

Needle Chest Decompression (Needle Thoracentesis)

Note: Appropriate body substance isolation precautions are required whenever caring for the trauma patient.

This procedure is for the rapidly deteriorating critical patient who has a life-threatening tension pneumothorax. If this technique is used and the patient does not have a tension pneumothorax, a pneumothorax and/or damage to the lung may occur.

- A. Assess the patient's chest and respiratory status.
- B. Administer high-flow oxygen and ventilate as necessary,
- C. Identify the second intercostal space, in the midclavicular line on the side of the tension pneumothorax.
- D. Clean the area of the chest with an aseptic technique, using antiseptic swabs.
- E. Place the patient in an upright position if a cervical spine injury has been excluded.
- F. Keeping the Luer-Lok in the distal end of the catheter, insert an over-the-needle catheter (3 to 6 cm long) into the skin and direct the needle just over (i.e., superior to) the rib into the intercostal space.
- G. Puncture the parietal pleura.
- H. Remove the Luer-Lok from the catheter and listen for a sudden escape of air when the needle enters the parietal pleura, indicating that the tension pneumothorax has been relieved.
- I. Remove the needle and replace the Luer-Lok in the distal end of the catheter.
- J. Leave the plastic catheter in place and apply a bandage or small dressing over the insertion site.

Complications of Needle Thoracentesis

1. Local cellulitis
2. Local hematoma
3. Pleural infection, empyema
4. Pneumothorax