

## Simple Thoracostomy ( $\geq$ PL5)

### Clinical Indications:

1. Traumatic cardiac arrest with known or suspected injury to the chest/abdomen ( $\geq$ PL5).
2. Hemodynamically unstable patient with clinical presentation of a tension pneumothorax ( $\geq$ PL6).

### Contraindications:

1. Definitive loss of pulse for  $>$  10 minutes prior to arrival of first unit.
  - a. May consider the procedure if PEA is present at a rate  $\geq$  60
2. Any patient that has adequate cardiac output.
3. Injuries incompatible with life.
4. Any pediatric patient that appears too small for utilization of simple thoracostomy.

### Preparation for Use:

1. Don appropriate PPE
2. Ensure all equipment is readily available: Scalpel, Curved Kelly Forceps, Chlorhexidine Sponge, Permanent Marker, Chest Seals
3. Ventilation, oxygenation, and IV access should be performed by other crew members and not delay thoracostomy.

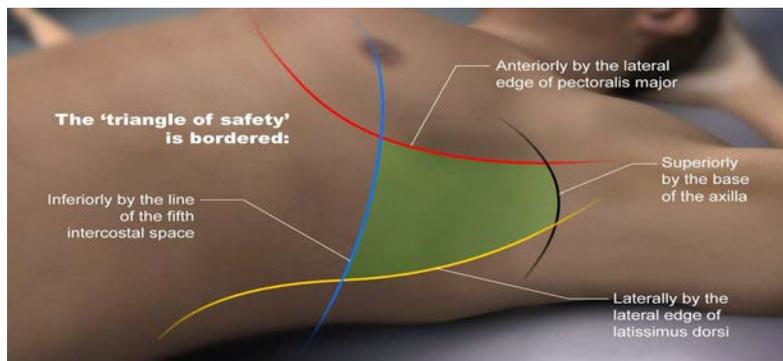
### Procedure:

1. Ensure patient is in the supine position and begin on the side most likely to be affected by a tension pneumothorax. Abduct the patient's arm on the same side of the procedure.

2. Identify lateral chest wall site directly over 5<sup>th</sup> or 6<sup>th</sup> rib between anterior axillary and midaxillary lines.
3. Cleanse the site with Chlorohexidine
4. Using a scalpel, make a 1-2 inch incision directly over the 5<sup>th</sup> or 6<sup>th</sup> rib, between the anterior axillary line and midaxillary line.

It is important not to extend or make incisions in or through penetrating wounds when at all possible.

5. Use scalpel for skin only, there after use blunt dissection to pass through the intercostal muscles.
6. Utilizing curved forceps, penetrate into the thoracic cavity over the rib making sure to control the depth by grasping the forceps near the curved portion while inserting.
7. Following penetration into the thoracic cavity and with the tips of the forceps, open the forceps maintaining control of the depth and withdraw to create an adequate opening sufficient to place your finger in the chest.
8. Insert finger into pleural space. Ensure the lung is palpated and, if possible, feel caudally for the diaphragm.
9. Allow the soft tissues to fall back over the wound to act as a flutter valve.
10. Repeat the procedure on the opposite side.



### Post Procedure:

1. If ROSC, then place an occlusive dressing over the wound.
  - a. Pediatric defib pad, Vent Chest Seal, etc.
2. If no ROSC, then prior to pronouncement circle simple thoracostomy site and/or other incisions made by EMS. Label each with "EMS" to aid in identification for postmortem examination.
3. If evidence of tension pneumothorax occurs, including cardiac arrest following ROSC, then remove occlusive dressing(s) and re-insert finger to relieve tension.