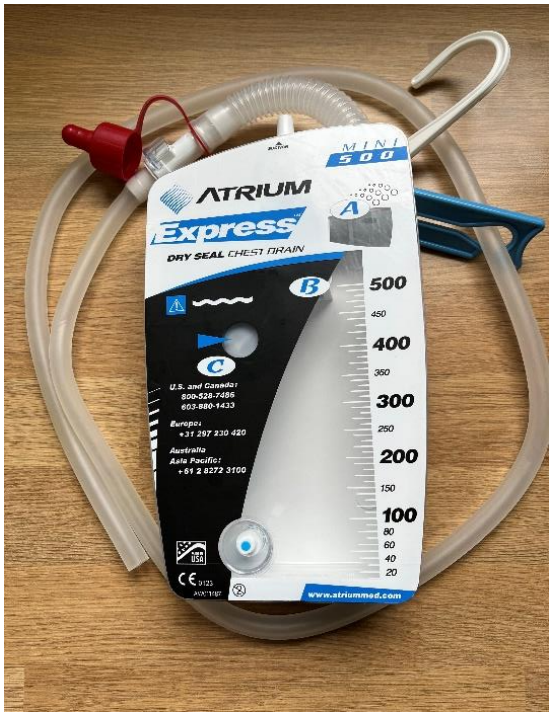
Use of Low Suction Chest Drain during SONeT transfer for Pneumothorax.

For some infants with a pneumothorax and chest drain in situ the Heimlich flutter valve may not be completely effective in enabling ongoing drainage of any intrapleural air, causing a re-accumulation of the pneumothorax during transfer. This may cause the infant to destabilise. It may therefore be beneficial to put the chest drain on continuous suction. The Atrium Mini 500 is the dry seal chest drain for this purpose.

The Atrium Express Mini unit should only be used when suction is required and should never be placed in series with the Heimlich flutter valve as it has potential to disrupt its mechanism of action.

The use of suction should be discussed on a case-by-case basis with the attending Transport Consultant.



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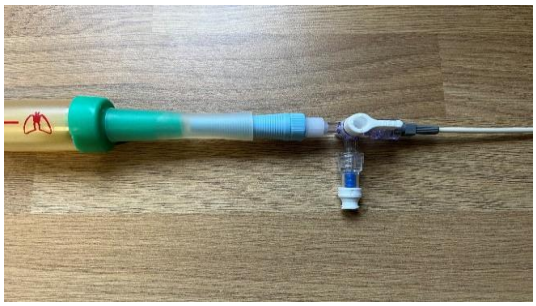
Section 1: Attaching the Atrium Express Mini 500 and continuous suction.

1. Turn the three-way tap off to the infant.



2. Remove the Heimlich flutter valve
3. Attach the Atrium Express Mini 500 via the three-way tap

~~2.~~4. Attach the suction tubing from suction unit to port at the top of the drain (Port A in Figure 1)

~~3.~~5. Set up suction as described in below section 2.

6. The three-way tap should be turned back on to the infant to allow continuous suction.

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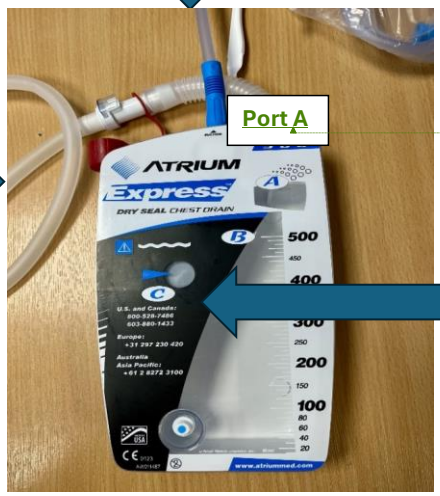
Figure 1:

Port A: Attach suction tubing from suction unit. Set at -100mmHg (when using incubator suction unit) or -80mmHg (when using ambulance suction unit)

To chest drain via a three-way tap



Suction indicator window. The presence of a tick (✓) confirms that suction is being limited to -20mmHg

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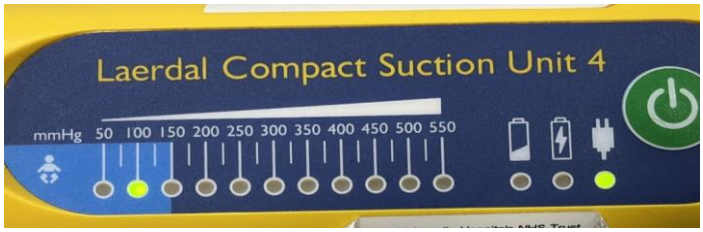
Section 2: Setting up the Suction

- This Atrium Express Mini 500 unit requires a suction pressure of -80mmHg or above to function effectively. The Atrium Express Mini 500 has a blow-off valve to ensure the continuous low suction does not exceed -20mmHg.

In transit: The transport trolley Laerdal compact suction should be set at 100mmHg.



On arrival to the ambulance: the suction unit can be changed across to the ambulance LSU Laerdal suction unit which should be set at - 80mmHg.

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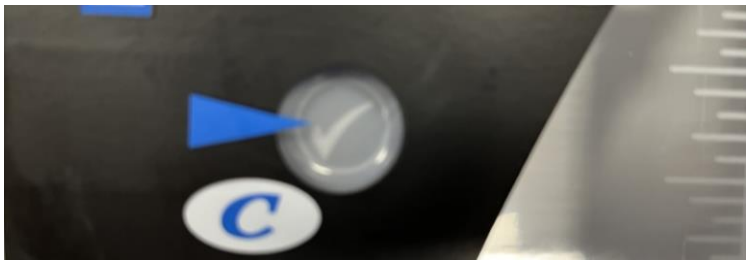
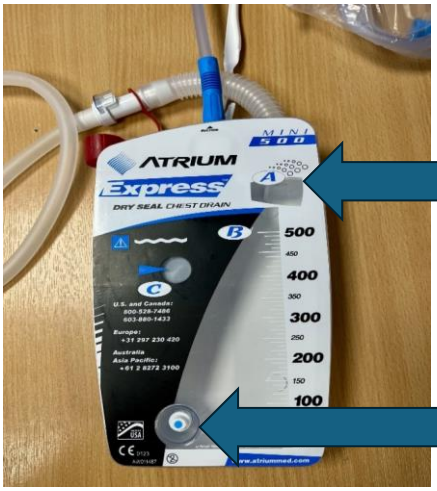
- With the chest drain attached to suction, the chest drain should show a tick sign ✓ in the suction indicator window (see picture). This confirms that the chest drain is working appropriately.



- The ✓ should always be visible when the baby is connected to the chest drain. If it is not visible the circuit and suction must be checked carefully, and if needed, replaced; it may be a sign that either the suction is not working or that the circuit is allowing too high a suction pressure to reach the baby.

Air leak detection

Fluid must be present in the collection chamber for air leak detection.



Air leak window

Needle less leur port.
Add 20mls sterile water or 0.9% saline

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Add 20 ml of sterile water or 0.9% saline through the needleless Luer port located on the front of the drain. Temporarily tip the drain to the right (90 degrees) as shown until collection fluid appears in the air leak window

20mls sterile water or 0.9% saline visible in A air leak window

(A). Bubbling in the air leak window when positioned as shown, will confirm a patient air leak.

Bubbling noted in A air leak window

Immediately return chest drain to upright position

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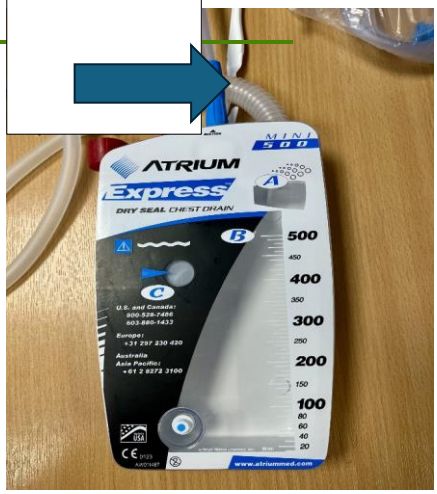
Attach suction:
suction unit set at -100mmHg (when using incubator suction unit) or -80mmHg (when using ambulance suction unit)



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