



## CLINICAL GUIDELINE

### Transillumination of the Chest

<b>Scope (Staff):</b>	Nursing and Medical Staff
<b>Scope (Area):</b>	NICU KEMH, NICU PCH, NETS WA

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

To detect abnormal air collections within the chest cavity in an infant suspected of having an air leak or any respiratory supported infant who deteriorates with asymmetrical chest wall movement or air entry.

Transillumination can be done by any staff member deemed competent or a trainee under direct supervision from a competent staff member. If an abnormal air collection within the chest cavity is suspected, a Medical Officer competent in needle aspiration of the chest must be contacted immediately to attend the unit.

Any suspicion of an accumulation of air by transillumination should be confirmed by a chest X-ray if time permits.

[Emergency needle aspiration](#) equipment is kept in a container at each infant's bay for NICU infants.

For infants suspected of having fluid in the chest cavity, refer to [Intercostal Catheter \(ICC\) Insertion and Management](#) guideline.

#### Equipment

- High intensity fiber-optic cold light source (transilluminator).
- Cardiopulmonary monitoring.
- Blood pressure monitoring.

#### Procedure

1. Lower the lights in the room to enable hyper-lucent areas to be seen if present.
2. Place the transilluminator along the posterior axillary line on the side on which the air collection is suspected. The transilluminator may be moved up and down along the posterior axillary line and above the nipple to detect any areas of increased transmission of light.
3. Place the transilluminator in the third or fourth intercostal space on the left midclavicular line and angle the light towards the xiphoid process to detect any areas of increased transmission of light.
4. Transilluminate both sides of the chest to give a comparison.



Image: Transillumination of the chest

**Note:**


- A **false-positive** result may occur with severe subcutaneous chest wall oedema and pulmonary interstitial emphysema.

A **false-negative** result may occur in infants with a thick layer of subcutaneous fat.

Related CAHS internal policies, procedures and guidelines
Neonatology Guideline <ul style="list-style-type: none"> <li>• <a href="#">Intercostal Catheter (ICC) Insertion and Management</a></li> <li>• <a href="#">Needle aspiration of the Chest</a></li> </ul>

References and related external legislation, policies, and guidelines
1. Karlsen, K. Post-resuscitation / pre-transport stabilization care of sick infants: guidelines for neonatal healthcare providers. 6 <sup>th</sup> Edition. Park City, Utah. 2013.

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