



7. AIRWAY MANAGEMENT: NEEDLE DECOMPRESSION THORACOSTOMY (NDT)

a) PURPOSE

Needle Decompression Thoracostomy is the procedure of introducing a needle/catheter with a minimum length of 3.25 inches and a minimum diameter of 14 gauge (with optional add-on flutter valve attached) into the pleural space of the chest to provide temporary relief for the patient suffering from a tension pneumothorax.

b) INDICATIONS

- (1) Patients who are assessed to have a life-threatening tension pneumothorax in extremis with absent lung sounds AND clear evidence of hemodynamic compromise to include hypotension (SBP < 100 mmHg), and/or arrest
- (2) If traumatic arrest is suspected due to multi-system blunt trauma, or due to penetrating neck, chest, or abdominal trauma, bilateral needle decompression should be performed. Once catheters are placed, **do not remove**.
- (3) Allowable site:
 - (a) Adults and children 15 years of age and older:
 - (i) Fifth (5th) intercostal space, anterior axillary line
 - (ii) If fifth (5th) intercostal space site is not available, use second (2nd) intercostal space at the mid-clavicular line on the anterior chest wall
 - (b) Children under 15 years of age:
 - (i) Use the second (2nd) intercostal space, at the mid-clavicular line on anterior chest wall

c) CONTRAINDICATIONS

Patients whose tension pneumothorax can be relieved by the removal of an occlusive dressing from an open chest wound

d) POTENTIAL ADVERSE EFFECTS/COMPLICATIONS

- (1) Intercostal vascular or nerve injury
- (2) Pneumo/hemothorax
- (3) Direct damage to the lung
- (4) Pericardial/cardiac injury
- (5) Infection

e) PRECAUTIONS

- (1) Reassessment of catheter patency
- (2) Second decompression may need to be performed if reaccumulation, catheter occlusion, or dislocation is evident.