Using the Atrium Oasis Closed Chest Drainage System

Expanded Scope Protocol for Inter-facility Transfer

Thoracostomy Patient Transport

Using the Atrium Oasis Closed Chest Drain

Objectives:

- Able to identify the MMC EMS Expanded Scope of Practice regarding the care of thoracostomy patients
- Able to identify parts of Atrium Oasis Closed Chest Drain and their function
- Able to identify procedure for changing over suction
- Able to identify proper functioning of drainage unit
- Able to identify problems with the drainage unit and troubleshoot

Memorial EMS – Expanded Scope of Practice

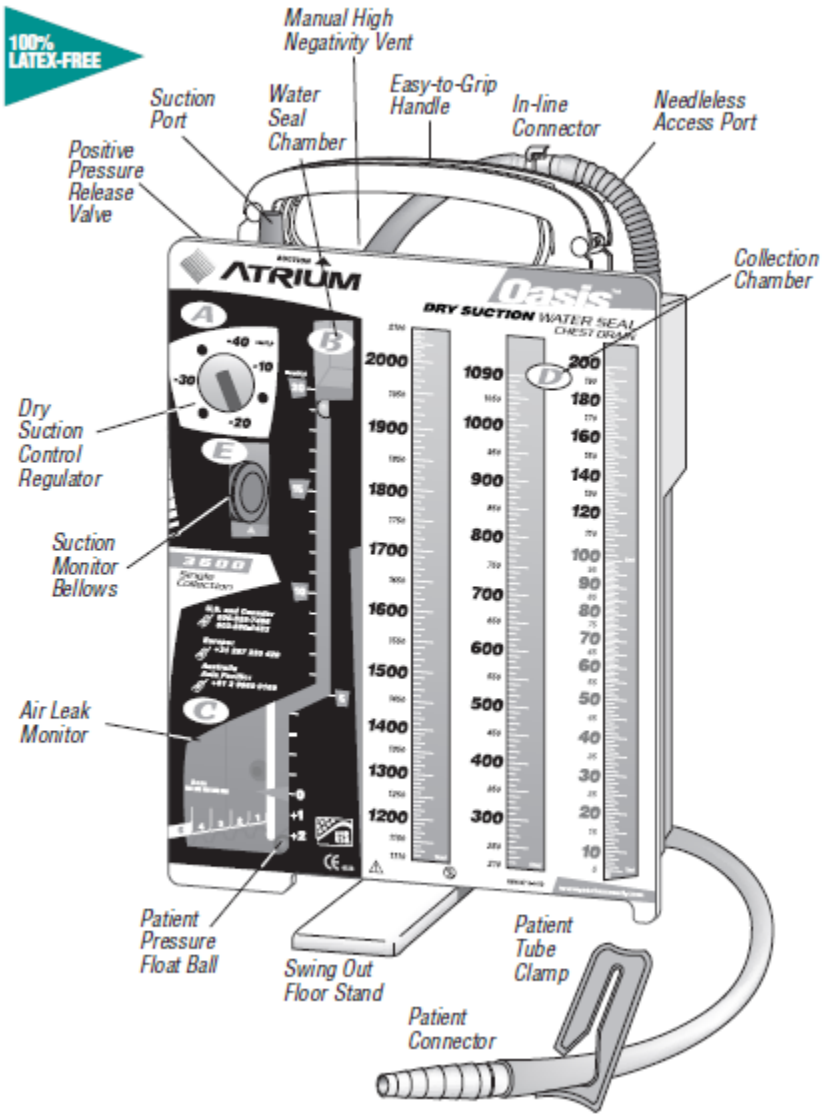
INDICATIONS:

1. Chest tube must be in place for greater than 24 hours prior to transport
2. Must be either 8 years of age or older or 45kg in weight or more.
3. Patient transfer must be from a licensed facility to another licensed facility.

CONTRAINDICATIONS:

- Heimlich valve

Atrium Oasis Closed Chest Drainage System



Oasis™

DRY SUCTION WATER SEAL CHEST DRAIN

Set Up

Step 1. Fill Water Seal (B) to 2cm Line - Add 45ml of sterile water or sterile saline via the blue suction port located on top of the drain. For models available with sterile fluid, twist top off bottle and insert tip into blue suction port. Squeeze contents into water seal until fluid reaches 2cm fill line.

Step 2. Connect Patient Tube to Patient - Connect chest drain to patient prior to initiating suction.

Step 3. Connect Suction to Chest Drain - Attach suction line to blue suction port on top of chest drain.

Step 4. Turn Suction Source On - Increase suction source vacuum to 80mmHg or higher. Suction regulator is preset to -20cmH_2O. Adjust as required.

Have a question or need help in a hurry? Call Atrium toll free at 1-800-528-7486.

Receiving the Patient with a Chest Drain

- Before any movement, always verify that sutures and/or occlusive dressing are secured at thoracostomy site.

- The chest drain tubing will be clamped while changing over to another suction source to avoid backflow.

- Consult current patient orders for best patient positioning.

Receiving the Patient with a Chest Drain

• After the unit is secured, unclamp the tubing.

• Patient tubing should only be clamped during transfer of suction source.

• Clamping is to avoid flow of air into the chest cavity or backflow of fluid in case of accidental disconnection or tipping during movement.

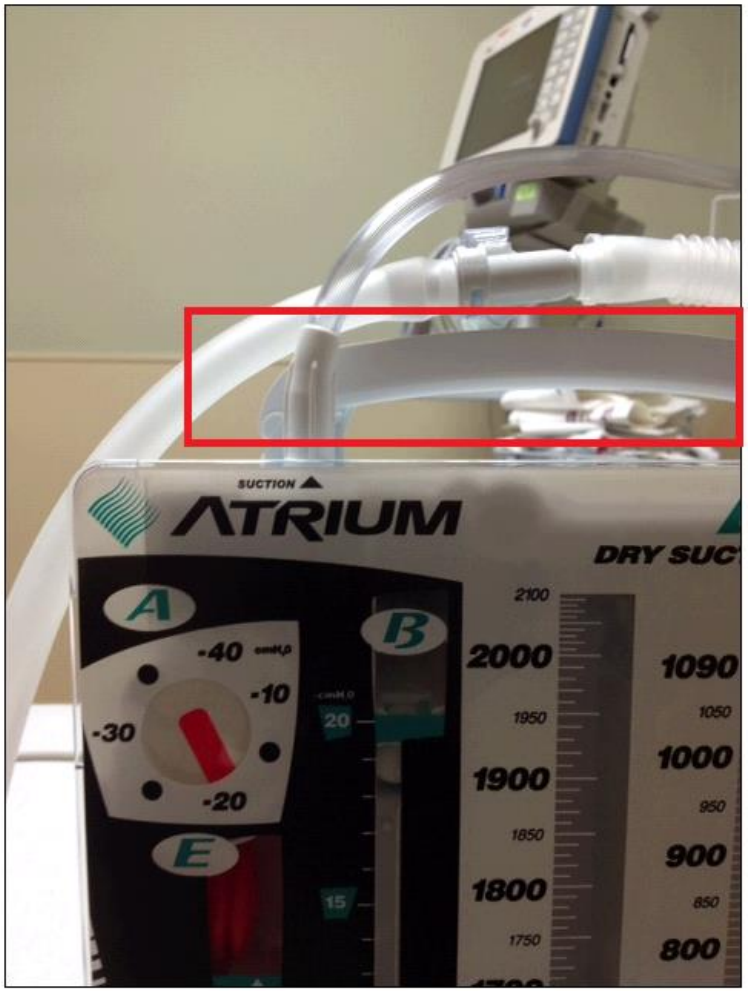
Receiving the Patient with a Chest Drain

- Secure the unit below the level of chest tube/ chest drain insertion.

- Keep the unit in an upright position.

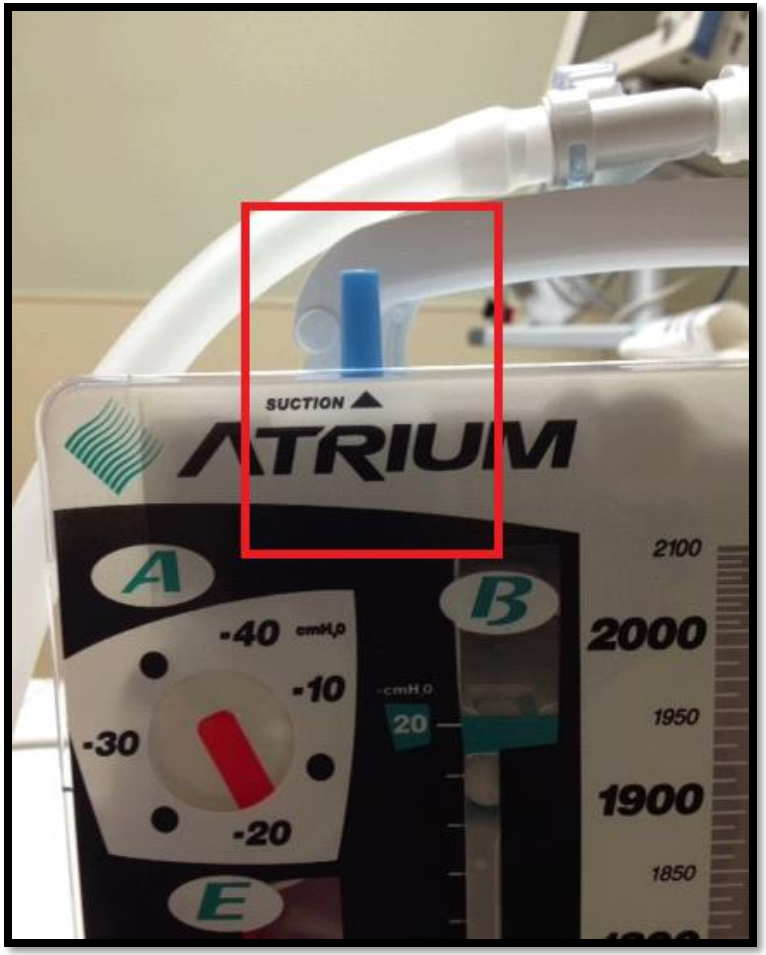
- Two hanging hooks will fold out of the carry handle of the unit. The hooks will secure the unit to the stretcher.
  - ✓ For a low stretcher, the bottom of the drain has a stand that swivels open. If using the stand, tape the unit to the floor. Be cautious not to knock the unit over.

- Arrange the patient tubing to minimize dependent looping and tension on the tubing. Keep tubing below level of insertion.



Applying Vacuum Pressure

- Applying your suction:
  - Connect suction tubing firmly to blue suction port.
  - Turn up suction to full vacuum.
    - The chest drain requires -80mmHg vacuum pressure to function.
    - Turning up the suction at the source will “turn on” the drain.
    - Actual suction pressure is controlled on the chest drain itself at the dial labeled “A”.
    - Suction pressure on the unit is preset at -20cmH2O. The pressure should already be set per MD order.



Applying Vacuum Pressure

- The red bellows located at “E” will expand out to the arrow.

- This tells you that the suction is connected and functioning, indicating that the unit is “on” and operating.

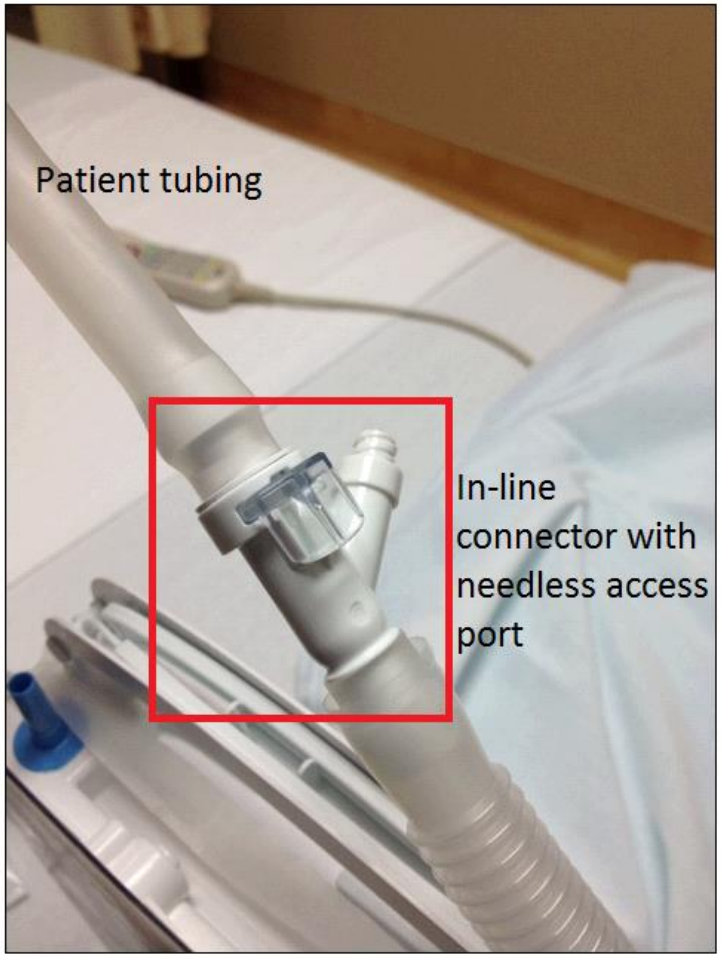
- If the bellows does not expand, turn up the suction.

- NOTE: If unit suction pressure is set to -10cmH2O or less, the bellows may not expand to the arrow. For suction pressure set this low, any expansion of the bellows will indicate that the unit is functioning.

Applying Vacuum Pressure

Check all connections to ensure that they are tight:

1. Blue suction port to suction tubing
2. Tubing connecting to the in-line connector with access port (PICTURED RIGHT) to patient tubing
3. Patient tubing to chest tube connector should be firmly spiral taped and sealed.
   - Reinforce spiral taping with silk tape as needed.
   - Never remove the original tape/ seal.
4. Occlusive dressing at chest tube site should be well-adhered and intact



Draining to Gravity

- Some patients will have orders to drain to gravity.

- Keep in mind- if you do not apply vacuum pressure, the bellows will not be expanded.

Maintaining the Chest Drain

How do I know the chest drain unit is functioning?

1. Check the patient. Assess for changes in respiratory status.
2. The bellows at point “E” is expanded.
3. The water seal chamber “C” is already filled to the 2cm mark with initial set-up of the chest drain unit.

   The water flow and float ball should tidal up and down in the water seal chamber labeled “B” with the patient’s breathing pattern. This is normal.

Maintaining/ Troubleshooting the Chest Drain

How do I know the chest drain unit is functioning?

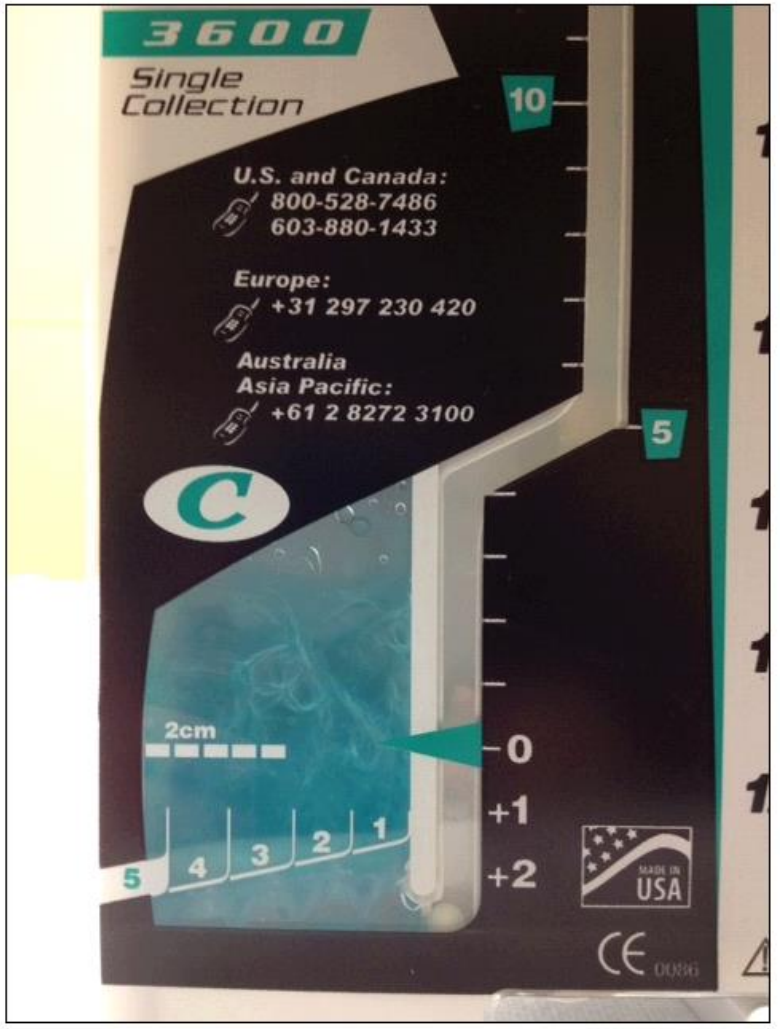
4. Assess the air leak monitor "C" on the water seal for bubbling.

   Occasional intermittent bubbling can be normal for a slowly resolving pneumothorax, but continuous bubbling is NOT NORMAL.

   Any bubbling in the air leak monitor "C" in which the bubbles move from right to left indicates a leak.

If there is continuous bubbling and/or a leak is suspected:

- Check all connections on the unit and to the patient, including the insertion site.
- If the unit continues to leak, call Med Control.

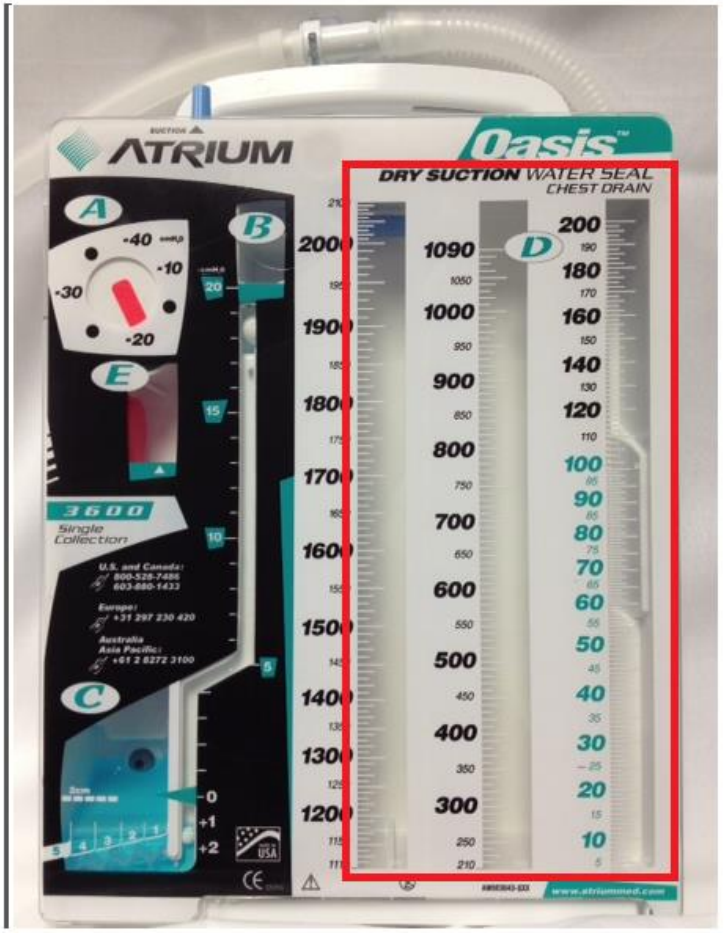


Maintaining the Chest Drain

How do I know the chest drain unit is functioning?

5. Check the drainage chambers “D” for drainage. Output should be measured on the unit every hour. Mark directly on the unit with a marker at the level of drainage and note date, time, initials. If unable to mark on the unit, note details of hourly output and inform receiving RN.

6. Inspect patient tubing for occlusions. Adjust tubing to prevent consolidation of drainage in the tubing.



Maintaining/ Troubleshooting the Chest Drain

Things to remember:

- The chest tube and drainage system should be visually inspected every 15 minutes during transport.
- Keep the drain below the level of the chest tube/drain insertion site.
- If drainage output of greater than 200ml/hr x4 hours or greater than 150ml/hr x3 hours in elderly, call Med Control as this will require immediate intervention.
- If the chest tube is not functioning and a tension pneumothorax is suspected, perform a needle decompression of the affected side per protocol.

Maintaining the Chest Drain

Things to remember:

- The Atrium Oasis Closed Chest Drain System is a dry suction water seal chest drain. It operates similarly to other closed chest drain systems, such as Pleur-Evac, but there are some important differences. Be sure to ask if you have questions about a chest drain that you've never used before.