Southeast Alabama Emergency Medical Services
2025 11th Edition EMS Protocol Full Review
Teaching Outline

- Disclaimer
- Go-Live Date
- ADPH OEMS website review
- Words from the ADPH OEMS Director, Jamie Gray
- Preface – How to submit changes/additions to protocols and how to use the protocols.
- Objectives
    - Review the EMS Protocol Manual and App
    - Review of EMSP Scope of Practice
    - Review of the Acute Health System
        - Trauma
        - Stroke
    - Review Treatment Protocols
        - Changed
        - Unchanged
    - Review Medications
    - Review ADPH OEMS Operational Guidelines
    - AEMT use of ECG
    - Needle Cricothyroidotomy (Paramedics)
- Scope of Practice
    - EMT
    - AEMT
    - EMT-I
    - Paramedic
    - Community Paramedicine
- Acute Health Systems - **Begin by watching video produced by the AERO Region**
    - Trauma System
        - Rescue Stop
    - Stroke System
        - EMSA – Changes to speech and visual tracking
- Treatment Protocols (Updates)
    - New EMSP Legend (colors)
    - Addition of EPI auto injectors for EMTs
    - Ketamine max dose changed for AMS.
    - Cardiac Arrest:
        - Max dose of EPI and an EPI infusion option
        - Language about double sequential defibrillation
        - Information in Key Points on ROSC care according to AHA guidelines
        - Moved anti arrhythmic ahead of the first dose of EPI if the situation exists.
        - Consider the use of various devices and neuroprotective strategies such as impedance devices for ventilation, heads up devices for CPR, mechanical CPR devices, if available
        - Added a box for AED use in pediatric cardiac arrest.

- Added dopamine infusion and EPI infusion for adult bradycardia.
- Reference vaginal bleeding protocol for postpartum hemorrhage and use of TXA
- Childbirth:
  - Language to observe fetal heart sounds if the equipment is available.
  - Notes about umbilical cord management and nuchal chords
- Hypertensive Emergencies:
  - See CHF Protocol for signs and symptoms of CHF with HTN
- Hyperthermia & Hypothermia:
  - Allow patients to be cooled on scene if equipment is available.
  - Terminate cooling procedures and proceed to cardiac arrest protocol if patient arrests.
  - Patient temperature should be acquired and monitored frequently using a patient contact method such as orally, axillary, rectally, etc., rather than utilizing a “non-touch” thermometer.
- Nausea / Vomiting:
  - Edited the box for IV fluids to state 250-1000 mL or 20 mL/kilograms of isotonic crystalloid solution.
- Near Drowning changed to Near Drowning/Submersion Injury
- Newborn Care:
  - Changed chest compressions to all levels.
  - Added a needle size for chest decompression.
  - Added EPI administration to the AEMT level.
- Pain Management:
  - Changed Toradol dose to 15 mg.
  - Added language that Toradol should be avoided in pregnancy and cardiac related chest pain.
  - Added language about the use of ketamine for pain as a last resort to encourage the use of other medications first.
- Poison and Overdoses
  - Removed Max dose of Narcan and added language may repeat as needed to maintain respirations.
  - Added Benadryl OD as an indication for treatment with sodium bicarbonate.
  - Increased Glucagon dosing for beta blocker OD
- Post Intubation Sedation
  - Changed Ketamine and Ativan dose.
  - Changed paralytic box to reflect doses may be repeated as needed.
  - Added language to ensure adequate sedation prior to the administration of paralytics.
  - Changed the name of the protocol to Post-Intubation Sedation and CPR Induced Consciousness.
- Seizures
  - Increased Max dose of Keppra to 6000 milligrams.
  - Changed Intranasal Versed Max dose to 10 milligrams.
- Shock
  - Updated presser doses to mirror changes already made.

- Vaginal Bleeding
  - Changed TXA to 2g over 1-2 minutes.
- General Trauma
  - Added a note to control massive hemorrhage ahead of airway.
  - Referenced to reassess control of hemorrhage in circulation.
  - Added reassess hemorrhage in secondary assessment.
- Trauma-Airway
  - Added needle cricothyroidotomy to ETT box.
- Trauma-Respirations
  - Removed vented preferred from the occlusive dressing step.
- Trauma-Massive Hemorrhage
  - Changed TXA to 2g over 1-2 minutes.
  - Changed boxes to note tourniquet or pressure dressing and pack wound or application of junctional tourniquet to junctional wounds.
  - Changed Key Points to reference LR as preferred for trauma and updated IVF box to 500 ml.
- Trauma-Head Injury
  - Added language about maintaining normal respirations to prevent cerebral edema and support normal ETCO2. Hyperventilation may be used if signs of cerebral herniation.
  - Updated TXA dosing.
- Trauma-Neurogenic Shock
  - Added language that states if they are unresponsive to fluids early, pressers should be started.
- Trauma-Fractures
  - Added statement about pelvic immobilization.
- Medication Section
  - Added dosing for each medication.
  - Corrected formatting and grammatical errors throughout.
  - Changed were made to Indications and Contraindications throughout.
- Critical Care Section
  - Removed the word “guideline” and added “supplement” to avoid confusion…still says “guideline” in table of contents.
  - Removed Structural Searching Procedure page completely.

- Unchanged Protocols:
  - Use of the Protocol manual questions?
  - Use of the Protocol app questions?
  - Questions about any unchanged treatment protocols?
  - Questions about any unchanged medication protocols?
- Medication Section
  - Added dosing for each medication.
  - Corrected formatting and grammatical errors
  - Changes were made to indications and contraindications.

- Alabama OEMS Operational Guidelines
  - Scope of Practice
    - Reinforce the importance of knowing your particular scope of practice and to not being led beyond it by higher level EMSPs, nurses, or physicians.
  - Communications
    - Embrace OLMD…they are there to help you make difficult decisions and provide guidance for treatment. Make sure everyone has the ADPH EMS Protocol App…it has all the phone numbers needed for medical management.
  - Death in the Field
    - Discuss the removal of OLMD approval to declare DIF; however, you MUST have OLMD approval if resuscitation was started prior to your arrival or you started and wished to stop.
    - Reinforce the importance of documentation. DIF incidents are submitted to a secondary database so if you are a non-licensed BLS provider, please ensure you initiate some type of patient care reporting in the event you face one of these type events without ALS backup.
    - Reporting software through ADPH is free…RESCUE.
  - Documentation of Care
    - All patient care reports must be completed within 24 hours.
    - All patient care reports must be submitted to ADPH OEMS within 72 hours.
  - DNAR & PPEL
    - Reinforce that in the presence of a DNAR or PPEL, we still must provide some comfort care and compassion.
  - Medical Management of the Scene
    - Treat those medical professionals that show up on your scene with respect. Allow them to assist up to their particular level. If conflict ensues, contact OLMD and follow their orders.
  - Patient Rights and Refusal of Care
    - Your safety is absolutely paramount.
    - 14 is the age of consent.
    - 19 is the age of refusal.
    - When in doubt, OLMD out!!!
    - When a patient is in the custody of Law Enforcement, work with the officer but remember, the officer is in charge of the patient…think of it like a parent to a small child, they have the ultimate say.
  - Time at the Scene
    - If no airway in 5 minutes…move it, move it, move it!
    - 10 minutes for trauma…move it, move it, move it…this is a time decease!

- Cancellation/Slow Down
  - First arriving units (licensed) can request slow down or cancellation…when in doubt, continue response but in an appropriate level of urgency.
- Crime Scene Response
  - Always maintain a certain level of suspicion when entering an incident. If you feel a crime has been committed, be familiar with steps to preserve evidence; however, the patient comes first.
  - Reinforce the face that Law Enforcement Officers are our partners and have a very important job to do…don't Frig it up for them when it can be prevented.
- Hazardous Materials
  - Review of how to respond to incidents involving hazardous materials
  - Encourage EMSPs to take additional training offered through ADPH and Healthcare Coalitions to further their understanding of patient management during these type events.
- Air Ambulance Services
  - Air ambulance services should be utilized when transportation by air will **significantly** reduce the total transport time for patients with time-dependent illness or injury, or when the patient requires potentially lifesaving prehospital interventions that cannot be provided by the responding EMS service.
  - **When an air ambulance service is requested, the service that can respond to the scene in the shortest time should be called.** If an air ambulance service cannot respond to a call and a second service is requested, the requesting agency must notify the second service that the call has already been refused and why. At no time should an air ambulance service be dispatched to a pre-hospital scene without dispatching ground EMS, unless there are no other available EMS units. Air ambulance units may augment ground EMS services when the number of critically ill or injured patients requiring transport exceeds the transport capabilities of available ground EMS services.
  - Early activation of an air ambulance service is defined as dispatch of an air ambulance service to a patient care scene based on the information received though 911 operators or first responders on the scene.
  - Situations in which air ambulance services may be needed include, but are not limited to:
    - Patients who meet entry criteria for the Alabama Trauma System.
    - Multiple victim incidents with severe illness or injuries.
    - Severe burns and explosions.
    - New onset focal weakness, paralysis, or aphasia (suspected stroke).
    - ST Elevation MI or suspected acute coronary syndrome.
    - Submersion Injury.

        - Medical emergencies such as severe dyspnea, airway obstruction, or shock when, in EMSP's best medical judgment, an air ambulance service would be the most appropriate form of transportation.
        - Report of serious injury in a patient whose location would be difficult to access by ground ambulance but is more accessible by helicopter.
    - When there is a question about whether or not an air ambulance service is the most appropriate means of transportation for the patient, contact OLMD for further guidance.
    - When an air ambulance service has been early activated or placed on stand-by status, it is the responsibility of the ground EMS service to determine if air transport is the most appropriate means of transportation for the patient and relay that information to the air ambulance service through their dispatch mechanism. If an air ambulance service has been activated and the highest level EMSP on the scene determines in his/her best professional judgment that air transport will not provide significant benefit to the patient, then the air ambulance service should be cancelled as soon as possible. An air ambulance service request made by an ALS agency may only be cancelled by a licensed ALS Provider Service.
    - Upon arrival at the scene, if the air ambulance service crew determines that the patient does not meet criteria for air transport, or that patient, weather, or aircraft issues preclude use of the helicopter for transport, then the flight crew may request ground transportation for that patient. The flight crew may transfer care of the patient to the ground EMS crew in accordance with the 18.06 Medical Management of the Scene operational guideline.
- Staging for High-Risk Response
    - When to stage:
        - Any time dispatch directs them to do so.
        - Any time a violent incident might expose EMS personnel to danger.
        - Any call at the EMS unit's discretion.
    - Review how to stage.
- Infectious Diseases
    - When in doubt…PPE Out!
    - Personal protection and unit protection
    - Make sure the destination facility is made aware!
    - Do a good clean up after the call.

- Community Paramedicine
  - Review of the guideline based on request.
  - The goals of a Community Paramedicine program are twofold:
    - Improve overall health outcomes among medically vulnerable patient populations.
    - Prevent unnecessary ambulance transport, emergency department visits, and hospital readmissions.

- Use of ECG During Transfer
  - Purpose of AEMT Scope of Practice Change
    - Allow for "non-cardiac" patient transfers by AEMT.
    - Decompress ED
    - Support EMS agency workload.
    - "Division-of-Labor"
  - What do I need to Know?
    - Proper cardiac monitor connection and settings
    - Identifying a rhythm change
    - Steps to take if you have a rhythm change.
  - Common units are the Zoll X-Series and Stryker
  - Patients should be dry and relatively oil free. Use a hospital towel to provide a quick rub in the areas of lead placement.
  - Place limb leads on tissue, not bone.
  - Precordial
    - V1 and V2 – 4th intercostal space to the right and left of sternum.
    - V4 – 5 intercostal space mid-clavicular
    - V3 – Straight in between V2 and V4
    - V6 – Straight line around from V4 to mid axillary line
    - V5 – Straight in between V4 and V6
  - Keep your patient at a low fowler to supine if tolerable. If a patient is short of breath, has chest pain, or anxious, allow them to remain in a high fowler.
  - Settings
    - Adjust for patient sex.
    - Adjust for patient age.
    - Know how to transmit the 12-lead.
  - Rhythm Identification
    - Ventricular Fibrillation (vFib)
    - Ventricular Tachycardia (vTach)
    - Pulseless Electrical Activity (PEA)
    - Asystole
    - Bradycardia
    - Tachycardia

- V-Fib
  - Ventricular fibrillation (VFib) is a life-threatening heart rhythm disturbance caused by chaotic electrical activity in the heart's ventricles, leading to ineffective pumping of blood. Common causes include ischemic heart disease (like heart attacks), structural heart abnormalities, and certain genetic conditions.
    - If your monitor has an alarm function, have it on so it can bring your attention to a change such as this.
  - If you see this change, quickly assess your patient for responsiveness, respirations, and a pulse.
    - If no pulse, begin CPR and use of AED.
    - After the second shock, if you have vascular access, administer 1mg of EPI 1:10,000
  - Driver
    - Call for mutual aid.
    - Reroute to the closest facility.
- V-Tach
  - Ventricular tachycardia (VT) is a rapid heart rhythm originating in the heart's lower chambers (ventricles). It's often triggered by underlying heart conditions that damage or strain the heart muscle, leading to electrical signal disruptions. Scar tissue from a prior heart attack or conditions like cardiomyopathy (weakened heart muscle) are common culprits. Other causes include heart valve disease, myocarditis (inflammation of the heart muscle), and even some genetic conditions.
    - If your monitor has an alarm function, have it on so it can bring your attention to a change such as this.
  - If you see this change, quickly assess your patient for responsiveness, respirations, and a pulse.
    - If no pulse, begin CPR and use of AED.
    - After the second shock, if you have vascular access, administer 1mg of EPI 1:10,000
  - Driver
    - Call for mutual aid.
    - Reroute to the closest facility.
  - If the patient has a pulse but exhibits serious signs and symptoms:
    - Acquire 12-lead.
    - Contact OLMD from the hospital that sent you.
    - Reroute to the closest facility.
    - Call for mutual aid based on distance from hospital facility.

- Pulseless Electrical Activity
  - Pulseless electrical activity (PEA) occurs when the heart's electrical system is working, but the heart muscle isn't contracting effectively to produce a pulse. Common causes include hypovolemia (low blood volume), hypoxia (low oxygen), acidosis, electrolyte imbalances, tension pneumothorax, cardiac tamponade, thrombosis (blood clots), hypothermia, and drug overdose. These conditions can disrupt the heart's ability to pump blood effectively, leading to PEA.
  - If you see this change, quickly assess your patient for responsiveness, respirations, and a pulse. In many cases, the electrical rhythm will have a subtle change, but the patient's appearance will greatly deteriorate.
    - If no pulse, begin CPR and use of AED.
    - If you have vascular access, administer 1mg of EPI 1:10,000
  - Driver
    - Call for mutual aid.
    - Reroute to the closest facility.
- Asystole
  - Asystole, a condition where the heart stops producing electrical activity and mechanical contractions, can result from various causes, including heart problems, electrolyte imbalances, and external factors. Common causes include severe blood loss, low oxygen levels, and heart attacks, but it can also stem from other factors like pulmonary embolism, trauma, or drug toxicity.
  - If you see this change, quickly assess your patient for responsiveness, respirations, and a pulse and if one of the leads has fallen off.
    - If no pulse, begin CPR and use of AED.
    - If you have vascular access, administer 1mg of EPI 1:10,000
  - Driver
    - Call for mutual aid.
    - Reroute to the closest facility.
- Bradycardia
  - Bradycardia, or a slow heart rate, can be caused by a variety of factors, including heart conditions, certain medications, and other medical issues. These can disrupt the heart's electrical system, leading to a slower than normal heart rate.
    - If your monitor has an alarm function, have it on so it can bring your attention to a change such as this.
  - If you see this change, quickly assess your patient for signs and symptoms.
  - If there are no serious signs and symptoms:
    - Conduct a full assessment to include vital signs and 12-lead ECG.
    - If needed, contact OLMD for guidance or advice.
    - Be prepared to transmit 12-lead if requested.

        - If there are serious signs and symptoms:
            - If ABCs are present, conduct a full assessment to include vital signs and 12-lead ECG.
            - Transmit the 12-lead to the OLMD from the facility that sent you.
            - Contact OLMD from the facility that sent you.
            - Follow OLMD orders (reroute, medication or procedure change)
        - If no pulse
            - Begin CPR and use of AED.
            - If you have vascular access, administer 1mg of EPI 1:10,000
        - Driver
            - Call for mutual aid if needed.
            - Reroute to closest facility if directed by OLMD or EMSP discretion.
    - Tachycardia
        - Tachycardia, a condition where the heart beats faster than normal (over 100 beats per minute), can be caused by various factors, ranging from normal physiological responses to underlying health conditions. Common causes include stress, anxiety, fever, exercise, and even certain substances like caffeine or alcohol. More serious causes can involve heart conditions like coronary artery disease, heart valve problems, or heart failure.
            - If your monitor has an alarm function, have it on so it can bring your attention to a change such as this.
        - If you see this change, quickly assess your patient for signs and symptoms.
        - If there are no serious signs and symptoms:
            - Conduct a full assessment to include vital signs and 12-lead ECG.
            - If needed, contact OLMD for guidance or advice.
            - Be prepared to transmit 12-lead if requested.
        - If there are serious signs and symptoms:
            - If ABCs are present, conduct a full assessment to include vital signs and 12-lead ECG.
            - Transmit the 12-lead to the OLMD from the facility that sent you.
            - Contact OLMD from the facility that sent you.
            - Follow OLMD orders (reroute, medication or procedure change)
        - If no pulse
            - Begin CPR and use of AED.
            - If you have vascular access, administer 1mg of EPI 1:10,000
        - Driver
            - Call for mutual aid if needed.
            - Reroute to closest facility if directed by OLMD or EMSP discretion.

- Needle Cricothyroidotomy
    - Needle cricothyroidotomy is a rapid, temporary procedure to establish an airway when a patient is unable to breathe and other methods have failed. It involves inserting a needle with a catheter (angiocath) through the cricothyroid membrane, the area between the thyroid and cricoid cartilage in the neck and connecting it to a ventilation device like a bag-valve-mask. This allows for oxygenation and ventilation until a more definitive airway can be secured.

    - This is an **optional** procedure.
    - Your off-line medical control physician must provide oversight of training.

    - Two video demonstrations
        - https://www.youtube.com/watch?v=aiawvzkKH_k
        - https://www.youtube.com/watch?v=F_PV7N2c2pQ

    - Procedure:
        - Identify and stabilize: Locate the cricothyroid membrane and stabilize the larynx with one hand.
        - Prepare equipment: Attach a 10-mL syringe (filled with saline or air) to the angio-catheter.
        - Insert the needle: Puncture the skin at the inferior margin of the cricothyroid membrane, angling the needle caudally (towards the feet) at a 30–45-degree angle.
        - Aspirate for confirmation: Continuously aspirate the syringe while advancing the needle. Air bubbles in the syringe indicate tracheal placement.
        - Advance the catheter: Slide the catheter over the needle until it flushes with the skin.
        - Secure and ventilate: Remove the needle, connect the catheter to a ventilation device, and begin ventilating the patient.
    - Key points:
        - It is a temporary measure, and a definitive airway should be established as soon as possible.
        - Needle cricothyroidotomy is often preferred in children due to anatomical differences.
        - Complications can include bleeding, false airway, and posterior tracheal wall penetration.
        - Real-time ultrasound guidance can improve accuracy and speed.