



How do I insert an Intercostal drain



1



The following usually require drainage: haemothorax; pneumothorax; haemo-pneumo thorax...
An X-ray is preferable in haemodynamically stable patients, but not always possible in thoracic trauma. Use clinical discretion.

2



Wear protective clothing and goggles; prepare your anaesthetic, sterile instruments and gloves. Inform the patient and explain the procedure.

3



Position the patient to get access to the side of the chest, ideally hand positioned behind the head. Infiltrate abundantly skin, tract and especially pleura with local anaesthetic. Make sure you retrieve air/ blood at the end of the infiltration.

4



Clean the area just anterior to the mid-axillary line at or above the nipple level in a spiral fashion and apply a sterile drape.

5



Incise the anaesthetised skin along the skin lines over 3-4 cm.

6



Bluntly dissect the subcutaneous plane to the top of the underlying rib (usually 5th or 6th).

7



Penetrate the pleura above the rib and expect a "gush" of air/blood.

8



Use a finger to palpate the pleural space and make sure that the lung is collapsed and detached from the chest wall (IF NOT, ABANDON THE PROCEDURE NOW).

9



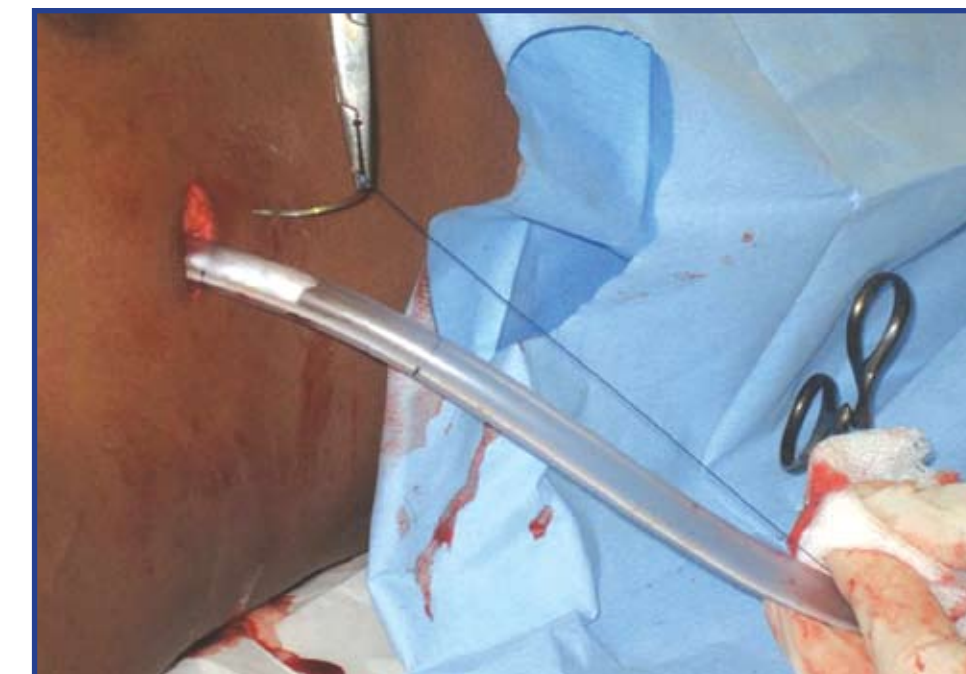
Insert the biggest drain available when draining blood (size 32 Fr or more) WITHOUT USING A METAL TROCART and direct it upwardly and posteriorly.

10



Alternatively use a clip to insert the drain deep enough to place all the sideholes inside the pleural cavity. Release the clamp and attach it to a chest drain reservoir (Xpand Chest Drain™) and release the clamp.

11



Place a big non-absorbable pursestring suture around the drain.

12



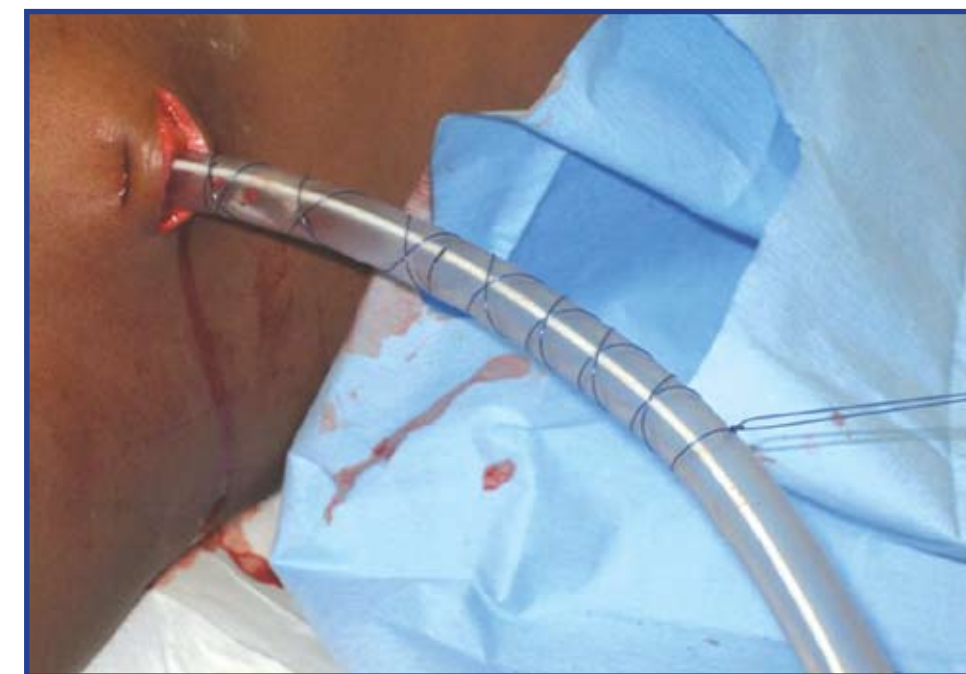
Twist the throws without tying a knot.

13



Produce a Greek shoelace very firmly around the drain.

14



Tie a surgical knot at the end only.

15

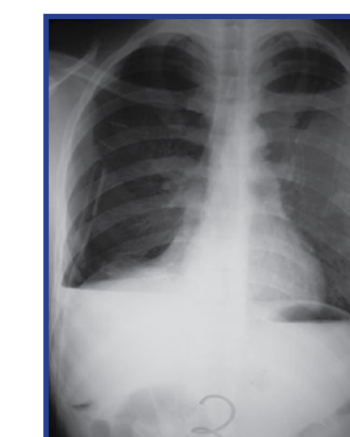


Apply an absorbant clean dressing. Well done!

16



The Xpand Chest Drain™ one-way valve angulates (swings from side to side) when negative chest cavity pressure is transmitted. Milk the tubing proximal to the valve (depress the tubing) to evacuate excess air/blood - if the valve stays angled negative pressure is maintained, indicating an expanded lung. It remains straight or has a swinging movement as long as positive pressure (air/blood around the lung) needs to be evacuated.



Check the position of the drain with an X-Ray. Make sure all the drain holes are inside the chest cavity.



The mobile patient that takes deep inspirations recovers faster. Remove the intercostal drain when the lung is expanded and the drainage is less than 100ml per day.