CHEST DECOMPRESSION

Escambia County, Florida - ALS/BLS Medical Protocol

Description

Chest decompression is an emergency procedure involving the percutaneous access of the pleural space using a 14-gauge catheter-over-the-needle to relieve tension pneumothorax caused by the buildup of air in the pleural space.

Indications

Emergency chest decompression is indicated in the presence of a tension pneumothorax as **indicated by absent or decreased breath sounds on the affected side and any two (2) of the following:**

1. Poor ventilation despite an open airway.
2. Neck vein distention (may not be present if there is associated severe hemorrhage).
3. Tracheal deviation away from the side of the injury (may not always be present).
4. Tympany (hyperresonance) to percussion on the affected side.
5. Shock.

Complications

This procedure is not without possible complications of: laceration of the intercostal vessel with resultant hemorrhage, creation of a pneumothorax if not already present, laceration of the lung, infections.

Procedure

1. Assess the patient to make sure that his condition is due to a tension pneumothorax (see indications above).

2. Give the patient high-flow oxygen and ventilatory assistance.

3. Identify the second or third intercostal space (i.e., the space between the second and third ribs or between the third and forth ribs)in the midclavicular line <u>on the same side as the tension-pneumothorax</u> (a).

4. Quickly prepare the area with a providone-iodine swabstick.

5. Make a one-way valve on a 14-gauge 2 1/2 inch IV catheter (b).

6. Insert the catheter into the skin over the third rib and direct it just over the top of the rib (superior border) into the interspace.

7. Insert the catheter through the parietal pleura until air escapes. It should exit under pressure.

8. Remove the needle and leave the plastic catheter in place until it is replaced by a chest tube at the hospital.

Notes

(a) If the primary site is not accessible, an alternative site is the fourth or fifth intercostal space in the midaxillary line on the same side as the tension-pneumothorax.

(b) A one-way valve can be made by inserting the IV catheter through the finger of a sterile glove or a condom that has been moistened with sterile water. An alternative is to attach the IV catheter to syringe half-filled with saline. Do not delay the procedure for this step.