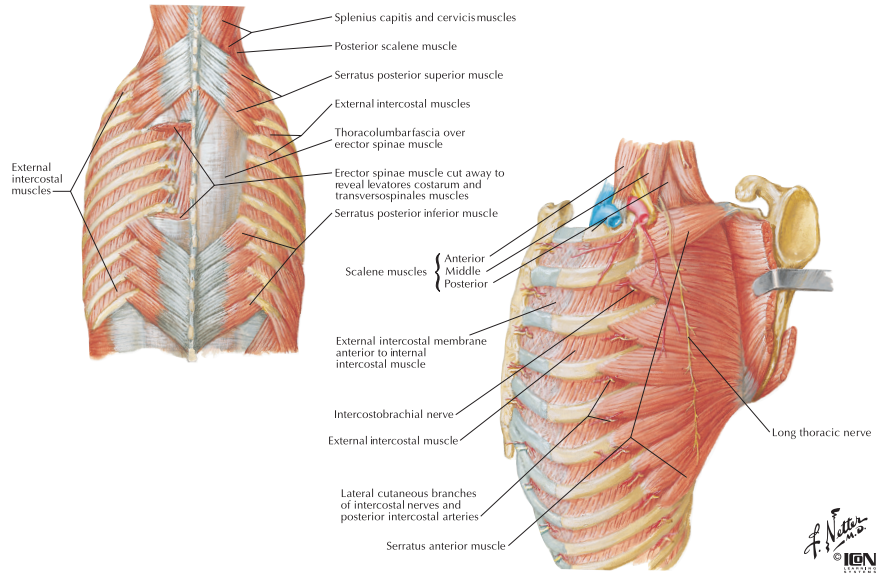
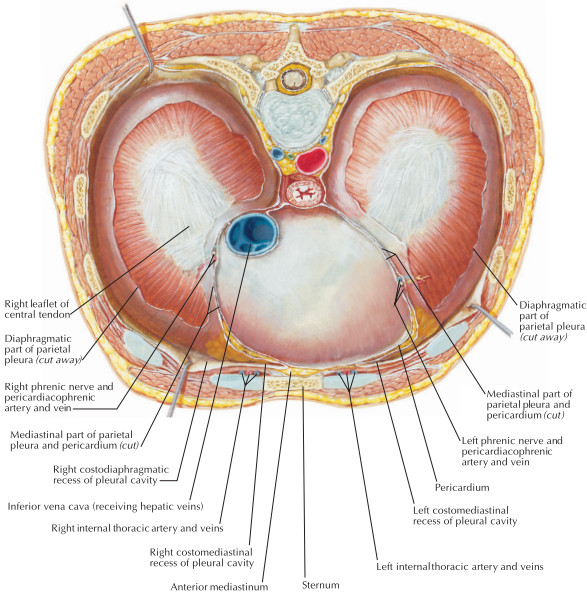


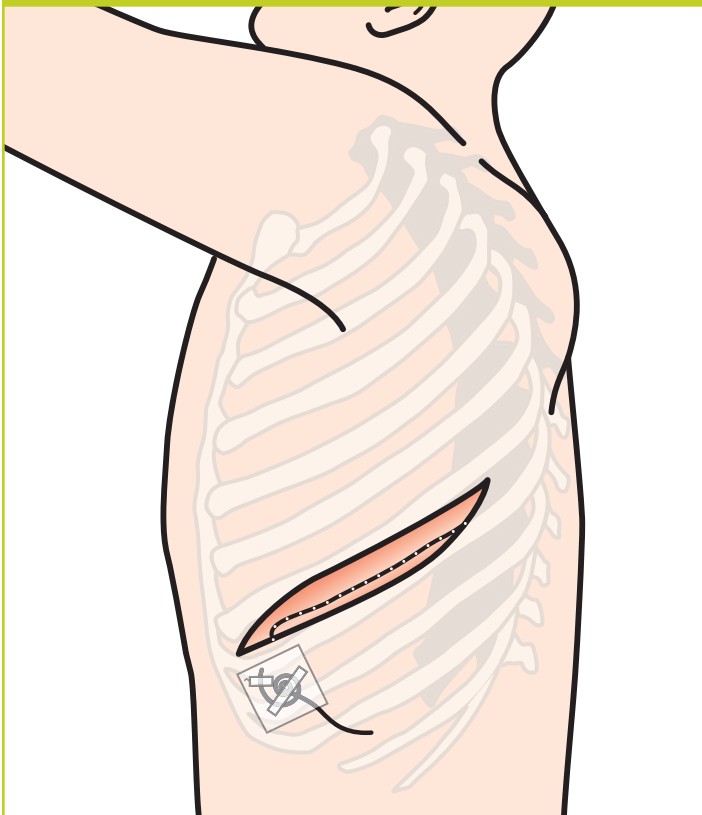
Thoracotomy

Catheter Placement Guide

Anatomy

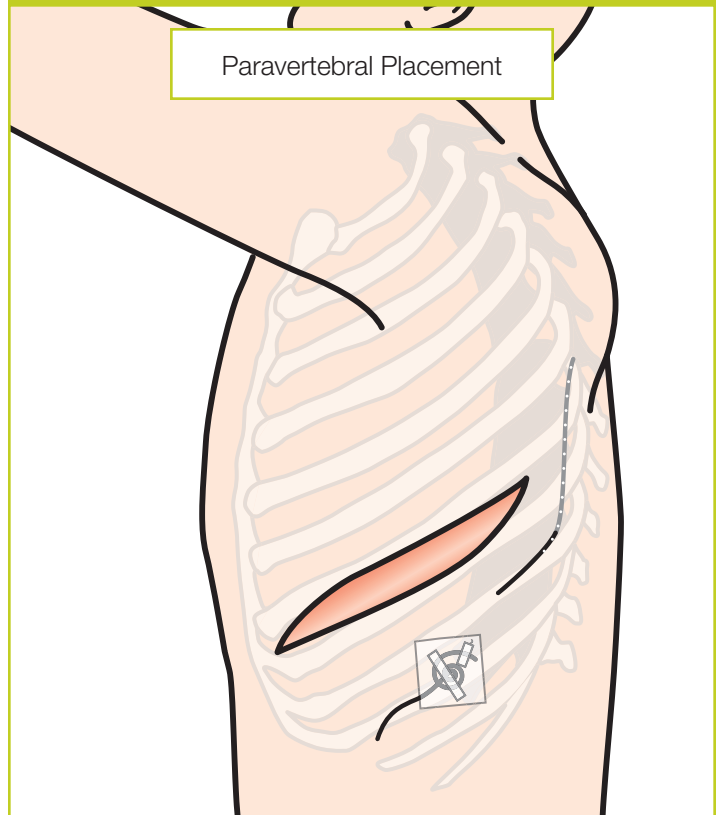


Incisional Placement



Tunneler Placement

Paravertebral Placement



Labeled Pump Fill Volume	Flow Rate	Continuous-only or with bolus option (dose & lockout)	Delivery Time (approximate)	Catheter Pack
550 mL	4 mL/hr	2 mL, 60 minutes	4 to 5 days	Single 5 in.
275 mL	2 mL/hr	Continuous-only	3 days	Single 5 in.
275 mL	5 mL/hr	Continuous-only	2 days	Single 5 in.
275 mL	5 mL/hr	2 mL, 60 minutes	1.5 to 2 days	Single 10 in.

Incisional Catheter Placement:

- ▶ Insert split sheath introducer 2 to 5 cm inferior to incision.
- ▶ Remove needle from split sheath introducer.
- ▶ Thread catheter through split sheath introducer.
- ▶ Hold catheter inside incision while removing split sheath completely out of skin, tear away t-peel leaving catheter inside incision.
- ▶ Direct catheters along separated ribs aiming tip of catheter towards intercostal nerve bundles.

Tunneler Paravertebral Placement:

- ▶ Make a small incision with a #11 blade on the back near the angle of the ribs, or approximately 10 cm lateral of midline. This insertion site is 3-5 cm below the tip of the scapula. Consideration should be given to place the insertion site 2-3 interspaces below the intercostal incision. This allows the chest tube sites to benefit from the local anesthesia in addition to the intercostal incision and 2-3 interspaces above the incision.
- ▶ For Open Thoracotomy, a vertical incision along the anterior border of the latissimus dorsi muscle is recommended. (Note: The incision should not be made too low or too anterior.)
- ▶ Create the initial opening in the intercostal muscles with a tonsil clamp. Insert the tunneling instrument with the introducer sheath through this opening.
- ▶ Place a 'bend' in the tunneling device to assist in making the 'pocket'.
- ▶ Use the tunneling instrument to lift off the pleura to create a sub-pleural tunnel parallel to the rib for 2-3 cm.
- ▶ Move the tunneling device left to right alternately to increase the width of the tunnel pocket. This makes a smoother transition as the "bend" in the device helps to carry the tunnel up over the ribs. The goal is to tunnel into the paravertebral space up to the hilt of the instrument, over 6-7 intercostal spaces.
- ▶ Monitor the creation of the tunnel by use of the thoroscope or by direct vision.
- ▶ Assess the sub-pleural pocket for bleeding from the intercostals or pleura laceration.
- ▶ Continue to insert the tunneler until the sheath is all the way into the tunneler entry site, thus covering 6-7 intercostal spaces anesthetizing the thoracotomy incision, access ports, and chest tube sites.
- ▶ Remove the tunneling device, leaving the sheath in place.
- ▶ Insert and advance the saturation catheter into the sheath to the desired placement with the created tunnel pocket.
- ▶ Split the tunneling sheath and withdraw it, leaving the saturation catheter in place.
- ▶ Secure saturation catheter with steri-strip. Coil catheter and secure with additional steri-strips and transparent dressing.