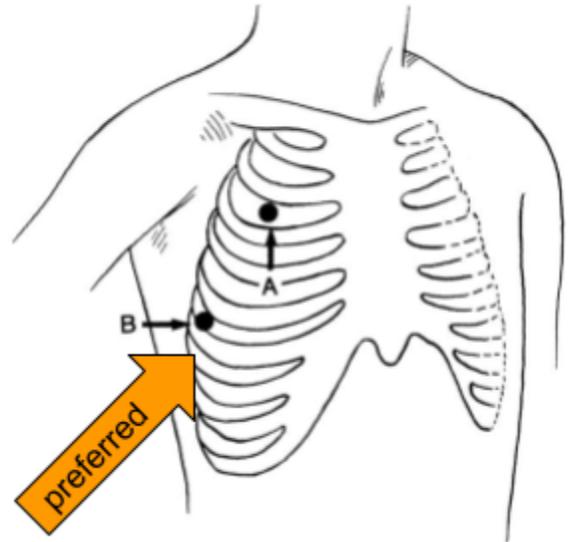


Indications

- Tension Pneumothorax
- Refer to Chest Trauma Guideline [T-09] (see *Tension Pneumothorax*) for specific indications

Procedure (Needle Decompression)

1. Cleanse skin on affected side using aseptic technique
2. Using a large-bore (e.g. 14 or 16 gauge) 3 ½" angiocath (see *figure*), insert between the
 - a. [A] 2nd-3rd mid-clavicular, or
 - b. [B, preferred] 4th-5th mid-axillary spaces.
3. Advance needle until "pop" is felt while the needle is entering the pleural space
4. Advance catheter until hub contacts skin
5. Cover catheter hub with Asherman Chest Seal (ensure one way valve effect)
6. Reassess patient for breath sound changes
7. If signs of tension recur,
 - a. Check chest seal
 - b. Consider repeating chest decompression per above steps
8. Contact Medical Control
9. Transport ASAP



Pediatrics (Needle Thoracostomy ONLY):

- Use the same procedure for pediatric patients
- Substitute an 18 or 20-gauge angiocath

Procedure (Finger Thoracostomy)

Preparation

1. Don appropriate PPE, including a gown if available.
2. Position Patient: place **supine**, and abduct the patient's arm away from the chest → place the **patient's hand behind their head** (if possible).
3. Cleanse the skin with chlorhexidine (preferred) or alcohol swab.

Identify Appropriate Location

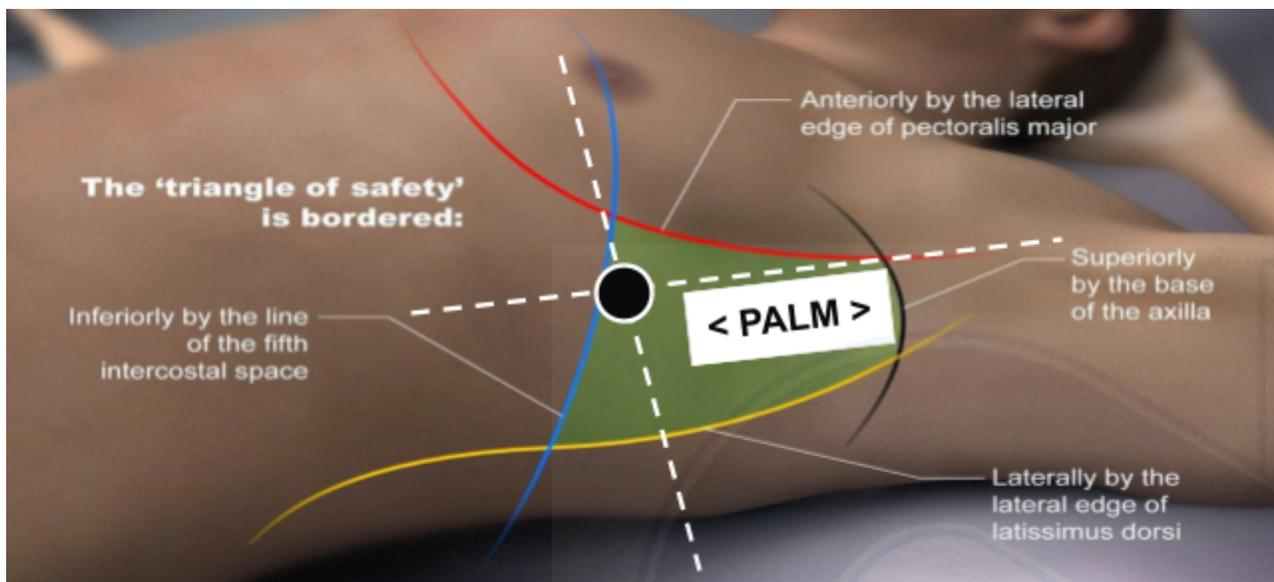
Insertion Box:

- **Lower (caudal) border** = Nipple Line (men) or the Inframammary Crease (women)
- Upper (cranial) border = anywhere near the axilla
- **Posterior border** = mid-axillary line (or Latissimus Dorsi)
- **Anterior Border** = anywhere anterior to the anterior axillary line (or Pectoralis major)

Ideal location =

- **Anterior Axillary Line, and the**
- **Nipple Line (men) or Inframammary Crease (women)**

Note: the incision should in general be at least the Width of the Palm below the axilla



Decompression Technique

1. Using a scalpel, make a 1-2 inch incision through the skin directly over the 5th rib between the anterior axillary line and midaxillary line (*Figure 1*).
2. Utilizing curved forceps (or similar blunt instrument), penetrate into the thoracic cavity over the rib (*Figure 2*)
3. Following penetration into the thoracic cavity, open the forceps to create an adequate opening sufficient to place your finger in the chest.
4. Insert finger into pleural space, ensuring that the lung is palpated.
5. Place a 3-sided dressing over the incision

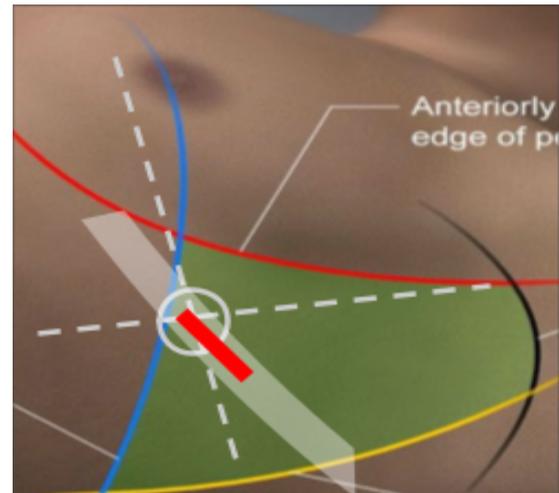


Figure 1: Incision over the 5th Rib

Notes:

- Avoid making an incision through an existing penetrating wound if at all possible.
- Use scalpel for skin only. Use blunt dissection to pass through the intercostal muscles.
- Control the depth of insertion by grasping the forceps near the curved portion while inserting.

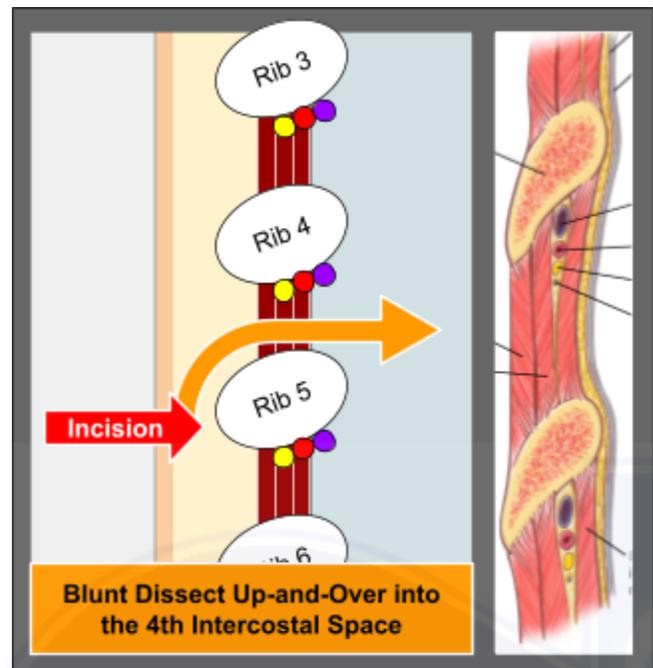


Figure 2: Appropriate Intercostal Location

Video Tutorial: <https://youtu.be/hCXnovUOpr0?si=JXQkLoS2e5voDID->