

Southern Illinois Regional EMS System

II-16 NEEDLE DECOMPRESSION OF TENSION PNEUMOTHORAX

Indications:

- The presence of tension pneumothorax

Complications:

- Laceration of intercostal vessels resulting in hemorrhage, or hemothorax.
- Creation of pneumothorax may occur if not already present.
- Laceration of the lung, resulting in:
 - Pulmonary edema
 - Pleural leaks
 - Empyema
- Infection

Symptoms of Tension Pneumothorax:

- Respiratory:
 - Dyspnea
 - Anxiety
 - Tachypnea
 - Noted on the affected side:
 - Diminished breath sounds
 - Absent breath sounds
 - Hypertympany
 - Poor ventilation despite on open airway
- Cardiac:
 - Hypotension
 - Distended neck veins
 - Shock
- Observations:
 - Tracheal deviation towards unaffected side
 - Subcutaneous emphysema
 - Jugular venous distension
 - Poor ventilation compliance, especially in the intubated patient

Procedure:

- Verify the presence of a tension pneumothorax
- High flow oxygen and ventilatory assistance
- Contact Medical Control to obtain orders
- Prepare all necessary equipment
- Identify the landmarks and locate the second intercostal space at the mid-clavicular line
 - Alternate site: Fifth intercostal space at the mid-axillary line
- Prepare the area with an antiseptic
- Insert a 14 or 16 gauge over-the-needle catheter over the TOP side of the third rib into the second intercostal space.
 - Stay on the top of the rib to avoid the blood vessels on the bottom side of the rib.
- Insert the catheter 2 to 3 cm or until a rush of air is heard
- Remove the needle and leave the plastic catheter in place

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Documentation:

- Who performed task
- PPE and equipment used
- Location of catheter insertion
- Any complications or undesired side effects
- Were desired therapeutic effects attained?