HOSPITAL

DEPARTMENTAL POLICY

TITLE: TRAUMA: INSERTION OF CHEST TUBE

Date Adopted: **Date Revised:**
Supersedes: **Date Reviewed:**

DISTRIBUTION:
Nursing

STAFF LEVEL:
RN, GN, LVN, GVN

PROCEDURE:

Indication

1. **Pneumothorax** – may be open (sucking) from a penetrating wound or closed (blunt trauma, ARDS, spontaneous)
2. **Hemothorax** – collection of fluid (blood, serous/purulent fluid) in the pleural space.

Symptoms

1. respiratory distress
2. decreased breath sounds
3. hyperresonance (pneumothorax) or dullness (hemothorax) with percussion on affected side
4. hypotension
5. jugular venous distention (JVD)
6. tracheal deviation away from affected side with a tension pneumothorax

Equipment

- Chest tube tray **(PHOTO TO FOLLOW PROCEDURE)**
- Chest tube prep pack 36 French chest tube – size most commonly used in trauma
- Chest drainage collection container
- one bottle sterile water
- wall suction with extension tubing
- sterile 4x4 regular and split
- Pain/sedation meds as needed
- Surgical prep solution

1. Open drainage system and fill sterile water in the water seal chamber as specified by manufacturer.
2. Connect wall suction to continuous suction at 60 to 120 cm suction.
3. Connect tubing to drainage system; water should be bubbling.
4. Place chest tube insertion tray on table at bedside, do not open set.
5. Have sedation available if ordered by physician.

Procedure: (sedate patient if ordered)

1. Place patient in supine position with arm on affected side above head.
2. Physician will clean site and inject area with 1% Lidocaine and make a small incision at the 4^{th}-5^{th} intercostal space at the mid-axillary line
3. Prepare and drape the chest at the site of the predetermined chest tube insertion. Sterile gloves, gown and mask required.
4. Physician will locally anesthetize the skin and around the rib.
5. Physician will make a 2-3 cm transverse (horizontal) incision at the predetermined site and bluntly dissect through the subcutaneous tissues JUST OVER THE TOP OF THE RIB.
6. Physician will puncture the parietal pleura with the tip of a clamp, and put a gloved finger into the incision to feel any adhesions or clots and to be sure the chest has been accessed.
7. Physician will clamp the proximal end of the thoracostomy tube and advance the thoracostomy tube into the pleural space the desired length; never force the tube into the chest.
8. Remove protective cap on suction tube from drainage system & connect to chest tube.
9. "Fogging" of the chest tube with expiration (indicates correct placement) or listen for air movement.
10. After connection, clamp will be removed from chest tube allowing air/fluid to drain into drainage system. Suction should be set at 20-30cm or as directed by physician.
11. After chest tube sutured in place, wrap Vaseline gauze around insertion site and dress with 4x4's and 2" tape extending from anterior to posterior chest wall.
12. Do not leave dependant loops in the tubing.
13. Order STAT chest x-ray to confirm placement.

Nursing Assessment

1. Note color, consistency and amount of fluid drained.
2. If pneumo present, bubbling will be noted in water seal chamber
3. Assess for bilateral breath sounds, and rise and fall of chest, along with improvement of O_2 sat (if available) and vital signs.
4. Refer to thoracic chest drainage policy.

Complications

1. Pneumothorax
2. Bleeding
3. Skin necrosis
4. Retained chest tube
5. Infection

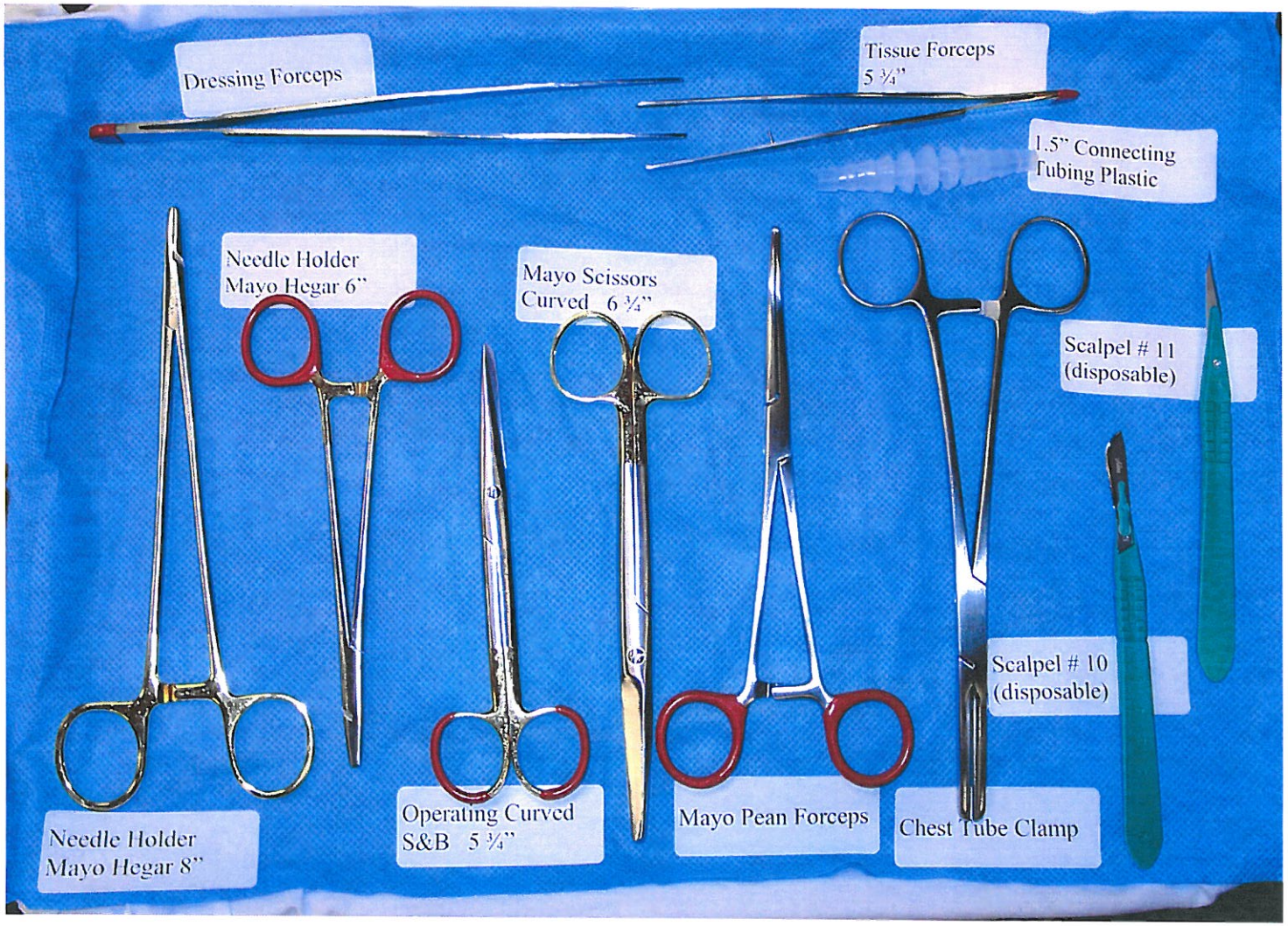
REFERENCES:

American Association of Critical Care Nurses, *AACN Procedure Manual for Critical Care,* 2010, Sixth Edition, W.B. Saunders Company, Philadelphia, Pennsylvania.

American College of Surgeons, *Advanced Trauma Life Support*, 2014, Seventh Edition, Chicago, Illinois.

SIGNATURES:

Originating department / committee



CHEST TUBE TRAY