Laparoscopic Fundoplication for Reflux
Understanding Reflux

**General**

Reflux happens when acid from the stomach washes up into the gullet (oesophagus) from the stomach. Typically this causes heartburn – a burning pain in the upper abdomen that may spread up into the chest. Other symptoms include regurgitation of food or fluid, difficulty in swallowing, hoarseness and breathing problems. As many as 1 in 10 people will suffer from some degree of reflux, though this is often controlled by altering your lifestyle or taking tablets.

In the vast majority of patients this causes no long term damage. Over a period of time reflux may cause severe or long lasting complications by damaging the oesophagus (oesophagitis) and may result in strictures (narrowing of the gullet) and Barrett’s Oesophagus (there is a change in the cells lining the oesophagus).

Why does reflux happen?

The stomach uses acid to help digest food. The oesophagus is not meant to be exposed to this acid, and so there is a mechanism or valve at the lower end of the oesophagus to prevent reflux. This mechanism involves the lower oesophageal sphincter muscle and part of the diaphragm.
The valve may not function properly if:

- You are under a lot of stress.
- You are overweight or pregnant – this puts extra pressure on the valve.
- You eat fatty foods – acid may stay in the stomach for longer.
- You smoke, drink alcohol or take a lot of caffeine – these relax the valve and allow reflux.
- You take medications such as ibuprofen or steroids.
- You have a hiatus hernia (see below).

**What is a hiatus hernia?**

The stomach normally sits just below the diaphragm, so when part of it gets abnormally pushed up into the lower chest this is known as a hiatus hernia. If this happens, the valve between the oesophagus and stomach may no longer function properly, and can lead to reflux. Hiatus hernias are very common, but it is important to understand that not all patients with reflux have them and conversely you can have a hiatus hernia and not suffer with reflux.
How is Reflux Diagnosed?

Reflux is normally diagnosed on symptoms, gastroscopy, oesophageal manometry & PH studies or a Barium swallow.

**Endoscopy (gastroscopy or OGD)** – This involves passing an endoscope – a thin tube with a light and camera on the end – down the throat and into the stomach. This allows a good view of the stomach, oesophagus and duodenum. Pictures and tissue samples can be taken if required. It takes around five minutes and does not usually require sedation. Anyone contemplating antireflux surgery will have to undergo this test.

**Oesophageal Manometry and pH studies** – If findings at endoscopy are not conclusive, further tests may be required. The manometry and pH study involves passing a fine tube down a nostril and into the oesophagus where sensors in the tube can monitor pressure and acid levels. This tube will need to be in place for 24 hours to get an accurate recording of how bad your reflux is. It can confirm the diagnosis of reflux disease, or detect some of the rarer causes of reflux-type symptoms.

**Barium swallow** – this involves swallowing a liquid that can be seen on x-ray, and is used when there are concerns about swallowing or if a more accurate picture of the hiatus hernia is required.

How is reflux treated?

Most patients with acid reflux do not need surgery. The symptoms of reflux may be improved by lifestyle changes such as weight loss, quitting smoking, propping yourself up in bed at night and avoiding the foods that bring on the symptoms. Simple antacids (Rennies or Gaviscon) may also help. The next step after this is to use stronger antacid medications like Lansoprazole or Omeprazole. Other medications like Domperidone may sometimes be helpful. When medical therapy fails, anti-reflux surgery may be offered.

Surgery relieves heartburn symptoms in the majority of patients (9 people in 10) but may not be effective in small number of patients (1 in 10). For those with less typical symptoms, including hoarseness and chronic cough, surgery is effective in relieving symptoms in 7-8 people in 10.
Surgery- Laparoscopic Nissen’s fundoplication

The Nissen’s fundoplication is a surgical technique that strengthens the valve in the lower end of the gullet. This is done by inflating your abdomen (tummy) with gas and using 4 to 5 small cuts to insert instruments to carry out the operation. The operation takes about 60 to 90 minutes to complete and occasionally (less than 1%) the operation cannot be completed by keyhole method and has to be converted to an open procedure with a larger cut.

What happens during fundoplication?

When performing a fundoplication, the hiatus hernia is repaired by placing your stomach back in the abdomen, the opening in the diaphragm through which the gullet passes from the chest into the abdomen may also be tightened. The part of the stomach that is closest to the entry of the gullet (the fundus) is gathered, and wrapped around the lower end of the gullet where it is then sutured (sewn) into place to create a new valve.
Risks & Common side effects

Risks

Though it is a safe operation there are risks and possible complications

- With this operation there is a risk (less than 1 in 100) that the gullet, stomach or nearby organs may be damaged (perforation, bleeding & infection).
- About 1 in 100 of patients may require further corrective surgery to reduce persistent swallowing difficulty.
- A hernia (less than 1 in 20) may develop at one of the small cuts that were made.

Common side effects

- Difficulty in swallowing - This is common and usually recovers in about 6 weeks. It may however take about three to six months before the eating normalises (see diet).
- Inability to belch/vomit and bloating- In about 6 out of 10 of patients will not be able to or have difficulty burping or vomiting after the surgery. This may last some months and in some people it may be permanent. If you swallow a lot of air into the stomach then it can cause the stomach to distend and cause discomfort (gas bloat syndrome). This usually only lasts about an hour before the gas passes out of your stomach.
- Flatulence - What goes in must come out. Many patients will become more flatulent after the operation.
- Problems with intestinal gas. Over years with reflux you may develop a subconscious habit of swallowing air frequently. After surgery you may have to learn to stop swallowing air and it may take several months to get back to normal.
Are there alternatives to a Nissen’s operation?

Lifestyle modifications and medications are tried before considering surgery (see above). Many different surgical and endoscopic treatments for reflux have been developed recently but as yet the mid- to long-term effects of these are unknown.

What can I expect after the surgery?

Most patients are now able to come in on the morning of their surgery and go home the following day and some patients are even discharged on the same day. If you are unwell or the surgery is more complicated than expected, you may need to stay in for longer.

Chest and Shoulder Pains

Sometimes patients will experience shoulder pain or deep pain in the chest after surgery. This is due in part to the gas used at laparoscopy and the sutures placed in the diaphragm muscle. This should gradually resolve over a few days.

Medications

You will been given a supply of painkillers. Take the painkillers regularly as per instructions for the first 2 to 3 days. We advise you to take the painkillers before the pain establishes as this will keep you much more comfortable. Drink plenty of liquids (no fizzy drinks), this can help your bowel movements. You may **stop taking** your antacid medications on the day of surgery. Ask your doctor, nurse or pharmacist if you are not sure what to do with your medications.

Surgical wounds

The stitch material used to close your wounds will dissolve over time. The dressings over your wounds are shower proof, but you should avoid soaking them in water for the first 5 days. After this you may remove the dressings and freely bathe or shower, but do keep the wounds clean and dry.
Rest & Activity
You may feel like resting more after surgery but try to move about as much as possible as this will reduce your chance of developing clots in your legs (deep vein thrombosis). A bloated sensation is common and loose clothes are needed for a few days or week. Slowly start to do more each day. Rest when you feel it is needed. In general it takes about 5 to 7 days to be back to normal, you may resume sports as soon as you are up to it. You should restrict heavy lifting or high intensity sports for 4 to 6 weeks.

What can I eat after the operation?

Diet
Naturally the swallowing will become more difficult for a period of time after the operation. If you follow the dietary advice you may find it easier to cope during the recovery period.

- You should have milk, soup and sloppy diet for the first three days after the operation. You can have shakes eg. Slim fast shakes if you prefer.
- Do not be too unduly worried if you find it difficult to eat for the first 1-2 weeks. You will be fine as long as you can keep fluids and maintain hydration. It is recommended that you stay on a soft diet - food that will melt in your mouth.
- Drink plenty of liquid (not fizzy drinks).
- After that you may resume solid foods, being sure to take small bites and chew thoroughly before swallowing and eat slowly.
- Do not talk whilst eating to avoid swallowing air.
Foods to avoid:

- Chunks of meat such as steak, roast, fried chicken (minced meat is OK).
- White bread (well toasted white bread, brown and wholemeal breads are OK to eat).
- Fizzy drinks and do not drink from a straw as this will encourage swallowing air.

Some patients find they have no difficulty swallowing, and other patients may find they take a few weeks, occasionally a few months, before they are able to swallow normally again without pain or without food sticking.

This is an operation where you will have to adapt your eating habits to the operation. In general it takes between three to six months to relearn new eating habits before getting back to normal.

<table>
<thead>
<tr>
<th>Day 1 to 3</th>
<th>Day 3 to week 2</th>
<th>Weeks 2 to 6 months</th>
<th>Week 6 to 6 months</th>
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<tr>
<td>Milk, soup and sloppy diet. Avoid Bread, fizzy drinks, chunks of meat</td>
<td>Sloppy diet and start introducing more solid food Avoid bread, fizzy drinks, chunks of meat</td>
<td>Mainly solid food but keep to food that is easy to eat and swallow Avoid bread, fizzy drinks, chunks of meat</td>
<td>Gradually the new eating habits will become normal to you Start to reintroduce bread, fizzy drinks, chunks of meat</td>
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**Food Sticks**

It is not uncommon for patients to experience food sticking and pain after eating. When this happens the best things to do are to stand up, walk around slowly and to try sipping some lukewarm water. Generally these pains will pass within 15 minutes. If not you may need to visit your local hospital for an endoscopy to remove the blocked food.

Fizzy drinks will cause excess bloating and you should avoid these for the first 3 months before reintroducing them gradually.

Dried foods may be difficult to eat, as without a sauce they may not pass through so easily.

**Weight loss**

It is common to notice that you immediately become full eating less, and have pain if you eat too much. Some patients will lose about 1 stone after surgery but most will put the weight back on in time.

**Reasons for difficulty with swallowing**

- Poor eating habits
- Hurried irregular meals
- Gulping air
- Not chewing well enough
- Eating the wrong types of food
- Tension and anxiety.
Signs to look out for

You should call the day surgery unit, out of hours contact number or your doctor if you develop any of the following symptoms:

- Fever
- Unusual amount of pain
- Nausea and vomiting.
- Unable to keep liquid down

When can I return to my usual activities/work?

You should generally take things easy for 2-3 days after the operation, and then ease back into light household duties. Depending on your work, you may be able to return after 10-14 days. Heavy lifting should be avoided for 6 weeks.

When can I start driving?

When you are pain free and can comfortably perform an emergency stop without any discomfort. You should also check with your insurance company to see if they have any specific requirements regarding driving after surgery to ensure that you are adequately covered.

Will I need to be seen in hospital again after the operation?

Your surgeon may wish to see you 4-6 weeks after the operation.

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If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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