NEONATAL THORACOSTOMY TUBE

PURPOSE
a. Guidelines for Neonatal Thoracostomy tube placement by transport personnel. The decision to perform thoracostomy tube should be based upon the severity of the infant’s condition.

SCOPE
A. This guideline applies to all members of the Indiana University Lifeline Critical Care Transport team.

DEFINITIONS
None

GUIDELINES
Indications
a. Air or fluid in the pleural cavity is compromising ventilation and/or oxygenation. Air or fluid continues to re-accumulate following thoracentesis, or the Transport Team member judges that a stable thoracostomy tube is needed prior to transport. The diagnosis is made by transillumination, chest radiograph, or clinical evaluation.

Contraindications
None

Complications
1. Hemorrhage
2. Laceration of intercostal artery/nerve
3. Laceration of lung
4. Infection
5. Death (if air or fluid cannot be adequately evacuated)

Equipment
1. Sterile gloves
2. Antiseptic solution
3. Swabs or gauze
4. 1% lidocaine, 1 ml syringe, and 25-gauge or 27 gauge needle
5. No. 11 surgical blade and handle
6. 2 small curved hemostats
7. Thoracostomy tube, 8 or 10 FR
8. Optional: Needle Holder, Suture on a small cutting needle, scissors
Procedure Technique

b. Quickly prep selected site with antiseptic solution
c. Incision site will be in the mid-axillary line. Chest wall will be punctured 1-2 intercostal spaces from the skin incision.
d. Infiltrate area of incision, subcutaneous dissection, and chest wall puncture with approximately 0.5-1 ml of 1% lidocaine if time permits.
e. Using the No.11 blade, make an incision parallel to the rib in the mid-axillary line
f. Using a curved hemostat, spread the subcutaneous tissue 1-2 intercostal spaces from the incision, angling anteriorly for a pneumothorax or posteriorly for fluid accumulation. (Avoid breast tissue)
g. Hold the hemostat near the tips (to prevent over penetration) and puncture the chest wall just above rib using constant direct pressure perpendicular to the chest wall. Listen for rush of air or watch for escape of fluid to indicate pleural penetration.
h. Introduce thoracostomy tube into appropriate position in the pleural cavity.
i. Attach Heimlich valve or suction/pleuravac (used on transport)
j. Secure thoracostomy tube with suture.
k. Verify proper position of the tube and evacuation of air/fluid using chest radiograph

Required Documentation:
A. Amount of air or fluid removed from chest
B. Number at skin insertion site

Citations/References: