

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.