

## How much drainage to expect

Mediastinal drainage is usually less than 300 ml. in the first hour, less than 250 ml. in the second hour, and less than 150 ml. after that. Normal pleural drainage is 50 to 100 cc/hr for the first few hours. Then expect 10 to 20 cc/hr.

## How to lower the float ball

Intrathoracic pressure can be determined by observing the level of the float ball in the water seal chamber. When suction is operating, the patient pressure will equal the suction control setting plus the level of the float ball. For gravity drainage (no suction) the patient pressure will equal the level of the float ball. Only if suction is operating should you manually lower the height of the float ball by pressing on the filtered manual vent.

## How to locate a leak

After set up, when suction is first applied to the system, there should be a little bubbling in the water seal (or the air leak meter in a dry control system) as air is pulled through the chamber from the collection chamber. If bubbling continues then there is air entering the system. To locate this leak use a kelly clamp or rubber-tipped hemostat. Clamp the chest tube where it leaves the dressing for no more than 10 seconds while you check the leak meter or water seal chamber for bubbling. If the bubbling stops then the leak is from the lung. If the leak is new, you may want to remove the dressing to see if the eyelets have become exposed.

If bubbling continues, then place the clamp on the patient side of the connector between the chest tube and the tubing leading to the chest drain. If bubbling stops, the leak is between the patient and the clamp.

If bubbling continues, move the clamp to the other side of the connector. If bubbling stops, then the leak is at the connector. Tighten or replace the connector.

If bubbling still continues, the drainage unit may be cracked and should be replaced.

## What to do when the drainage unit falls over

After a drainage unit has been knocked over, set it upright and check the water seal for proper volume. Adjust as needed to the 2 cm. mark. If a significant amount of blood has entered the water seal, you may need to change the system for a new one.

## How to replace a drainage unit

Prepare the new unit by adding sterile water as the package directions indicate. Untape the connection between the drainage unit and the indwelling chest tube. Clamp the tubing and switch the unit. When done unclamp the tubing.

## What to put over the chest tube site

In the event that a chest tube becomes dislodged, a 4X4 gauze is placed over a vaseline gauze and taped on only three sides. When a physician removes the chest tube, a 4X4 gauze is placed over the vaseline gauze and taped on all four sides.

## When to milk or strip a chest tube

Indications to milk or strip a chest tube are to assist in dislodging a clot, and when no fluctuations are seen in the water seal chamber. You need a physician's order to milk or strip a chest tube. The high negative pressure relief valve will help protect the patient from exposure to high negative pressures caused by vigorous manipulation of the tubing.

Milk a chest tube by folding about 18 inches of tubing. Squeeze and release several times. Strip a chest tube by grasping the tube near the patient connection between the thumb and forefinger, using both hands slide the lower hand down over the tubing approximately 18 inches while maintaining pressure. Release the upper hand, then release the lower hand.

## How to collect a sample

Wipe grommet with betadine and use a 20 gauge (or smaller) needle to aspirate fluid. A sample can also be obtained by forming a temporary dependent loop and inserting a 20 gauge needle at an oblique angle.