MCHD	PROCEDURES PROC-13	NEEDLE DECOMPRESSION	Page 1 of 1 Last Revision: 02/14/2018

Indications:

Tension Pneumothorax is a life threatening condition. Decompressing the chest is considered potentially lifesaving and may be performed on any patient with chest, abdominal, or multi-system trauma AND signs of hemodynamic instability AND one or more of the following indications:

- Increased respiratory difficulty/increased difficulty in BVM ventilations
- Cardiac Arrest or loss of peripheral pulses
- Diminished or absent unilateral breath sounds
- Tracheal deviation
- Subcutaneous emphysema

Precautions:

- Always insert needle over (cephalic to) the rib to avoid neurovascular bundle.

Complications:

- Creation of a pneumothorax if not already present
- Injury to vascular/nerve structure, internal organs
- Infection

Procedure:

1. Evaluate and maintain the airway, provide oxygenation and support ventilations.
2. Assemble and prepare equipment.
3. Attach needle to 10 ml syringe
   - In adults, use ARS needle, or Cook kit if available
   - In children < 12 years, use a 14G angiocath.
4. Identify/cleanse the site:
   - Primary: Fourth, or fifth, intercostal space at mid-axillary line
   - Secondary: Second, or third, intercostal space at the mid clavicular line.
5. Position tip of angiocath just over top of the rib. Completely insert into the chest at 90° angle to the chest wall and remove needle.
6. If decompression occurs a rush of air may be heard.
7. If utilizing Cook kit, secure catheter and attach one-way valve. If utilizing ARS, or angiocath, secure with tape.

Considerations:

- Individuals who have chronic COPD may have a spontaneous pneumothorax that progresses to a tension pneumothorax.
- A tension pneumothorax may be precipitated by the occlusion of an open chest wound dressing.
- Remember to go just above the rib due to all of the major structures (arteries,veins, and nerves) which lie below the rib. The closer you stay to the top of the rib, the less chance of complication