Patient information

Laparoscopic Nissen Procedure

General Surgery- Aintree Hospital

What is reflux?

Gastro-oesophageal reflux disease (GORD) - is a disorder that is caused by stomach acid/contents flowing from the stomach into the ooesophagus/gullet. Reflux means the return of acidic stomach juices, or food and fluids, back up into the oesophagus.

After food passes through the oesophagus into the stomach, a valve called the lower oesophageal sphincter (LOS) closes, preventing the movement of food or acid upward or back into the oesophagus.

Gastro-oesophageal reflux occurs when this valve/LOS relaxes inappropriately, allowing contents from the stomach to flow backward into the oesophagus.

What happens with reflux?

Heartburn, also called acid indigestion, is the most common symptom of GORD. The acidic content (and sometimes bile) can cause damage to the lining of the oesophagus. If untreated, prolonged exposure can cause damage over a long time to the lining of the lower oesophagus resulting in inflammation, bleeding, ulcers, narrowing due to scarring (strictures) and change of lining into that of stomach/bowel type lining (in medical terms this is called as Barrett's oesophagus).

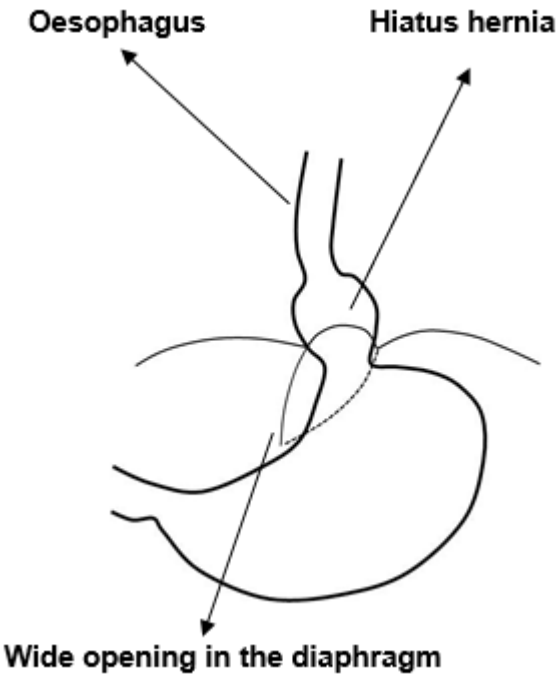
You can discuss the significance of Barrett's oesophagus with your doctor.

What is hiatus hernia?

A hiatus hernia may be associated with GORD. Severe heartburn may also result from hiatus hernia.

A hiatus hernia is caused by a widening of the natural opening in the diaphragm, a flat muscle that separates the chest from the abdomen, allowing a portion of the stomach to protrude into the chest.

This condition can then cause the oesophageal valve to fail. Although most cases of gastro-oesophageal reflux are caused by a weakened valve, there are other causes that need to be assessed by your doctor.



How is reflux disease investigated?

Gastroscopy – Camera (endoscopic) examination of the gullet and stomach is performed to look at changes of inflammation in the lower end of gullet, presence of hiatus hernia or stomach inflammation.

24 hour pH/manometry – Small catheter is passed through nose into gullet and stomach, first to measure the valve pressure of gullet and then to look at amount of acid reflux that occurs over 24 hours.

You will have the catheter inserted in the endoscopy department, fixed in place along with a monitor and then sent home.

You will need to come back to the endoscopy department the next day to get the catheter removed.

The monitor will be studied for its recordings and the result will be sent to your physician or surgeon.

This test is usually done before making a decision regarding surgery.

Barium swallow – This test is done in the X-ray department. You will be asked to drink a liquid dye (barium) and serial X-rays will be taken to see how the dye goes down your gullet into the stomach.

This helps in the diagnosis occasionally but may not be done routinely.

Other tests may be done by your Physician or Surgeon, if necessary.

How is GORD or reflux usually treated?

Treatment can include lifestyle changes, such as weight reduction, avoiding certain types of food and taking medications to alleviate symptoms.
Surgery may be an option when treatment with medications does not completely relieve symptoms.

It's also a good option for patients whose symptoms are well controlled but who don't want to take medication, and for patients with complications of reflux disease, such as ulcers, strictures or Barrett's oesophagus.

Anti-reflux operations (Nissen fundoplication) may help patients who have persistent symptoms despite medical treatment.

How is the laparoscopic (‘key-hole’) surgery performed?

A laparoscopic or ‘key-hole’ surgical procedure is an alternative to traditional or what is known as ‘open’ surgery, in which a large incision must be made.

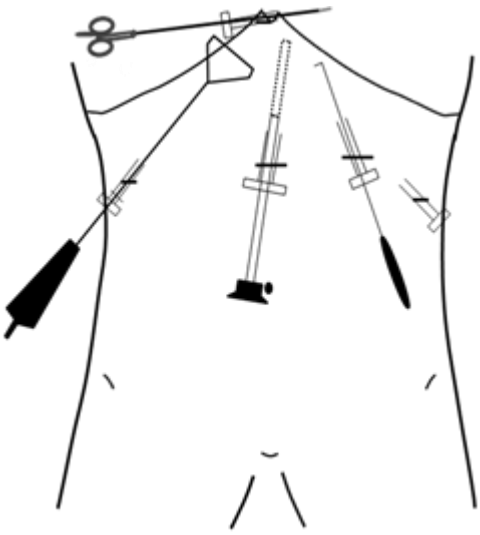
At the Aintree University Hospital, we provide patients with this technologically advanced option. Our surgeons use ‘key-hole’ surgery to do this operation using incisions/cuts of half to quarter of an inch size.

Laparoscopic/’key-hole’ surgery eliminates the need for a long incision. Small incisions are made to accommodate small tubes called ‘trocars’.

These create a passageway for special surgical instruments and a camera (laparoscope).

A laparoscope is an instrument that is inserted in the abdominal wall.

This device has a long lens, which is attached to a camera transmits images from within the body to a video monitor, allowing the surgeon to see the operative area on the screen.

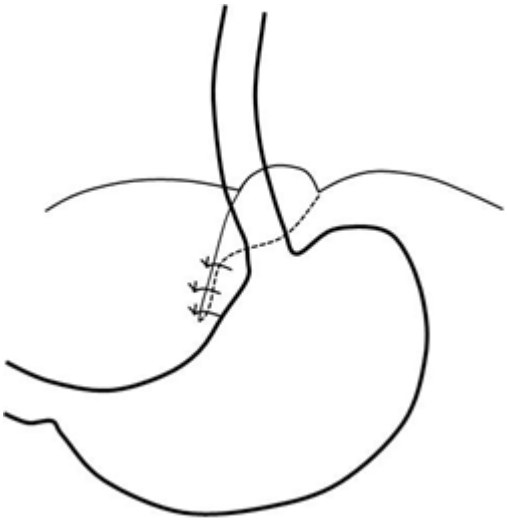


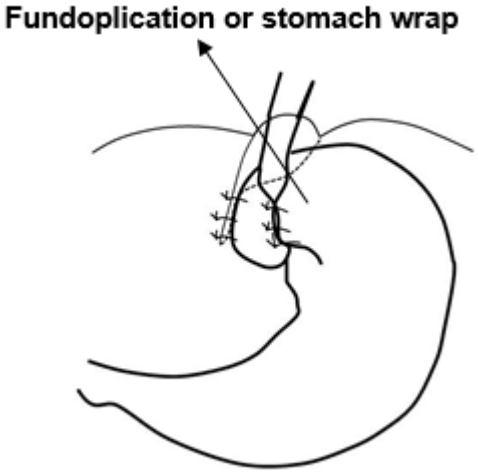
During the laparoscopic Nissen fundoplication procedure, surgeons use small surgical tools and a laparoscope to repair the muscle that separates the stomach and oesophagus. This involves repairing the hiatus hernia as well.

What is Nissen fundoplication?

In anti-reflux surgery, hiatus hernia (if present) is corrected along with tightening of opening in the diaphragm and a new valve for the lower end of gullet is constructed using the top end of stomach (called fundoplication).

Repair of diaphragm (after hiatus hernia correction)





Nissen name comes from the original surgeon who described this procedure for the first time.

During the fundoplication surgery, the surgeon improves the natural barrier (or valve effect) between the stomach and the oesophagus by wrapping a part of the stomach known as the gastric fundus around the lower oesophagus.

This prevents the flow of acids from the stomach into the oesophagus, and strengthens the valve between the oesophagus and stomach, which stops acid from backing up into the oesophagus as easily.

Why is laparoscopic or ‘key-hole’ surgery better?

Laparoscopic surgery has many advantages over traditional surgery. Less pain, less scarring and early recovery time are two of the most significant advantages of this procedure.

Hospital stays are reduced and total recovery time is cut in half. The risk of infection is also lower because of the smaller incisions.
Laparoscopic surgery usually requires only a one-day hospital stay instead of four to five days required for traditional surgery.

In many cases a patient's total recovery time can be as little as one to two weeks, compared with four to six weeks for traditional surgery.

How long will I have to stay in hospital? When can I resume normal activities?

The laparoscopic surgery often requires a hospital stay of only 23 hours.

You should be able to return to normal activities between one and two weeks, compared with four to six weeks for traditional surgery.

Who are good candidates for the procedure?

Surgical candidates are those whose heartburn is not well controlled with medicine, those who want to fix the problem without having to take medicine long term, and those who are having complications from reflux, including ulcers, strictures, hernias or Barrett's oesophagus.

What can I do to help make the operation a success?

Lifestyle changes

If you smoke, try to stop smoking now. There is strong evidence that stopping smoking several weeks before general anaesthetic reduces your risk of getting complications.

If you are overweight, losing weight will also reduce our risk of developing complications.

If you need help to stop smoking or lose weight, ask a member of the healthcare team or your GP for advice.

Can I eat and drink before surgery?

You will need to fast avoiding all food and drink for up to six hours before the procedure, as it will be done under general anaesthetic.

Your standard medications for the heart or blood pressure can be taken with a few sips of water at your usual time or early morning, unless advised during pre-operative assessment.

If you are on **aspirin** or **clopidogrel** (blood thinning medications), you will need to stop as per doctor's advice given at time of discussion of procedure in the clinic, anaesthetic assessment or pre-operative checkup (usually seven days at least).

If you are on **warfarin** (blood thinning medication) or any other special/new type of blood thinner, this will definitely be stopped, at least four days before procedure.

An alternative may or may not be used depending on your underlying problem for which warfarin is being used.

What complications can occur?

The healthcare team will try and make your operation as safe as possible.

However, some complications can happen, some of these can be serious and can even cause death. You should ask your doctor if there is anything you don't understand. Your doctor may be able to tell you if your risk of complications is higher or lower for you.

Generally the consultant will discuss the issues around common complications only. There are uncommon and/or serious complications that you may wish to know about and you can ask questions about these and get details if you so wish.

If you are worried about any particular complication-s, that you know about or have read about (elsewhere or as mentioned in this leaflet), please ask the consultant/surgeon who will be performing your operation.

The complications fall into three categories.

1. Complications from anaesthesia.
2. General complications of any operation.
3. Specific complications for this operation.

1 Complications from anaesthesia

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation

- **Pain –** It is normal to have pain after surgery. The healthcare team will try and reduce your pain by giving you medication to control it. It is important you take your medication as advised so that you can move about and cough freely. After a laparoscopy, it is common to feel bloated and to have pain in your shoulders because a small amount of gas may be left under your diaphragm.

  Your body will usually absorb the gas naturally over the next 24 hours, which will ease the symptoms. You may also notice that you have a slightly sore throat. This is due to the 'breathing' tube which is placed in your throat during surgery and should subside in a day or two.

- **Bleeding –** During or after surgery. This occasionally requires blood transfusions or further surgery.

- **Infection in the surgical wound –** This may require treatment with antibiotics or occasionally further surgery.

- **Developing a hernia in the scar –** If you have open surgery, the deep muscle layers may fail to heal causing an incisional hernia. This appears as a bulge or rupture and is it causes problems may require a further operation.

- **Blood clots –** In the legs (deep vein thrombosis). This can occasionally move through the bloodstream to the lungs causing a pulmonary embolism (PE), making it difficult for you to breathe.

  The nurses will encourage you to mobilise soon after surgery and may give you injections to reduce the risk of blood clots.

3 Specific complications for this operation

A Laparoscopic complications

- **Damage to internal organs –** When placing instruments into the abdomen (risk 1 in 1,000). The risk is higher in people who have previously had surgery to the abdomen. If an injury does happen, you may require open surgery, which involves a much larger cut.

  About one in three of these injuries is not obvious until after surgery, so if you have been in pain which does not improve each day after surgery, you should let your doctor know.

- **Developing a hernia near one of the cuts used to insert the ports –** (Risk 2 in 10,000). Your surgeon will try and reduce this risk by using small ports (less than 10mm in diameter) where possible or, if they need to use larger ports,using deeper stitching techniques to close the cuts.

- **Surgical emphysema –** (Crackling sensation in the skin due to trapped gas), which settles quickly and is not serious.

B Nissen procedure complications

- **Injury to organs –** It is possible, but extremely rare for injury to occur to the oesophagus, stomach, spleen, liver or bowel, which are in the field of surgery.

- **Diarrhoea –** This can sometimes happen as nerves around the lower oesophagus may get injured or trapped in scar tissue of surgery.

- **Inflammation –** In the abdomen (peritonitis) due to a collection of bile or blood.

- **Difficulty in stomach emptying:** inability of stomach to empty properly, causing bloating, nausea and vomiting. This is a rare complication of this operation.

Some expected side effects of the operation which should improve over a period of few weeks to a few months

- **Dysphagia –** difficulty in swallowing solids is quite common due to swelling in the area of operation (lower gullet) and for this reason dietary advice needs to be followed strictly.

This may result in weight loss to a variable extent. In almost all cases this settles in a few weeks. Very rarely it occasionally may require further surgery.

- **Gas bloat syndrome –** Due to inflammation and an over-competent new valve, most patients will not be able to burp naturally or vomit. These result in feeling of bloating, trapped wind and excessive flatulence.

Should I worry about death?

Routine or elective (planned non-emergency) surgery in general has usually low risk of death as compared to emergency surgery.

Risk of death is dependent on how complex the operation is, what your co-existing medical conditions are (for example – diabetes, heart or breathing problems, kidney problems) and if you develop any complications after surgery.

In general, risk of death after general anaesthetic is 1 in 100,000 and risk of death after laparoscopic Nissen procedure has variously been reported around 1/600.

Most elective or planned Nissen procedures are done as short-stay procedures (overnight stay or day-case), so the risk will be on the lower side.

Please discuss with consultant or your doctor if you worry about this.

How soon will I recover?

In hospital

Following your operation you will be transferred to the recovery area and then to the ward.

You should be able to go home later that day or the following day.

However, your doctor may recommend that you stay a little longer.

What do I get at time of discharge?

1. Discharge information leaflet.
2. Medications (called TTOs).
3. E-discharge copy (electronic discharge statement that your GP gets).
4. Leave certificate for work (if applicable).

If you do not get the above documents/ prescription, please discuss with your discharge nurse/ward nurse/doctor on ward.

At home

- **Returning to normal daily activities –** After a week or so you should be able to resume most of your normal daily activities. It is normal to feel tiered after surgery, so take some rest, two to three times a day and try and get a good night sleep. You should avoid heavy lifting and vigorous exercise for at least two weeks.

- **Driving –** You should not drive for at least one week.

Before driving you should ensure that you can perform a full emergency stop, have the strength and capability to control the car, and be able to respond quickly to any situation that may occur.

Please be aware that driving whilst unfit may invalidate your insurance.

- **Returning to work –** You can return to work as soon as you feel well enough. This will depend on how you are feeling and the type of work you do. Typically you will need between two and three weeks off work.

- **Eating –** Patients are counselled before the operation about lifestyle and dietary adjustments that are needed for about six weeks (variable period) following surgery. They are advised to eat smaller amounts of food at each meal, to chew their food well, and avoid chewing gum and drinking carbonated drinks. You should start with light frequent meals and then increase at your own pace.

  You will be given a leaflet with dietary advice at discharge to help you.

- **Bowels –** You may find it takes three or four days to have normal movement. If you have not had a bowel movement in three days following surgery, a mild laxative should help.

  Your local chemist should be able to advise you.

  Alternatively, you may experience some diarrhoea following surgery. This should settle within three to four weeks. If the diarrhoea is bothersome your local chemist can advise on over- the-counter remedies.

  Remember to drink plenty of fluids so that you don't get dehydrated.

When do I need to seek advice?

- If you have a discharge of blood or pus from your wounds.
- If you develop a temperature above 38.5C.
- Vomiting that continues for more than three days after surgery.
- Inability to have a bowel movement after four days.
- Persistent pain not relieved with your prescribed painkillers.
- Persistent abdominal distension (bloating of your stomach).
- Increasing pain or swelling around your wounds.
- Chest pain and shortness of breath.
- Crackling sensation under the skin, especially in the neck area.

What do I do if there are problems after surgery?

Please read this leaflet carefully regarding side-effects and risks of surgery.

Check with your doctor before discharge from hospital after surgery.

Standard procedure to follow would be to contact the consultant's secretary and ask for advice in working hours.

The secretary may be able to contact the registrar or the consultant for advice that may be passed on to you.

If no team member is available to deal with your query or if you have any problems out of hours, it is best to check with your GP or attend the Accident & Emergency Department at Aintree Hospital for a clinical review and advice.

What is the success rate for this surgery/procedure?

The success rate for the minimally invasive surgery is 90 to 95 percent for patients who have the typical symptoms of GORD, such as heartburn, regurgitation, or belching. For those with atypical symptoms, including hoarseness and chronic cough, the surgery is about 70 to 80 percent effective at relieving their symptoms.

If your original symptoms come back after an interval after surgery (that is – success followed by failure), then there is possibility that the procedure has failed. In this case you may have to be reinvestigated for revision surgery.

If different symptoms appear after surgery, you may need different investigations appropriately.

In all cases it is best to get a reappointment with your original surgeon if possible. This leaflet has been developed by a specialist working in Aintree Hospital and having a special interest and practice in this particular clinical problem.

Feedback

Your feedback is important to us and helps us influence care in the future.

Following your discharge from hospital or attendance at your outpatient appointment you will receive a text asking if you would recommend our service to others. Please take the time to text back, you will not be charged for the text and can opt out at any point. Your co-operation is greatly appreciated.

Further information

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