

# 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 gauge x 3.25 inch 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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## II-16 NEEDLE DECOMPRESSION OF TENSION PNEUMOTHORAX (continued)

### Documentation:

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