in more in-depth information on CPAP, the CentreLearn course titled, *Non-Invasive Positive Pressure-NiPPV (BLS405 – 32:24)* is available.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *AEMT Introduction to CPAP*.
 - Physician/Allied Health Qualified Instructors: This can be presented as an in-service by an EMT-P/Paramedic or above. The instructor should be familiar with the Vermont Statewide EMS Protocol.

EMS Conference Offering: Don Perreault – “Continuous Positive Airway Pressure in the Pre-hospital Setting”

Required: EMT-I/AEMT

Practical: See page 30. An EMT-P/Paramedic or higher should facilitate this practical.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

CPAP Practical

CPAP Procedure: It is the responsibility of each squad to ensure proper in-service training, according to the manufacturer's recommendations, for the CPAP device used by the squad

- Assessment
 - Indications & contraindications
 - History of present illness
 - Vital signs
 - Lung sounds
 - Pulse oximetry and capnography if available
- Equipment
 - BSI
 - Oxygen cylinder or oxygen supply
 - Regulator with quick connect (DISS)
 - Oxygen tubing & corrugating tubing
 - Pressure release valve
 - CPAP Device should at a minimum include:
 - PEEP valve/control
 - Oxygen flow rate valve/control
 - Mask
 - Head strap
 - Additional accessories may include pressure gauges
- Procedure:
 - Place the patient in the upright position
 - Explain the procedure to the patient
 - Monitor ECG, vital signs, oxygen saturation, capnography (if available), and lung sounds
 - Attach to appropriate oxygen supply to device (some devices require an oxygen source with a psi gas source, such as that found on a wall outlet)
 - Turn on oxygen supply and set flow meter per manufacturer's recommendation
 - Attach face mask with corrugating tubing to device
 - Select pressure setting of 5-10 cm H₂O
 - Again explain procedure to patient
 - Attach mask to patient
 - Secure mask with head strap
 - Check for leaks and adjust as necessary
 - Reassess the patient frequently

The chart below can be utilized for the application of CPAP training:

Step	Yes	No
Scene Safety & BSI		
Lists the indications and contraindications for using CPAP		
Properly positions patient in the upright position		
Auscultates lung sounds to verify ventilation of both lungs and obtain baseline		
Explains procedure to patient & applies 100% oxygen		
Attaches CPAP device to oxygen supply and checks connections of oxygen hoses & tubing		
Turns oxygen supply on and checks cylinder contents		
Verifies controls and/or valves are set to desired parameters per manufacturer's recommendation		
Sets air mix to 100% (if applicable)		
Sets pressure to no greater than 10 cm H ₂ O		
Turns switch on and briefly occludes patient connections port with thumb to check that peak inflation pressure reading on manometer is appropriate for patient condition (if applicable)		
Applies patient port to face mask to patient & checks for leaks		
Monitors rise and fall of chest, breath sounds & pressure manometer (if applicable)		
Continues to assess patient		
Explains the procedure/appropriate actions should the patient deteriorate (discontinue CPAP)		

Adult IO Medication Administration

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *IO Infusion (ALS407-29:57)*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *IO Infusion (ALS407-29:57)*.
 - The Vermont EMS Website: This presentation is not available on the website.
 - Physician/Allied Health Qualified Instructors: This may be presented as an in-service by an EMT-P/Paramedic or above. The instructor should be familiar with the Vermont Statewide EMS Protocol.

EMS Conference Offering: There is no conference offering on this specific topic.

Required: EMT-I/AEMT

Practical: Follow the manufacturer's training requirements.

- EZ IO Training manual: <http://www.vidacare.com/admin/files/T427RevC-Insert-RemPoster.pdf>
- FAST Training: <http://www.pyng.com/products/fast1/clinical-and-technical-information/protocol/?pi=51>
- BIG Training: http://implox.com/content/bone_injection_gun.shtml

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

Epinephrine 1:10,000 for AEMT Use

Presentation Methods:

- **Individual Learning:**
 - CentreLearn: The presentation is on CentreLearn under the title *Epinephrine for AEMT Use*. The presentation can be viewed individually or as a group.
- **EMS Service-level Training:**
 - CentreLearn: The presentation is on CentreLearn under the title *Epinephrine for AEMT Use*.
 - The Vermont EMS Website: The presentation is located at www.vermontems.org under the title *Epinephrine for AEMT Use*.
 - Physician/Allied Health Qualified Instructors: It is strongly recommended that the *Epinephrine for AEMT Use* presentation be used for an in-service training.

EMS Conference Offering: Dr. James Suozzi – “Advances in Cardiac Arrest Care” & Dr. Michael Dailey – “Cardiac Arrest Care in 2013 – Stayin’ Alive is the Right Song”

Required: EMT-I/AEMT

Practical: See page 34. An EMT-P/Paramedic or higher should facilitate this practical.

Documentation:

- EMS Service Level: Roster for both presentation and practical
- Individual Provider: Protocol tracking document

Epinephrine 1:10,000 for AEMT Use Practical

The instructor will run cardiac arrest scenarios in which the AEMT can practice administering Epinephrine 1:10,000. These scenarios may transition into the practical training for Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest and a discussion of Termination of Resuscitation.

The chart below can be utilized for the Epinephrine 1:10,000 for AEMT training:

Step	Yes	No
Scene Safety & BSI		
Checks level of responsiveness		
Checks ABC's ("no pulse, no respirations")		
Initiates CPR		
Applies AED ("shock advised")		
Operates AED correctly		
Continues CPR		
Initiates IV/IO		
1mg Epinephrine 1:10,000 IV or IO every 3-5 minutes for the duration		
AED ("no shock advised, no pulse")		
Continues CPR		
Manages airway		
Considers Termination of Resuscitation Protocol		
Considers Induced Mild Hypothermia if ROSC		

Venous Blood Draws for AEMTs

Presentation Methods:

- There is **NO** presentation required.

EMS Conference Offering: There will be no conference offering on this specific topic.

Required: EMT-I/AEMT

Practical: Hospitals have specific expectations and protocols for venous blood draws. Providers should be trained at the EMS Service level and credentialed at service's receiving hospital(s).

Documentation:

- EMS Service Level: Roster for practical
- Individual Provider: Protocol tracking document

<i>FRECA/EMR Protocol Education Tracking Document</i>		
Name:		
VT License #:		
Topic/Skill	Presentation View Date:	Instructor or Squad Training Officer Signature:
<i>Systems of Care:</i> Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update		
MCI Triage		

EMT-B/EMT Protocol Education Tracking Document

Name:

VT License #:

Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
<i>Systems of Care:</i> Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update		N/A	
MCI Triage		N/A	
Advanced Spinal Assessment			
Resuscitation Initiation and Termination		N/A	
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest			
Application of 12-Lead	N/A		
Glucometer	N/A		
BLS Intranasal Naloxone			

EMT-I/AEMT Protocol Education Tracking Document

Name:

VT License #:

Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
Systems of Care: Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update		N/A	
MCI Triage		N/A	
Advanced Spinal Assessment			
Resuscitation Initiation and Termination		N/A	
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest			
Application of 12-Lead	N/A		
CPAP			
Adult IO Medication Administration			
Epinephrine 1:10,000 for AEMT Use			
Venous Blood Draw for AEMTs	N/A		

EMT-P/Paramedic Protocol Education Tracking Document

Name:

VT License #:

Topic/Skill	Presentation View Date:	Practical Date:	Instructor or Squad Training Officer Signature:
<i>Systems of Care:</i> Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update		N/A	
MCI Triage		N/A	
Advanced Spinal Assessment			
Resuscitation Initiation and Termination		N/A	
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest			

Continuing Education Map for Recertification ***THE EMS SERVICE AND PROVIDER SHOULD DOCUMENT ACTUAL TIME***				
Topic/Skill	FRECA/EMR	EMT-B/EMT	EMT-I/AEMT	EMT-P/Paramedic
<i>Systems of Care:</i> Trauma Triage Sepsis Alert Stroke Screening Tool STEMI System Burn Update	Preparatory	Elective or Additional Continuing Education	Additional Continuing Education	Additional Continuing Education
MCI Triage	Patient Assessment	Patient Assessment	Additional Continuing Education	Additional Continuing Education
Advanced Spinal Assessment		Trauma	Mandatory Core Content: Trauma	Mandatory Core Content: Trauma
Resuscitation Initiation and Termination		Elective or Additional Continuing Education	Additional Continuing Education	Additional Continuing Education
Induced Mild Hypothermia for Comatose Survivors of Cardiac Arrest		Medical/Behavior	Mandatory Core Content: Airway, Breathing, and Cardiology	Mandatory Core Content: Airway, Breathing, and Cardiology
Application of 12-Lead		Medical/Behavior	Flexible Core Content: Airway, Breathing, and Cardiology	
Glucometer		Medical/Behavior		
BLS Intranasal Naloxone (Narcan)		Medical/Behavior		
CPAP			Flexible Core Content: Airway, Breathing, and Cardiology	
Adult IO Medication Administration			Flexible Core Content: Medical Emergencies	
Epinephrine 1:10,000 for AEMT Use			Mandatory Core Content: Airway, Breathing, and Cardiology	
Venous Blood Draws for AEMTs			Additional Continuing Education	

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