

Chest Tube Care and Maintenance

Guideline I: Assessment of Chest Tube

Guideline II: Chest Tube Dressing change

Guideline III: Changing Chest Tube Canister

Guideline VI: Dislodged/Disconnected Tube

1. Review or obtain practitioner's order.
2. Gather and prepare necessary equipment and supplies.
3. Wash hands thoroughly prior to and after contact with the patient.
4. Confirm the patient's identity.
5. Provide privacy.
6. Explain procedure to patient and/or caregiver.
7. Raise the bed to waist level before providing care.
8. Put on gloves and, as needed, other protective equipment.

Guideline I: Assessment and Care of Chest Tube

1. Monitor patient's vital signs and oxygen saturation level
2. Auscultate lung sounds with every assessment.
3. Assess the chest tube dressing.
4. Palpate the area surrounding the dressing for crepitus.
5. Observe the integrity of the drainage system, tubing, and chest tube with every assessment and with change in patient's condition.
6. Monitor the color, character, consistency, and amount of drainage in the drainage system.
 - Notify practitioner of a sudden increase in drainage or the presence of frank, bloody drainage.
7. Ensure the drainage system remains below the level of patient's chest and avoid dependent loops in tubing to promote drainage.
8. Never clamp chest tube unless indicated by practitioner, removing chest tube, or performing drainage system exchange.
9. Notify provider if the patient develops cyanosis, decreased oxygen saturation levels, rapid or shallow breathing, subcutaneous emphysema, chest pain, or excessive bleeding.
10. Document assessment findings and patient and/or caregiver instruction in the medical record. Assessment should include type and amount of suction (if any), site assessment, dressing status, and drainage output description.

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Guideline II: Changing Chest Tube Dressing

Supplies:	Gloves	Sterile gloves	2- Sterile 4x4 gauze	Drain sponge	Transparent dressing
2" silk tape	Sterile NS solution	Antiseptic solution	Sterile field for supplies	Mask	

1. Prepare sterile field: Lay out sterile barrier
 - a. Open one package of sterile gauze and pour sterile NS to soak and set aside
 - b. Open second package of sterile gauze- maintain sterility.
 - c. Open drain sponge
2. Perform hand hygiene and put on clean gloves and mask.
3. Remove the existing dressing around the chest tube insertion site and discard it in an appropriate receptacle, remove and discard your gloves.
4. Assess the insertion site and surrounding skin for signs of infection, or subcutaneous emphysema.
5. Perform hand hygiene, put on sterile gloves.
6. Clean the insertion site with the sterile saline soaked gauze pad from inside moving out. Apply antiseptic solution, if ordered (Chloraprep), and allow to dry completely.
7. Ensure the chest tube is properly secured.
8. Place the two drain sponges around the insertion site, one from the top and other from the bottom to help seal the insertion site from any air entry and escape,
9. Place a sterile gauze pad on top of the drain dressing and cover the dressing with a sterile transparent dressing over the whole site or use silk tape to occlude the dressing completely.
10. Secure the tube, approximately 2-3" below the dressing to the patient's skin with tape or a commercial securement device to prevent dislodgement.
11. Write the date, the time, and your initials on the dressing.
11. Discard used supplies in appropriate receptable.
12. Remove and discard your gloves and, if worn, other personal protective equipment.
13. Perform hand hygiene.
14. Document the procedure noting color, character, consistency and amount of drainage in the medical record.

Guideline III: Changing Chest Tube canister

Supplies:	Gloves	Sterile gloves	Canister	Paper tape	Alcohol prep wipes	Sterile water or saline
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1. Clamp the chest tube (per provider's order) close to insertion site, to prevent air from entering the pleural space.
2. Clamp old drainage container tubing.
3. Open the single-use, disposable, sterile chest drainage collection unit. Use the floor stand to set the unit on the floor or use the hangers to hang it level on the bed below the level of the patient's chest tube.
4. Follow instructions per specific Chest Tube canister on how to set up.

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- a. Kink syringe tubing at top of canister, then fill syringe to top with sterile water/saline and lift up syringe so fluid goes down to 2 cm mark.
- b. Remove syringe and tubing, make sure black lever is turned to closed.
5. Perform hand hygiene and put on sterile gloves.
6. Using sterile technique, disconnect the old chest tube drainage system, clean catheter end with alcohol wipe and allow to dry then connect the new one.
7. **Unclamp** the tube and instruct the patient to breathe normally, trace the tubing from the patient to canister to ensure that you've attached it to the proper port.
8. May secure the connection with tape to ensure that the system remains airtight.
9. Discard old drainage container in biohazard bag.
10. Discard used supplies in appropriate receptacle.
11. Remove and discard your gloves and, if worn, other personal protective equipment.
12. Perform hand hygiene.
13. Document the procedure in patient's chart

Guideline VI: Dislodged/Disconnected Tube

1. Dislodged Tube: Inadvertent removal of chest tube from patient's pleural cavity
 - Place a sterile dressing over the site and tape it on three sides.
 - Notify the provider IMMEDIATELY for direction
 - Continue to monitor patient's vital signs, oxygenation and respiratory status
2. Disconnect Tube: Chest tube tubing becomes disconnected at any point below the insertion site (chest tube remains in patient's pleural cavity)
 - Place the end of the tubing in a container/bottle of sterile water to reestablish a water seal
 - Notify the provider IMMEDIATELY for direction
 - Continue to monitor patient's vital signs, oxygenation and respiratory status

References:

Lippincott (2023, August 21). *Chest tube drainage system monitoring and care*. Lippincott Solutions. Retrieved July 25, 2024, from <https://procedures.lww.com/lnp/view.do?pld=7378389&disciplineId=16750>

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Historical Reviews & Revisions:

Review	Reviewer's Name(s)	Changes Made?
5/12/2025	Dr. Anderson, Amy Lowe, Clinical Dri. Shannon Johnson Clinical Compliance	New, approved