**Appendix A. Central California Emergency Medical Services Policies Related to Needle Thoracostomy.**

Policy 530.02:Needle Thoracostomy Procedure

1. Indication: Will be identified in each individual protocol.
2. Signs and symptoms of Tension Pneumothorax, including all of the following:
   1. Severe Respiratory Distress (as evidenced by apnea, severe dyspnea with tachypnea, oxygen saturation less than 90% for greater than 30 sec. (if utilized), or difficulty in bagging.
   2. Lateralizing Exam (decreased breath sounds on one side, or tracheal deviation away from the tension, or asymmetric chest wall rise).
   3. Hemodynamic Compromise (BP less than 90).
3. Procedure:
   1. Use a 10 gauge IV catheter at least 3¼ inches long for an adult patient and 14 gauge catheter at least 1¼ inches long for pediatric patient.
   2. The site preference for needle thoracostomy is: mid-axillary at the fifth intercostal space (approximately nipple level) on the side of decreased breath sounds
   3. When air returns, advance the catheter and remove the needle.
   4. Attach a one-way valve to the catheter hub (if spontaneous respirations are present).
   5. Stabilize the catheter securely to the chest.
   6. Reassess the patient, including breath sounds and vital signs every time the patient is moved.

Policy 530.04: Trauma Arrest

Standing orders

1. Assessment ABCs, CPR if appropriate – Refer to EMS Policy #550 – Initiation/Termination of CPR in the Trauma Patient
2. Defibrillate V-fib/V-Tach if present, while continuing management as a trauma patient.
3. BLS Airway Utilize in-line neck immobilization if suspect C-spine injury. Ventilate with bag-valve 100% oxygen.
4. Direct pressure To major external bleeding
5. Spinal Immobilization
6. Bilateral Needle Thoracostomy Indicated if still pulseless and non-breathing, with possibility of chest injury.
7. Transport Notify hospital of ETA when unit is enroute.
8. IV/IO Access LR Y-tubing – Multiple large bore, wide open.
9. Intubation Consider intubation if unable to maintain a BLS airway.
10. Dysrhythmias Treat only after all the above has been done, per specific protocol. 11. Contact Hospital Per EMS Policy #530.02

Policy 530.23: Trauma

Standing orders

1. Assessment ABCs
2. Secure Airway Protect with position, basic airway maneuvers, pharyngeal airway, advanced airway if indicated, assist respirations as needed, suction as needed. Cover any open chest or airway wounds. Observe for tension pneumothorax.
3. Control Bleeding Direct pressure. Bandage injuries enroute as time allows. Apply moist sterile dressing to eviscerations.
4. Spine Immobilization As per protocol – EMS Policy #530.02.
5. Fentanyl 25-100 mcg IV/IM/IN push every 5 minutes until pain is relieved or a change in level of consciousness. Recheck BP before each dose. Maximum total dose of 100 mcg. Pediatric dose: Fentanyl 1mcg/kg/dose IV/IM/IN push. Repeat once after 5 minutes, if needed.
6. Transport Minimize on scene time.
7. Advanced Airway If indicated. Consider possibility of C-spine injury. Use in-line spine immobilization.
8. Oxygen If indicated. Low flow. High flow if unstable. Suction as needed. Hyperventilate with bag-valve-mask or oxygen-powered breathing device if progressive worsening of mental status, unilaterally dilating pupil, or new onset of posturing. Refer to EMS Policy #530.02.
9. Complete Assessment Complete. vital signs if patient is STAT.
10. IV Access (Two 14 or 16 gauge) If indicated. Saline Lock or Lactated Ringers with standard tubing. Fluids are to be administered to keep systolic blood pressure greater than 90 or to maintain a radial pulse. Pediatrics – LR 20cc/kg if BP is less than 80 with signs/symptoms of shock. (Refer to EMS Policy #530.32, for estimated weight formulas or use Broselow tape.) NOTE: May establish IV earlier for pain management if patient is non-stat.
11. Cardiac Monitor If indicated. Treat rhythm if appropriate.
12. Contact Hospital Per EMS Policy #530.02.

Base Hospital Orders

1. Needle Thoracostomy If tension pneumothorax is present, and patient is hypotensive with BP less than 90 – refer to EMS Policy #530.02.

Paramedic Treatment Protocols. Emergency Medical Services Administrative Policies and Procedures. Central California Emergency Medical Services. Revised January 1, 2015. Accessed on October 12, 2017.