EIT - Electrical impedance tomography assessment of lung homogeneity in infants undergoing inguinal hernia surgery; a prospective cohort study

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Status	RECRUITING
Sponsor	Southern Adelaide Local Health Network
Enrollment	90 participants

Plain Language Summary

When young babies and infants have surgery under general anaesthetic, there are several different ways to manage their breathing — including allowing them to breathe on their own, or using a machine to breathe for them. It is not yet fully understood whether mechanical ventilation during infant surgery affects the uniformity of air distribution in the small lungs, which could potentially contribute to breathing complications after surgery.

This study uses a technology called electrical impedance tomography (EIT) — a safe, non-invasive monitor that uses gentle electrical signals to create a real-time map of air movement inside the chest — to observe lung ventilation patterns in infants during inguinal hernia surgery. Four different types of anaesthetic and breathing management will be compared.

Your infant may be eligible if they are less than 64 weeks post-menstrual age (counting from conception, not birth), are already scheduled to have inguinal hernia surgery, and the anaesthetic team has already decided on the breathing management approach. Infants who are on a breathing machine immediately before surgery or whose parents object to participation are not eligible.

Key Eligibility Criteria

Inclusion (4)

- Inguinal hernia surgery planned for either a general anaesthetic, spinal anaesthetic
- or caudal, high flow nasal oxygen and sedation.
- Anaesthesia technique predetermined by treating team
- less than 64 weeks post menstrual age

Exclusion (2)

- Mechanical ventilation immediately prior to procedure
- Parental or clinician refusal

Locations (1 total)

SA,VIC, Australia