

PROTOCOL APPENDICES

APPENDIX O: NEEDLE DECOMPRESSION OF TENSION PNEUMOTHORAX

1. Identify signs of a tension pneumothorax:

- a) **Absent or decreased breath sounds** on the affected side

AND

- b) **One or more of the following:**

- i) Severe dyspnea/tachypnea
- ii) cyanosis/hypoxia
- iii) hypotension

2. Identify the site for needle decompression on the same side as the pneumothorax:

- a) The second intercostal space on the mid-clavicular line.

or

- b) The fifth intercostal space on the anterior axillary line.

3. Cleanse the overlying skin with antiseptic solution.

4. For adults, use a 14 gauge, 3.25 inch (8.25cm) over-the-needle catheter. For children, use a 18-20 gauge, 0.8-1.6 inch (2 - 4 cm) over-the-needle catheter. Insert catheter through the skin, perpendicular to the chest wall, **above** the rib and direct it just **over** the rib. Hold in place for 5-10 seconds to allow for air decompression.

5. Remove the needle, advance the catheter to the hub, and secure in place for patient transportation.

6. If first attempt is **not** successful in decompressing the tension pneumothorax, a second attempt should be made at the other site on the same side.

7. If first attempt **is** successful, but the tension pneumothorax recurs, perform a second decompression, using a new catheter.

8. If second attempt of needle decompression does not resolve signs of the tension pneumothorax, begin rapid transport and consider other etiologies for clinical findings.