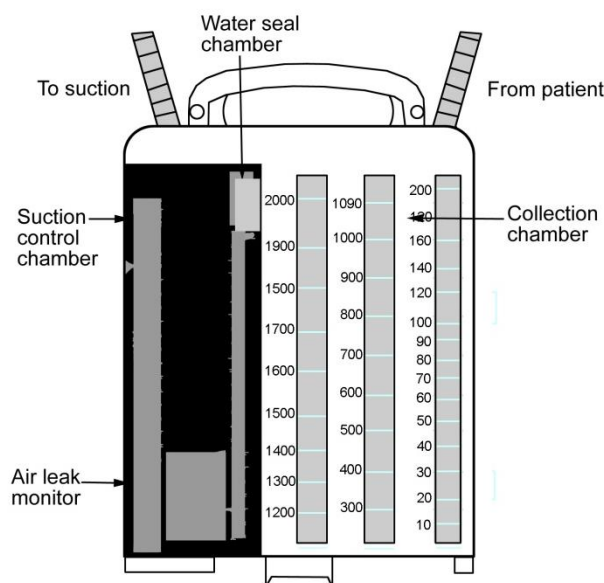


Chest Tube

What is a chest tube?

A chest tube is a plastic tube inserted between the ribs and into the *pleural space* surrounding the lungs. It drains blood, fluid, or air from the area around the lungs, allowing the lungs to expand fully. A chest tube helps you breathe more easily.



Chest tubes treat conditions that *could* cause a lung to collapse, such as:

- after surgery or a trauma to the chest
- *pneumothorax*
- *pleural effusion*
- heart failure

How is a chest tube inserted?

Physicians, nurse practitioners, and physician assistants can place a chest tube. You will lie on your side, with one arm over your head. Your clinician will clean your skin and use a local anesthetic to numb the area. He or she will make a 1-inch cut (incision), guide the tube into the correct position, and sew it into place. An x-ray confirms the tube is in place. The outer end of the tube is connected to a drainage unit that uses suction to help drain the fluid.

What is the drainage unit?

The chest drainage unit has separate chambers, each with a different job:

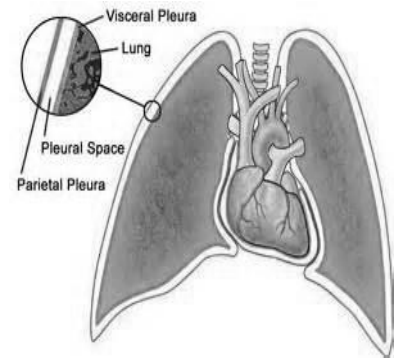
- *Drainage collection chamber* collects the drained fluid
- *Water seal chamber* creates negative pressure to prevent air from entering the chest
- *Suction control chamber* controls the amount of suction

What is the difference between wet and dry suctioning?

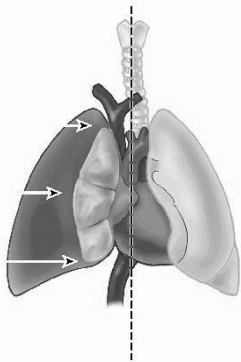
There are two types of suctioning: wet and dry. Wet suctioning uses water to control the suction pressure. The height of the water determines the amount of suction. Your nurse will monitor the drainage unit to ensure there is enough water and suction. Dry suctioning uses a mechanical check valve or regulator to adjust the level of suction.

New Terms

Pleural Space: The very small area between the two layers of the pleura - the thin membranes that surround, protect, and cushion the lungs and chest cavity. The space contains a small amount of fluid that lubricates the pleura and lets them easily glide against each other as you breathe.



Pneumothorax: A condition in which air collects in the space around the lungs. The collected air puts pressure on the lung, so it cannot expand as much as it normally does when you take a breath.



A pneumothorax (also called a collapsed lung) can be caused by a chest injury, broken ribs, and certain medical procedures. It may occur without cause (spontaneous pneumothorax).

Pleural Effusion: Too much fluid in the pleural space, which may be related to heart failure, infection, or tumors.

Hemothorax: Blood in the pleural space, which may be due to traumatic chest injury, a tumor, or bleeding problems.

Empyema: An infection in the pleural space.

Heart Failure: When the heart cannot pump enough blood out to the rest of the body. This can increase the need for a chest tube because fluid may be leaking into the chest cavity.

Negative pressure: The lungs stay inflated due to negative pressure. Complications such as air in the lungs (pneumothorax) can occur when the negative pressure is disturbed by air or fluid in the pleural cavity. This will make it difficult to breathe.

Will the chest tube hurt?

It is common to have some pain and discomfort when you have a chest tube in place. It is important to ask for pain medication before the pain becomes severe so that the medication will be more effective.

We may prescribe:

- a local anesthetic to numb the area around the tube
- antibiotics to prevent or treat a bacterial infection

What can I do to prevent problems?

You can do several things:

- Find a comfortable position to help lessen your pain and discomfort.
- Do deep breathing and coughing exercises to help open up your lungs and get rid of the mucus. It is recommended that you deep breathe and cough 10 times an hour while you are awake. Using an incentive spirometer may also help.
- Check your chest tube for kinks or loops – and do not lie on the tube. Stay aware of how much room the chest tube gives you to move and reposition yourself, so you do not pull on it and cause discomfort.
- The suction device should be kept below the level of your chest. This lets gravity help drain the fluids from your chest, and prevents fluid from flowing back up the tube.
- Make sure your chest tube is attached securely to your body as well as to the suction device.
- Do not change the settings on your device.

What are the risks?

Risks during chest tube insertion:

- injury to the lung or nearby organs
- improper placement of the tube
- bleeding or infection

Risks while the chest tube is in place:

- the tube may be displaced
- infection or bleeding where the tube was inserted or a generalized infection
- a blood clot may form in the extremities or in the lung (pulmonary embolism)

How will the chest tube be removed?

Your clinician will typically remove the chest tube at the bedside. Because this procedure may be painful, you will be given medication beforehand. During the procedure, you will be asked to hold your breath (to prevent air from entering the pleural space). The sutures will be cut, and the tube removed. Immediately afterwards, a special dressing will be placed over the insertion site. You may have a chest x-ray to make sure the lung has remained expanded.

When should I call my doctor or seek immediate care?

Emergencies

Call 911 or go to a hospital emergency department if:

- your bandage is soaked through with blood or fluid
- the bandage comes off
- your arms or legs are warm, swollen, red, or painful
- you feel lightheaded or short of breath
- you cough up blood or have chest pain
- it hurts when you breathe or cough

If you go to the hospital ER or are admitted to the hospital, please let us know.

Call your doctor **immediately** if:

- **you have a fever of 100.4°F (38°C)**
- you have severe pain or swelling at the insertion area
- your wound is red or has pus or a foul odor

Call the Thoracic Center during business hours if you have any questions about your chest tube.

The Thoracic Center

Open: Mon-Fri 8:00 a.m.-5:00 p.m.

Phone: 716-845-3167

After hours

Call Roswell Park Hospital Main Number

716-845-2300 (Open 24/7).

Our Call Center staff will assist you. If it is determined you need to be seen, we may ask you to come to our Assessment and Treatment Center (ATC). This service is available for patients who have a referral from their Roswell Park provider or the on-call provider. **This is not a walk-in clinic.** The ATC is open 24/7.