

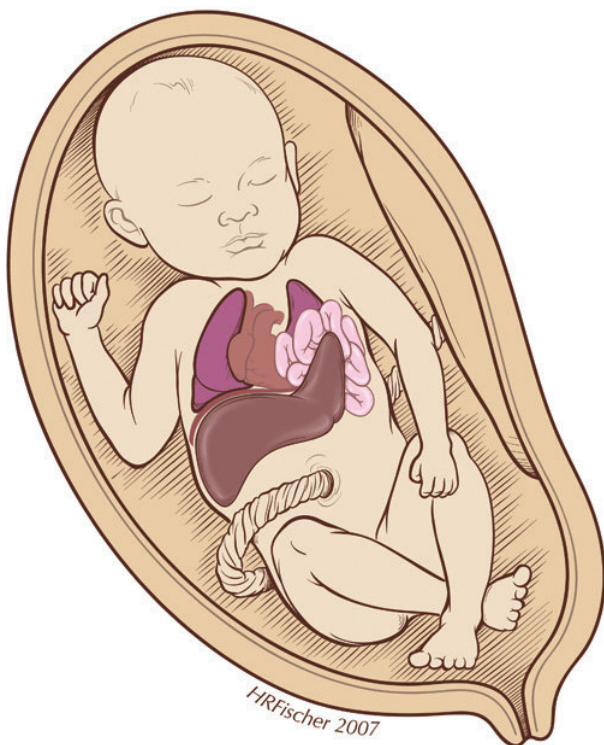
CONGENITAL DIAPHRAGMATIC HERNIA

What is congenital diaphragmatic hernia?

“Congenital” means “born with”. “Hernia” is where something is passing through a hole or gap that shouldn’t be there. Diaphragmatic hernia is when there is a hole in the diaphragm, the muscle that assists breathing and separates the lungs from the abdominal cavity.

How often and when does this condition occur?

This condition occurs in 1 in every 2,500-4,000 births. During the early stages of development there is normally a hole between the chest and abdominal cavities. This hole is meant to close by the end of the third month of pregnancy. If the hole does not close, it allows the abdominal contents including the stomach, intestine, liver and spleen to enter the chest cavity. The hole is most commonly on the left side of the diaphragm, but can occasionally be on the right side.



What does this mean for my baby?

The first 24 weeks of pregnancy are very important for the development of the baby’s lungs. If there is a large amount of stomach and intestine in the chest from very early in pregnancy, the lungs are prevented from developing to their normal size. This results in a condition called pulmonary hypoplasia which means small lungs. Sometimes the lungs may be so small that the baby will not be able to survive when it is born, despite all intensive care efforts.

Can my baby have other problems?

Some babies who have a congenital diaphragmatic hernia may have an abnormality of the chromosomes. Chromosomes contain our genetic material. In this case the baby may have other problems. If the medical staff are concerned that there is a problem with the chromosomes they will discuss this with you.

What will happen after my baby is born?

Immediately after your baby is born a tube will be placed into the airway (trachea) of your baby to help them breathe (endotracheal tube [ETT]). Your baby will then be taken to the intensive care unit.

What happens in the intensive care unit?

Once babies have arrived in the intensive care unit, they will be attached to a ventilator. They will have intravenous lines placed into the umbilical artery and vein. This means that we can monitor your baby's blood pressure and check oxygen levels easily, as well as provide fluid and nutrition. Your baby will be given medications that will keep them sedated and comfortable. This allows us to assist their breathing as much as possible.

The ventilator we use may do a type of ventilation called high frequency. This means that the airways are constantly "vibrated" allowing diffusion of oxygen and carbon dioxide. This is a more gentle way of ventilating babies with small lungs. Sometimes small airways can burst allowing air to leak and collect around the lungs causing them to collapse. This is called a pneumothorax. If this occurs the medical staff will need to insert a tube into the chest to drain the air.

The blood vessels of the lungs may be underdeveloped as a result of the diaphragmatic hernia. We may treat your baby with a gas called nitric oxide that helps dilate the blood vessels of the lungs to help your baby's breathing. Your baby may also need medications to support their blood pressure and improve the blood supply to their lungs.

What happens next?

Once your baby has been stabilised on the ventilator, our paediatric surgeons will then come and plan the best time for surgery. Research has shown that babies do best if the surgery is performed 1-2 days after birth, rather than immediately.

What does the surgery involve?

The surgeons will describe in detail what is involved. The purpose of the surgery is to close the hole in the diaphragm, so that the stomach and intestine are placed back into the abdominal cavity. Sometimes the hole cannot be easily closed and a piece of material called "gortex" is used to patch the hole in the diaphragm. Following the surgery your baby will continue to need assistance to breathe. They will slowly be weaned from the ventilator.

What long-term problems may my baby have?

Babies who have had a diaphragmatic hernia repair will often have gastroesophageal reflux. This is when the stomach contents easily come back up into the oesophagus, and can cause vomiting or "heartburn" (pain). This may need to be treated with medication. Your baby may become more unwell with colds, which can become chest infections in the first 1-2 years of life. You will be encouraged to avoid people with colds and to seek medical advice early if your baby becomes unwell.

If you have any other questions please ask the medical and nursing staff.