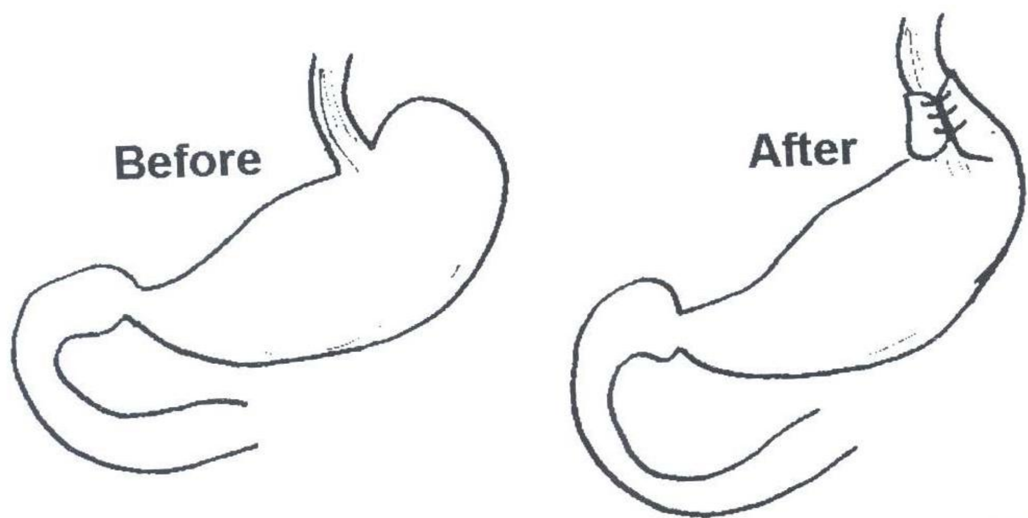
Children's Services

Nissen's Fundoplication – in children

Your child has been diagnosed as having gastro oesophageal reflux disease (GORD) for which medication has given little or no relief. This means that stomach contents are 'refluxing' (going back up) the oesophagus (food pipe). If GORD is left untreated the regular refluxing of the stomach's contents can cause damage to the lining of the oesophagus. In addition, reflux can cause other problems such as chest infections ('aspiration pneumonia'), pain and/or vomiting and your child may fail to gain weight.

What is a fundoplication?

The operation involves using the top part of the stomach called the 'fundus'. The fundus is wrapped around the bottom part of the oesophagus to tighten the junction between the oesophagus and the stomach. After a fundoplication, when your child eats/drinks and the pressure in the stomach rises as it fills up, the junction closes off and the contents will no longer be pushed back up the oesophagus.



Admission to hospital

You will be asked to bring your child to one of our children's wards. This may be early in the morning on the same day as the operation or one day prior to surgery depending on your child's underlying condition. You will be met by nursing staff and seen by your doctors and anaesthetist. Some blood tests will also need to be taken. You will be able to stay with your child overnight if you wish. You can also be present while your child goes to sleep for their operation, and in the recovery area where he/she wakes up.

The operation

The operation will be carried out under a general anaesthetic. Most children will have their fundoplication carried out laparoscopically (key-hole surgery). Small 'key holes' (about 5mm long each) are made in the tummy wall. Through these holes, special instruments are used to wrap the fundus around the bottom of the oesophagus. This is all visualised on a TV screen by a miniature camera which is inserted through one of the key holes.

After the operation

- You will be able to be with your child as soon as they begin to wake in the recovery room. Once your child has fully woken (s)he will be taken back to the ward. Some children (for example some children with known chest or neurological problems) will need to be monitored in the high dependency unit before then being transferred back to the ward.
- Local anaesthetic will be used to stop pain from the key holes. However, some children experience some discomfort around their tummy muscles and shoulders from the gas that is used in laparoscopic surgery. This will be relieved by your child being given pain killers through a drip or as suppositories (once your child starts drinking, medicine can be given).
- Until your child is able to start drinking, fluid will be provided by a drip which will have been inserted during the operation. Sometimes a 'nasogastric (NG)' tube will also have been passed in theatre to rest the stomach and to prevent your child from feeling sick. This tube passes through the nose and down into the stomach; it allows all secretions produced in the stomach to be removed.
- Your doctors will tell you when your child will be able to start drinking/eating again. Many children are able to start having sips of water a few hours after their operation but some children will not start having water for a few days. Once fluids are being tolerated he/she will be allowed to start eating (see the section on diet below).

How is this operation different from the traditional one?

The actual operation is the same. The only thing that is different is the way in which we get to the stomach. Traditionally, a cut approximately 10 to 15cms long was made. This takes longer to heal than the little holes of key hole surgery and the recovery is slower.

Is there a guarantee that key hole (laparoscopic) surgery can be done?

No, it is not possible to guarantee that the operation can be completed by key hole surgery. If there is some technical difficulty (for example, it is difficult to visualise the stomach or the wrap) then a traditional cut will need to be made. The stay in hospital will be longer (approximately seven to 14 days) as well as the recovery at home.
The chances of having to convert to open surgery are small, about 5%.

If your surgeon does not feel that key hole surgery is suitable in your child's case (s)he will discuss this with you at your outpatients appointment.

What are the risks/complications of surgery?

As with all operations there are risks but these are rare. They include:

- **Bleeding**, **bruising**, **infection** and/or **protrusion of tissue** through the wound affecting one or more of the key hole incision sites.
- **Failure/recurrence**
  There is an approximate 5% failure rate associated with this operation. Failure is usually due to the wrap coming undone or being stretched enough to allow reflux to reoccur. Constant retching is a risk factor in the wrap becoming stretched. Unfortunately retching cannot always be controlled by medication. If the wrap does become stretched or undone, further surgery may be needed.
- **Gas bloat**
  (See section on 'care after a fundoplication').
- **Adhesions**
  This is scar tissue formation which can occur after any abdominal operation. It is a small but lifelong risk which may result in an obstruction ('blockage') of the intestine. Symptoms of an adhesion obstruction include cramping abdominal pain and green (bile) vomit.

Care after a fundoplication

1. Alteration in diet

- Because the fundus of the stomach has been used to make the wrap, the overall size/capacity of the stomach is temporarily reduced. It will help your child to eat smaller meals in the beginning and gradually increases meal size. This alteration will take some weeks.
- As the fundus of the stomach has been used to tighten the junction between the oesophagus and the stomach, swallowing lumps will be difficult in the first weeks after surgery. All children will need to have fully liquidised food for the first few weeks. Gradually, over a period of some months, the consistency of food can be gradually introduced. (The exact time frame will be different for each individual child but your doctor will oversee a plan for your child). Dry foods such as chicken will be introduced last and will need to be eaten with lots of gravy/sauce to prevent it getting stuck in the food pipe.
- If a lump of food is eaten which cannot pass down into the stomach your child will usually retch it back up. If this does not happen you should seek medical advice without delay.
- If food getting stuck becomes a severe/prolonged problem further surgery may be required.

2. Gas bloat

- If your child is unable to burp up gas the stomach becomes distended. In most children this does not cause a significant problem and the gas passes through the gut. However, gas bloat can make some children feel unwell with symptoms of trapped wind (for example, pain, feeling bloated) and occasionally children can feel very poorly and become pale and sweaty.
- If gas bloat occurs whilst your child is still in hospital and they still have a nasogastric tube in place, the air can be removed through this. If your child has a gastrostomy tube your nurse will teach you how to remove trapped air through the tube to relieve gas bloat.
- If gas bloat becomes a problem after discharge from hospital you should contact your nurse specialist/ward/GP for advice.
- To help prevent gas bloat food should be eaten slowly and chewed well prior to swallowing.

3. General discharge advice

- As the stitches are dissolvable they do not need to be removed.
- Your child may have some discomfort and should be given the pain killers supplied regularly.
- Your child can have showers because any dressings used are waterproof. However baths are not permitted for five days.
- The dressings can be gently pulled off after seven days (it is easiest and less painful to do this in the bath).
- Your child should rest at home for two weeks.
- Wound infections are rare but if your child's wound looks red/sore see your GP.
- If your child develops a fever or pain that is not helped by pain killers provided, you should contact your nurse specialist/GP.

Follow up

You will receive an appointment to attend the outpatients department approximately 6 to 12 weeks after your child's operation for review.

For further information/if you have any queries, please contact:

The ward you were on:
Your nurse specialist:

We are currently working towards a smoke free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169

Help with this leaflet:

If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or patient.information@addenbrookes.nhs.uk

Polish
Jeżeli chciałbyś uzyskać te informacje w innym języku, w dużej czcionce lub w formacie audio, poproś pracownika oddziału o kontakt z biurem Informacji Pacjenta (Patient Information) pod numerem telefonu: 01223 216032 lub pod adresem patient.information@addenbrookes.nhs.uk

Portuguese
Se precisar desta informação noutra língua, em impressão de letras grandes ou formato áudio, por favor peça ao departamento que contacte a secção de Informação aos Doentes (Patient Information) pelo telefone 01223 216032 ou através do e-mail patient.information@addenbrookes.nhs.uk

Arabic
إذا كنت تودّ الحصول على هذه المعلومات بلغة أخرى، بالأحرف الكبيرة أو بشكل شريط صوتي، يمكنك أن تطلب من القسم الاتصال **بمعلومات المريض** على الرقم : 01223216032 أو عبر البريد الإلكتروني : patient.information@addenbrookes.nhs.uk

Cantonese
如您需以另一語言版本、特大字體或錄音形式索取本資料，請要求部門聯絡病人諮詢服務：電話 01223 216032，電郵地址 patient.information@addenbrookes.nhs.uk

Turkish
Eğer bu bilgileri başka bir dilde veya büyük baskılı veya sesli olarak isterseniz, lütfen bulunduğunuz bölümdeki görevlilere söyleyin Hasta Bilgilendirme servisini arasınlar: 01223 216032 veya patient.information@addenbrookes.nhs.uk

Urdu
اگر آپ کو یہ معلومات کسی دیگر زبان میں، بڑے الفاظ میں یا آڈیو طریقہ سے درکار ہوں تو برائے مہربانی اس شعبہ سے پیشنٹ انفارمیشن سے ذیل کے ذریعہ رابطہ کرنے کی درخواست کریں: 01223 216032 یا patient.information@addenbrookes.nhs.uk

Bengali
আপনি যদি এই তথ্য অন্য কোন ভাষায়, বড় অক্ষরে বা অডিও রেকর্ডিং পেতে চান তাহলে ‘প্যাশেন্ট ইনফরমেশান’ এর সঙ্গে 01223 216032 নম্বরে ফোন করে বা patient.information@addenbrookes.nhs.uk ঠিকানায় ই-মেইল করে যোগাযোগ করার জন্য ডিপার্টমেন্টটিতে অনুরোধ জানান।

Document history

Authors	Department of children's services/ Paediatric Surgery
Department	Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk
Contact number	01223 245151
Publish/Review date	July 2010/July 2013
File name	Nissens_fundo_v2.doc
Version number/Ref	3/PIN233