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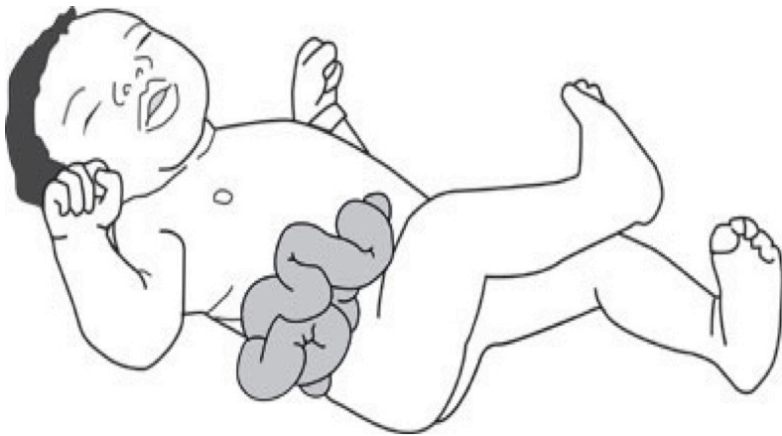
Gastroschisis



Gastroschisis is a type of abdominal wall defect. It occurs when a child's abdomen does not develop fully while in the womb.

Early in all pregnancies, the intestine develops inside the umbilical cord and then usually moves inside the abdomen a few weeks later.

In gastroschisis, the abdominal wall does not form completely so the intestines develop outside and are open to the air when the child is born.



What causes Gastroschisis?

We do not know exactly what causes gastroschisis although we do know that they are becoming more common, particularly in younger mothers under the age of 20 years. However, overall the incidence is quite low with 1 in 3000 babies being born with gastroschisis each year.

Gastroschisis can be associated with other problems but the doctors will examine a child closely to check if this is the case.

What are the signs and symptoms of gastroschisis?

Gastroschisis is immediately recognisable because the child's intestines are outside of the abdomen. Some areas of the intestines may look darker as they have been in contact with the amniotic fluid inside the womb, which can damage them. The umbilical cord is visible but pushed to the side by the exposed intestines.

How is gastroschisis diagnosed?

In many cases, it can be visible on prenatal ultrasound scanning, which is useful because it gives time for discussion and planning for when and where to give birth.

Many children with gastroschisis are induced between 37 and 38 weeks as there are increased risks after this time. Generally children are born naturally (vaginal childbirth) but some may need a caesarean section for other reasons.

How is gastroschisis treated?

Gastroschisis is a serious condition so needs prompt treatment soon after birth. Immediately after birth, doctors will wrap the exposed intestines in a type of 'cling film' which reduces the amount of fluids and body heat lost, protects the intestines from further damage and also allows staff to monitor them closely.

Once the Neonatologists are happy that your baby is stable, the surgical team will assess your baby's condition and will decide on the type and timing of surgical management to return the intestines back into the tummy and close the defect.

If there is only a small amount of intestines outside the abdomen, these may be put back inside the tummy and the hole closed with dissolving sutures (stitches) shortly after birth. This is called a Primary Repair. This operation can be performed in the neonatal unit or under general anaesthesia.

If the amount of intestines outside the tummy is large and/or the abdominal cavity is small, the surgeons will place a see-through sac (Silo) over your baby's intestines. This can be done at the cot side under simple sedation and analgesia.



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The silo is then suspended from the ceiling of the incubator and gravity, along with a phased reduction in the size of the sack, will help the bowels to slip gradually back inside the tummy. This may take a few days in total and only then will the final closure of the tummy hole occur. This is called Staged Repair. Sometimes, at the time of the final repair, the surgeon may need to use a 'patch' of synthetic or biological material if the hole in the tummy is quite large.

The surgeon will examine the exposed areas of intestine before repairing the defect or placing a silo to see if any parts have been damaged. If there are any damaged areas, it may be necessary to remove them and join up the healthy ends of intestine to form a complete tube as normal or plan a second operation to do this at a later stage when the abdomen is closed and the baby is stable. The surgeons will try to leave as much healthy intestine as possible while removing any damaged areas that could cause problems in the future.

Are there any risks with the operation?

All surgery carries a small risk of bleeding during or after the operation. During the operation, the surgeon will minimise any bleeding by sealing off the blood vessels affected. There is a very small chance that nearby structures in the abdomen could be damaged during surgery but this is a very rare occurrence.

Every anaesthetic carries a risk of complications, but this is very small. The anaesthetist is a very experienced doctor who is trained to deal with any complications.

It can take a while after the operation for the intestine to start working properly so a child may need to be fed intravenously using total parenteral nutrition (TPN) for a while. This affects many children and is explained further in the next section.

Sometimes the intestines can be damaged by being outside the abdomen so the surgeon has to remove a portion. This is also a risk associated with staged repair, although the child's intestines will be monitored closely while a silo is being used. Removing damaged portions of intestine will not usually cause any long term problems unless a large amount of intestine needs to be removed, leading to 'short bowel syndrome'.

Short bowel syndrome is the name given to the condition where there is not enough intestine to absorb all the nutrients needed for good growth and development. Children with short bowel syndrome may need their feeds topped up or replaced with TPN either on a short term basis while their intestine recovers or for a longer period of time.



Are there any alternatives to the operation?

No – abdominal wall defects need to be repaired to prevent fluid and body heat loss from the exposed intestines and reduce the risk of damage. Ultimately, the condition needs to be treated to allow the child to grow and develop.

What happens afterwards?

The baby will come back to recover either on the intensive care unit or our surgical ward and will be able to have visitors as soon as they are settled. All babies are closely monitored after the operation, connected to monitors to check their breathing, heart rate and oxygen levels. If a child needs help with breathing, they will be nursed on the intensive care unit and connected to a ventilator. They will also be given pain relief through the intravenous infusion (drip).

While the child's intestines recover and start to work, they will be fed through a tube into their veins (total parenteral nutrition or TPN). This will gradually be replaced by breast or bottled milk, given through the naso-gastric tube when they are able to tolerate this. As the baby recovers, they will be able to feed from the breast or bottle. Over time, the drips and monitors will be removed one by one. This usually takes 3-4 weeks.

The child will be able to go home or be transferred back to their local hospital once they are feeding properly and gaining weight. A local health visitor or community paediatric nurse will visit regularly. We send details of outpatient appointments in the post, soon after leaving hospital.

When the child gets home

If the child is unwell, we recommend taking them to a local hospital. The doctors there will discuss any concerns with the team at RBHSC.

What happens next?

The outlook for children with gastroschisis is good, with the majority growing up to live normal lives, working and raising a family. Research shows that children with simple gastroschisis, where no damage occurred to the intestines stay in hospital for about a month and start to feed normally within a few weeks of treatment.

Some children need to continue with TPN for a longer period so that they can gain weight to reach the right size and weight for their age. They may seem smaller than other children of the same age for the first few years but the majority catch up in time.

There is a very small chance that despite treatment the intestines may not work properly to absorb nutrients. This is called intestinal failure and requires long term TPN which can occasionally cause liver problems.

Children who have had a gastroschisis repair may develop hernias in the years after the operation. This is because the abdomen has fewer muscles than usual. If a bulge in the child's abdomen is noticed, we recommend talking to the doctor.

1. Image from GOSH Hydronephrosis leaflet
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2. Image from Birmingham Women's and Children's
Information Leaflet: Gastroschisis

Contact Details

Barbour Ward (out of hours): 028 961 50337

Paediatric Surgical Secretaries

Miss McCullagh/ Mr Dick: 028 961 55679

Mr Philip: 028 961 6039

Miss Milliken/ Miss Lawther: 028 9504 7666



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