

# NEEDLE THORACOSTOMY/ PLEURAL DECOMPRESSION PROCEDURE

## Indications

To relieve tension pneumothorax as indicated by a combination of the following:

- Severe dyspnea and/or difficulty with ventilation, especially with an intubated patient
- ALOC and/or agitation
- Absent or unequal breath sounds on affected side
- Signs of shock, rapid deterioration of vital signs
- Neck vein distention
- Paradoxical movement of the chest
- Hyper-resonance to percussion on the affected side
- Tracheal shift away from the affected side

### Procedure Preparation

- Choose appropriate site on the affected side:
  - If patient head is elevated, locate the second intercostal space, mid-clavicular line
  - If patient is flat, locate the 4th intercostal space, anterior-axillary line
- Prepare site with Betadine or chlorhexidine
- Attach the large gauge IV needle to a large syringe

### Equipment

- 14g or larger  $\geq$  3 inches
- Heimlich or other one-way valve
- 10ml syringe

### Procedure

- With the patient exhaling, introduce the needle at a  $90^{\circ}$  angle, just over the rib at the selected site
- Advancing slightly superior to the rib, continue until lack of resistance or a “pop” is felt as the needle enters the pleural space

- If the air and/or blood returns under pressure or is easily aspirated, continue to advance the catheter superiorly and remove the needle
- When no further air escapes, attach a one-way valve
- Secure the catheter with the valve in a dependent position
- Reassess patient

