



Pneumothorax

Scope (Staff):	Nursing and Medical Staff
Scope (Area):	NETS WA

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

This is a quick reference guide for transportation purposes only. For further information please refer to the CAHS Neonatology '[Pneumothorax](#)' Clinical Guideline.

Aim

Outline the process for investigating and diagnosing a pneumothorax along with management and associated conditions.

Risk

Failure to appropriately diagnose and treat a pneumothorax can lead to adverse outcomes for the infant.

Clinical Considerations

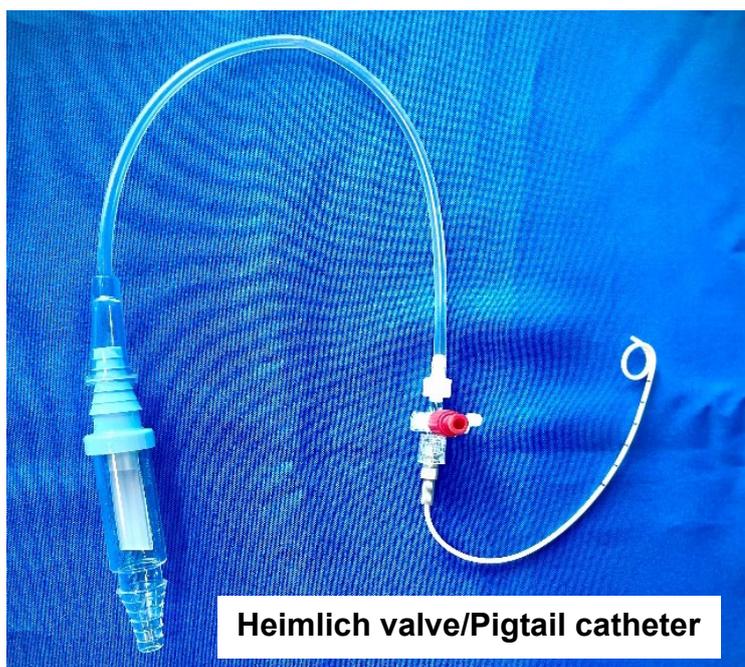
Should be considered in any ventilated baby or baby on CPAP who acutely deteriorates, **OR** any baby who:

- Has a sudden increase in work of breathing
- Worsening hypoxemia
- Worsening respiratory acidosis
- Reduced breath sounds
- Rising Transcutaneous / end-tidal Co₂
- Chest asymmetry / unequal chest rise

- Note: Nitrogen 'washout' technique is **not recommended**.

Management

- Chest X-Ray if available at referring hospital.
- Transillumination with a cold light source may be attempted.
- **For emergencies such as acute deterioration / bradycardia / hypotension, do not wait for Chest X-ray.** Needle chest with 22G or 24G cannula. ([Needle Aspiration of the Chest](#)). [Needle aspiration kit located in **RED** Airway pouch; Chest drain kit located in **YELLOW** pouch]
- Positive pressure respiratory support can result in further deterioration by increasing the air leak and placing it under tension.
- Drain the air first to stabilise and then intubate under controlled conditions.
- For small pneumothorax / mild respiratory distress travelling via road / air: consider conservative management. (Cot O₂ to improve oxygen saturations).
- For significantly large / symptomatic pneumothorax, or for air transports, consider insertion of chest drain (pneumothorax is likely to expand with increasing altitude) ([Intercostal Catheter \(ICC\) insertion and management](#)).



- Ensure appropriate drainage device fitted e.g. Heimlich Valve ± drainage bag ([Appendix 1](#)).
- Chest drain catheter must be securely fixed in position prior to transfer.

- Ventilator settings in case of air trapping / or heterogenous lung disease to be optimised to minimise further barotrauma and volutrauma while maintaining adequate gas exchange.
- Place occlusive dressing on site of NA or ICD if removed/displaced in transit. Keep emergency needling kit within reach, in case of further deterioration.

- Transcutaneous (CPAP) or end-tidal CO₂ monitoring (Intubated) should be used in all patients with Air Leaks.
- Consider ongoing pain management
- For flight transports - Discuss with on call NETS consultant and pilot of the need for flying at Sea Level. ([Special Features of an Air Transport](#))

Related CAHS internal policies, procedures and guidelines

Neonatology Clinical Guidelines
[Intercoastal Catheter \(ICC\) insertion and management](#)
[Needle Aspiration of the Chest](#)
[Pneumothorax](#)
[Special Features of an Air Transport](#)

This document can be made available in alternative formats on request.

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Healthy kids, healthy communities

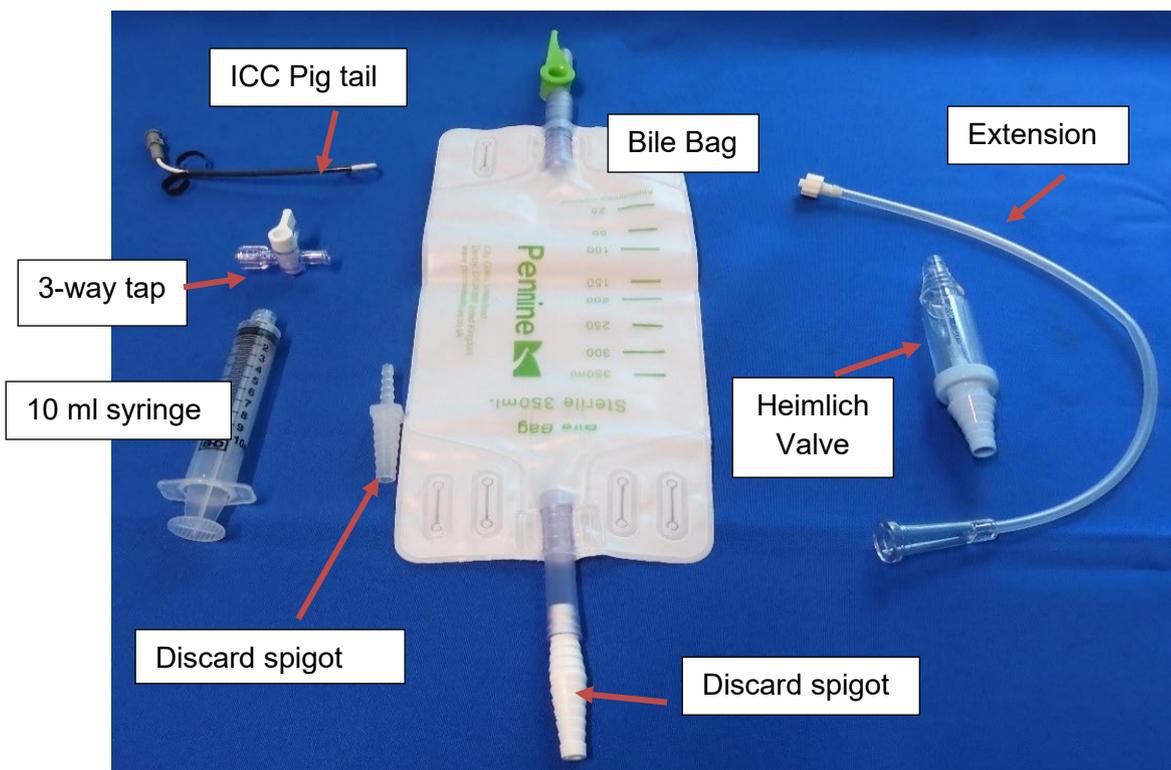
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Appendix 1: ICC set up for transport

Equipment:

- 10ml luer lock syringe
- 3-way tap
- Pleural/Pneumopericardial Drainage Set (ICC Pigtail catheter)
- Pneumothorax Aspiration Kit
- Bile bag (discard spigots)



Method:

- Connect 3-way tap to ICC pig tail catheter.
- Add 10ml syringe to 3-way tap. This can be used for manual aspiration.
- Connect white connection end of Extension tubing to 3-way tap.
- Connect Heimlich valve to bile bag using clear end spigot to clear tubing and blue end spigot to extension tube.
- Make sure white tap on 3-way tap is pointing at 10ml syringe so circuit is open from pigtail catheter to bile bag.
- Important to keep green valve open for apparatus to work

