

Why does my baby need a chest drain?

The lungs are 2 cone-shaped organs and are protected by a smooth covering called pleura that allows the lungs to expand without rubbing on the inside of the rib cage. There is a small space between the lung and the rib cage called the pleural space. The pleural space can be filled up with air, fluid or blood because of lung disorders, an operation or due to mechanical ventilation. A build-up of air, fluid or blood can stop, one, or both lungs from completely inflating which will affect your baby's breathing and could require them needing a chest drain if there is a:

- Pneumothorax - an air leak in the lungs. It is when air is trapped in the space which adds extra pressure on the lung(s), causing them to collapse. This leak may start suddenly, or it may develop slowly over time.
- Pleural effusion when there is a build-up of fluid in the space.
- Haemothorax, if the pleural space is filled with blood.

Signs your baby may need a chest drain

Your baby will be carefully monitored and is likely to have had a significant increase in their oxygen or ventilation requirement, have increased breathing effort, may have bluish discolouration of the skin and or lips. Transillumination of the chest using a cold light source may be performed to inspect the area surrounding the lungs for free air.

In an emergency, if your baby's breathing is laboured or the circulation of blood is affected, the air must be removed from the chest cavity by using a needle and syringe, which is done at the bedside, as an emergency and by an appropriate trained person. Otherwise, a chest x-ray will be performed, first to confirm if there is any collection of air or fluid. If there is a large amount of collection, a chest tube will be inserted in the pleural space to reduce the pressure from the lung(s) and allow the lung to re-inflate.

The team will inform you if your baby needs chest drain insertion.

What is a chest drain?

A soft and flexible plastic tube will be inserted in a small incision made in the side of the chest, into the area between the lung and the chest wall. The soft plastic tube will be held in place with steri-strips and transparent dressing. Steri-strips are narrow adhesive strips that help to close the edges of a small wound. The tube will be connected to a collecting container and may have suction applied to help air or fluid to drain.

Chest drain procedure

A Doctor or an Advanced Neonatal Nurse Practitioner (ANNP) will perform the insertion of the chest drain. This is carried out under sterile condition while your baby is still in its incubator. Your baby will be given local pain relief and medicine to make them comfortable. After the procedure, your baby will have an x-ray to check the position of the tube and to make sure that the lung is re-expanding and will be given pain medication regularly. They will also be monitored continuously with respect to their breathing and oxygen requirements and pain / discomfort.

Are there any risks?

Though there are risks with any procedure our team will carefully monitor your baby for signs of infection, bleeding, the drain falling out or becoming blocked while the chest drain is in place. The amount of fluid will be carefully measured and recorded.

What can we do for our baby?

You can continue to spend time with your baby, take them out for cuddles and attend to their cares and feeds whilst the chest drain is in place, our team will assist you as you care for your baby. The length of time the chest drain will stay in place will depend on your baby's condition, response to treatment or if there is no more air or fluid draining from the chest.

Removal of chest drain

Once your baby's condition is stable and there is no drainage from the tube, the tube will be clamped for several hours before it is removed. The insertion site will be held together with steri-strips and protected by sterile dressing. You can stay with your baby during the procedure but if you choose not to that is fine too.

Your baby will be continuously monitored for any untoward signs of re-accumulation such as increase work of breathing, increase in oxygen requirement or restlessness. The insertion site will be observed for any signs of infection. Most babies with chest drain recover with no long-term effects such as infection, injury or trauma on the chest wall. The incision will leave a small scar once it has healed but it will not affect your baby's development.

If you have any questions or if there is anything you do not understand in this leaflet, please do not hesitate to speak to the Neonatal team.

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