

SKILL 39 Assisting with Chest Tube Insertion

EQUIPMENT

Chest tube tray (generally includes):

- Chest tube (size designated by physician)
- Trocar
- Drainage system
- Suture scissors
- Hemostats
- Needle holder
- Syringes
- Needles of various sizes
- Stopcock
- 4 × 4 gauze
- Medicine cup
- Y connector
- Forceps
- Drapes, towels
- Sterile water or saline (1,000 cc bottle)
- Local anesthetic
- Gloves, sterile
- Gown, mask
- Stethoscope
- Antiseptic (e.g., povidone-iodine)
- Alcohol swabs
- Petrolatum gauze
- Clamp, padded
- Adhesive tape
- Rubber band and safety pin (optional)
- Suture with needle (check if in tray)

PROCEDURE

1. Explain procedure and reason to child and family.
Enhances cooperation and participation and reduces anxiety and fear.
2. Obtain signed consent.
3. Premedicate as ordered. *Decreases discomfort associated with chest tube insertion.*
4. Gather equipment. *Promotes organization and efficiency.*
5. Wash hands. *Reduces transmission of microorganisms.*
6. Assist physician in preparing child and necessary supplies. Set up drainage system according to instructions accompanying the system (see Preparing the Chest Tube Drainage System).
7. Assist physician as required.
8. Once the tube is in place and connected to the drainage system, ensure the integrity and functioning of the system.
 - a. Ensure that the water in the suction control chamber/bottles is bubbling gently.

- b. Check the water seal for bubbles. *Bubbles in the water seal chamber/bottle indicate air is entering the system.* Potential sources of air include (1) a leak in the tubing, (2) a leak under the dressing, (3) a leak from the pleural cavity, (4) drainage of air from the pleural cavity, and (5) a crack in the unit.
- c. Make sure all tubing connections are tight and wrapped with adhesive tape. *Loose connections will cause an air leak in the system and ineffective drainage of fluid and air.*
- d. Secure chest tube drainage tube to gown using the clamp that comes with the system or a rubber band and safety pin.

NOTE: Do not pin or secure tubing to the bedding.
Reduces the risk of accidentally dislodging the tube.

NOTE: Policy at some agencies may prohibit the use of safety pins.

9. Assist in obtaining a chest X ray. *Confirms position of the tube and whether it has begun to evacuate fluid and air.*
10. Monitor vital signs, drainage, and insertion site every 15 minutes for 2 hours or according to agency policy.

DOCUMENTATION

1. Premedication given.
2. Insertion and how tolerated.
3. Size and location of tube.
4. Type of drainage system used.
5. X-ray results.
6. Functioning of drainage system, including if there is suction and at what pressure.
7. Amount, color, and consistency of drainage.
8. Respiratory status.