

TUBE THORACOSTOMY



CONSIDER body substance isolation.

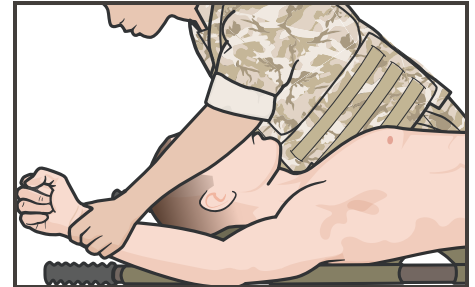
NOTE: If a Combat Lifesaver is available, direct them to assist.



01 **EXPLAIN** the procedure to casualty (if conscious).



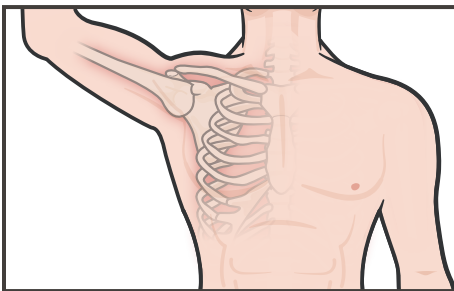
02 Take and **RECORD** baseline vital signs and respiratory assessment.



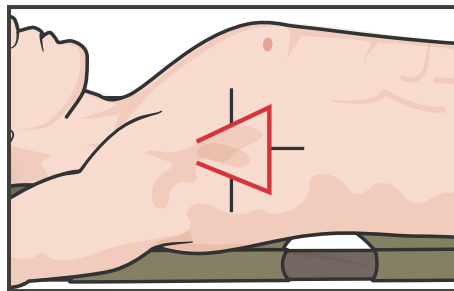
03 **PREPARE** the casualty.
(a) Position the casualty appropriately.

(b) Raise the arm on the affected side above the casualty's head. If female, breast must be moved to identify the location and through procedure until complete.

NOTE: If conscious, direct CLS or CMC to firmly hold the casualty's arm above their head.



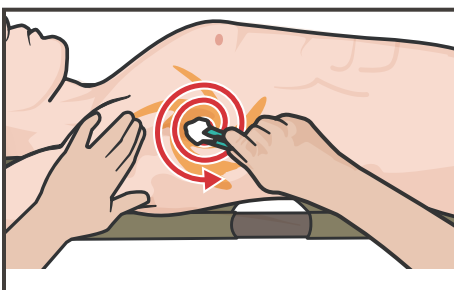
(c) Select the insertion site at the anterior axillary line over the 4th or 5th intercostal space.



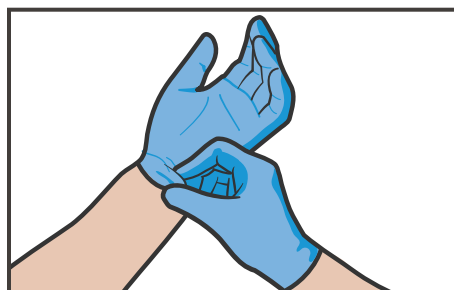
04 **IDENTIFY** safe triangle and insertion site, 5th intercostal space in the midaxillary line.

The point of insertion in the chest most commonly occurs on the side (lateral thorax).

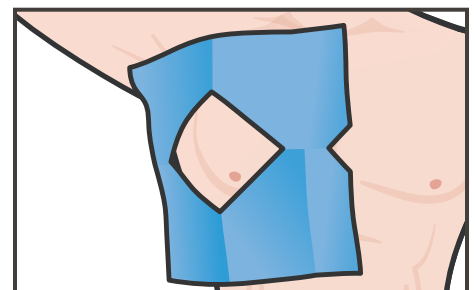
A line drawn from the armpit (anterior axillary line) to the side (lateral) of the nipple in males, or to the side (about 2 to 5 cm) above the sternoxiphoid junction (lower junction of the sternum, or chest bone) in females.



05 **CLEANSE** the site with an antiseptic solution.



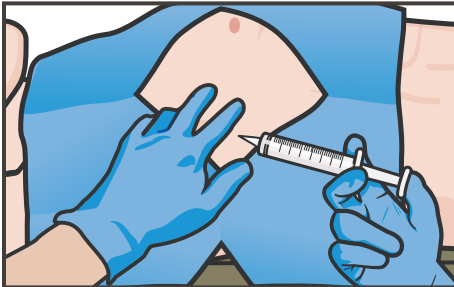
06 **PUT ON** sterile gloves.



07 **DRAPE** the area.

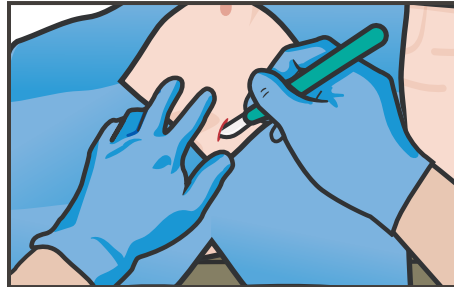
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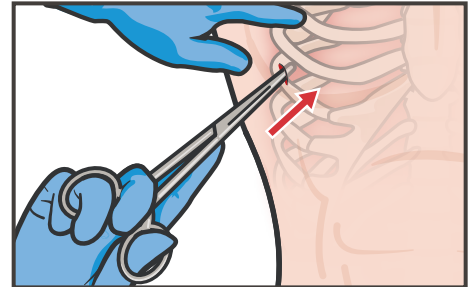
08 LIBERALLY INFILTRATE the area with the 1% lidocaine solution (with epinephrine if available) using a 23-gauge, 1.5-inch needle subcutaneously and in the underlying interspace that the chest tube will enter.

NOTE: Keep the total amount of Lidocaine used under 0.5 mL/kg of 1% lidocaine

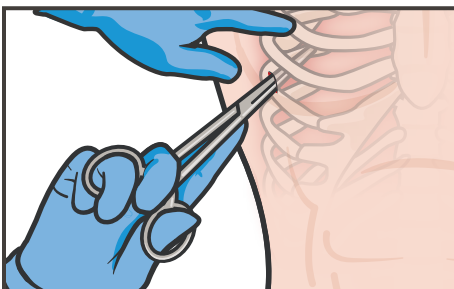


09 MAKE AN INCISION into the skin that is parallel to the rib. **(a)** Incision should be a 2 to 3 centimeters (cm) parallel to the rib over the selected site or directly over the rib (providing a backstop for the blade) and extend down to the intercostal muscles.

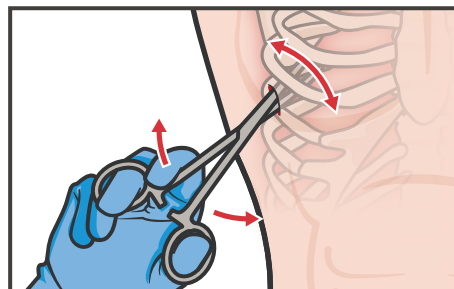
CAUTION: Avoid puncturing the lung. Always use the superior margin of the rib to avoid the intercostal nerves and vessels.



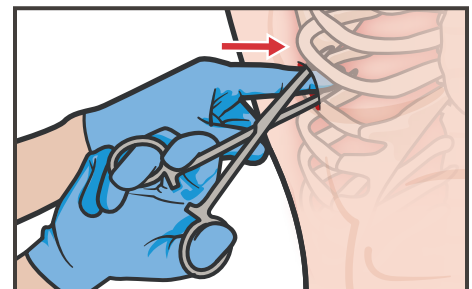
(b) With Kelly clamp, perform a blunt dissect through the soft tissue passing over the superior aspect of the rib and into the chosen intercostal space and puncture the parietal pleura. **(c)** Listen for and feel a “pop” as the points go into the cavity.



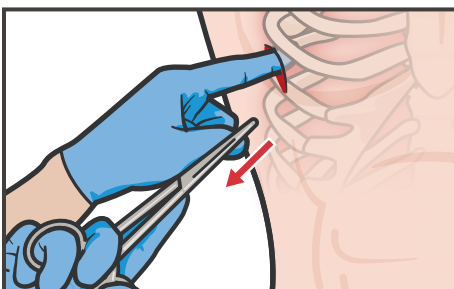
(d) Place the Kelly clamp, jaws closed on the rib and pointed toward the ICS above the rib.



(e) Spread the Kelly clamp, forcing the tissue apart.

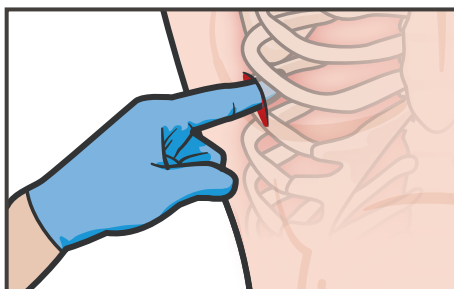


(f) With the jaws of the clamp holding the hole open, carefully insert a gloved finger through the incision and into the pleural space to verify position.



(g) Once the finger is in place, remove the clamp.

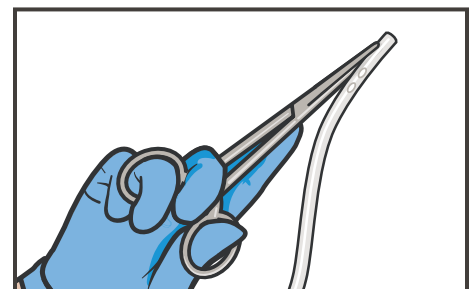
(h) Widen the pleural opening and ensure there are no adhesions.



(i) Feel for lung tissue.

(j) Be sure there is air and the pink, spongy lung is immediately inside the chest. If not, you may be in the abdominal cavity.

NOTE: Do not remove your finger from hole until the tube has been inserted.

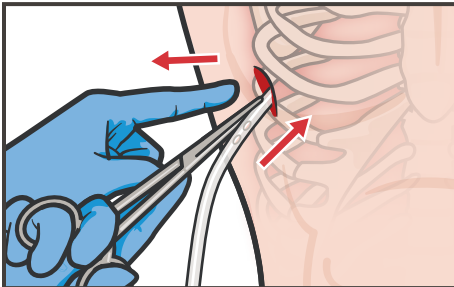


(k) Clamp the proximal end of the chest tube with a Kelly clamp.

(l) Grasp the tip of the chest tube with the other Kelly clamp.

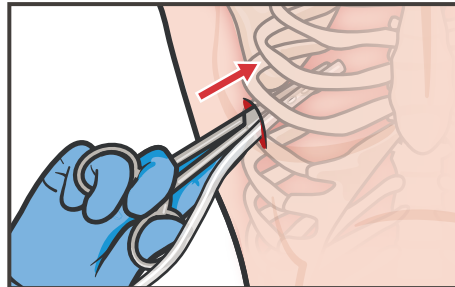
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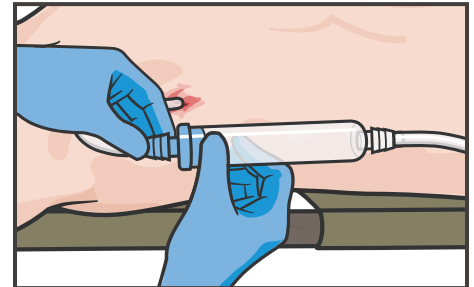


(m) Insert the tip of the tube into the incision as you withdraw your finger in a posterior and cephalad motion (back and towards the head)

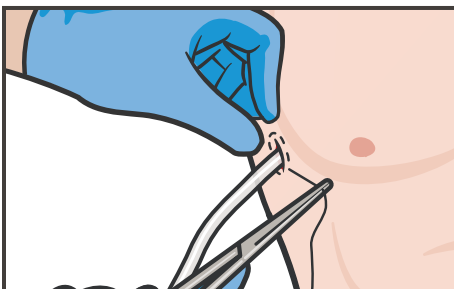
NOTE: Advance insertion of tube until the pleural cavity is reached. Drain insertion and positioning (aim apically for the pneumothorax or basally for hemothorax (fluid)).



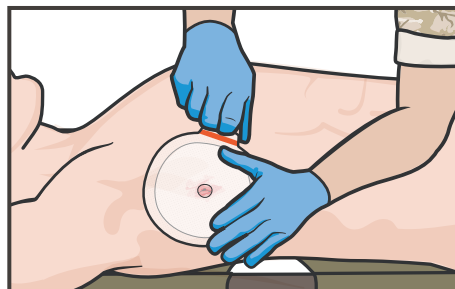
(n) Advance the tube until the last fenestration is 2.5 to 5 cm inside the chest wall.



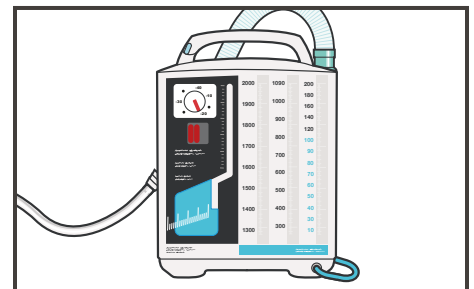
10 **CONNECT** the proximal end of the tube to a one-way drainage valve (e.g., Heimlich valve) and remove the proximal Kelly clamp.



11 **SECURE** the chest tube with the 0 silk suture material using the purse string method.



12 **APPLY** an occlusive dressing.



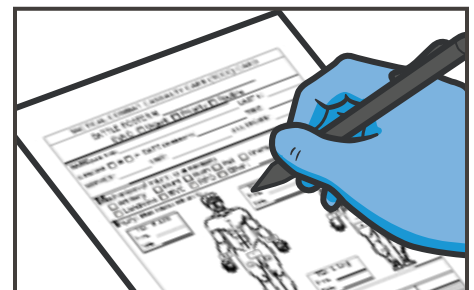
13 **CHECK** the status of drainage (if any) by visualizing the amount collected through the one-way valve or chest tube drainage system (e.g. Pleurovac) if available.

NOTE: If a commercial occlusive dressing is not utilized open the packages containing the petroleum gauze, 4 x 4 drain dressings, and gauze pads, then place the petroleum gauze and two 4 x 4 drain dressings around the insertion site, one from the top and the other from the bottom. Place several 4 x 4 gauze pads on top of the drain dressings. Tape the dressings, covering them completely to form an occlusive dressing



14 **REASSESS** the casualty.

- (a) Check for bilateral breath sounds.
- (b) Misting in the chest tube indicating proper placement and no fenestration obstructions.
- (c) Clinical improvement e.g. respiratory distress improves and/or O2 SAT increases to 90% or greater.
- (d) Monitor and record vital signs every 15 minutes.



15 **DOCUMENT** all findings and treatments on a DD Form 1380 TCCC Casualty Card and attach it to the casualty.