What is Laparoscopic Anti-reflux Surgery?

Anti-reflux surgery (also known as fundoplication) is the surgical method of treating gastro-oesophageal reflux disease. Reflux disease is the result of acid refluxing from the stomach back up into the oesophagus (gullet). This causes inflammation and pain (heartburn).

Normally, there is a barrier to acid reflux. Part of this barrier is the lower-most muscle of the oesophagus (called the lower oesophageal sphincter).

Most of the time, this muscle is contracted, which closes off the oesophagus from the stomach. In patients with reflux disease, the sphincter does not function normally. The muscle is either weak or relaxes inappropriately.

Fundoplication is a surgical technique that strengthens the barrier to acid reflux when the sphincter does not function normally.

Who needs Anti-reflux Surgery?

The vast majority of patients with reflux disease respond well to appropriate acid suppressing drugs and do not need surgery. However, for a small group of patients surgery can be helpful. There are three main reasons patients wish to have surgery:

1. Failure to respond satisfactorily to adequate doses of medication
2. Intolerable side effects from medication
3. A desire to be free of long-term medication.

What happens before the operation?

Prior to admission you will need to have a pre-operative assessment. This is an assessment of your health to make sure you are fully prepared for your admission, treatment and discharge. The pre-operative assessment nurses are there to help you with any worries or concerns that you have, and can give you advice on any preparation needed for your surgery.

Before the date of your admission, please read very closely the instructions given to you. If you are undergoing a general anaesthetic you will be given specific instructions about when to stop eating and drinking. Please follow these carefully as otherwise this may pose an anaesthetic risk and we may have to cancel your surgery.

You should bath or shower before coming to hospital.

What does the surgery involve?

If the operation is being carried out for the
first time, it is nearly always achieved using keyhole techniques (laparoscopic surgery). Compared to open surgery, which involves a larger incision, the laparoscopic method leads to a speedier recovery and less post-operative pain. Most patients have a hiatus hernia associated with their reflux disease and repair of this hernia is undertaken at the same time as anti-reflux surgery. The hernia sac is pulled down from the chest and stitched so that it remains within the abdomen. Additionally the opening in the diaphragm, through which the oesophagus passes from the chest into the abdomen, is tightened.

During the procedure the part of the stomach that is closest to the entry of the oesophagus (the fundus of the stomach) is gathered, wrapped and stitched around the lower end of the oesophagus. This procedure increases the pressure at the lower end of the oesophagus and thereby reduces acid reflux. This wrap (or fundoplication) produces a kind of one-way valve from the oesophagus to the stomach. It is because the operation prevents reflux from the stomach into the oesophagus that we call the procedure ‘anti-reflux surgery’.

The operation usually takes between 1 and 1½ hours.

Are there any complications?

Like all surgery there are some risks. These relate to the anaesthetic, others relate to general complications that can happen after any operation, as well as specific problems unique to anti-reflux surgery. Providing you are fit, the anaesthetic should not pose a problem, but this should be discussed your anaesthetist.

General complications include:

• Bleeding or bruising associated with the skin incisions.
• Infection in the skin incisions can occur during the recovery period.

This occasionally requires antibiotic treatment.

There is a small risk of a clot forming in the leg veins (Deep Venous Thrombosis or DVT) associated with any form of abdominal surgery. This is the same type of clot that passengers on long aeroplane flights may develop. A DVT may cause the leg to swell and occasionally the clot may break loose and lodge in the lung (Pulmonary embolism or PE). Overall the risk of a DVT or PE is small and we will take active measures to minimise this risk to you.

A DVT is more likely if you are overweight or smoke. You can reduce the risk of developing a DVT by getting up and walking about as soon as possible after your operation.

A DVT may only be obvious after you have gone home. If you notice any swelling of the calf or more rarely the thigh, or you experience pain or tenderness in the calf, or notice that your leg is shiny or discoloured you should seek medical advice quickly. You should also contact a doctor immediately if you develop shortness of breath or pain on breathing following surgery.

Complications specific to antireflux surgery, but which occur rarely:

• Damage to the oesophagus, stomach or lung lining, leading to leakage from this area and sometimes necessitating a further laparoscopic procedure, chest drain, or an open operation, to address the problem. These problems can require prolonged hospitalisation to resolve.
• Bleeding, possibly requiring a further laparoscopic procedure or open operation. Such bleeding is sometimes associated with the spleen and necessitates removal of that organ. This used to be much commoner in the period of open surgery, but occurs very infrequently since laparoscopic surgery was introduced.
• In some circumstances, conversion to open...
surgery is safer. Most studies suggest these risks are less than 1%. Very rarely severe complications may result in death. However, the risk of serious complication is very small (less than 1 in 1000).

Are there any side effects?

Almost all patients have difficulty swallowing after surgery. This is due to the fact that the oesophagus tends to be rather inactive for a week or two. Additionally, there is some swelling in the area of fundoplication. This means you will need to take only soft and moist foods for a few days until you see what degree of difficulty you have. Occasionally you may swallow a large lump of food, which becomes stuck in the lower oesophagus. Whilst this can cause acute discomfort, it does not place you in any danger. The food will either eventually move through or you will bring it back up. Although this can be irritating it does not put you or your operation in any danger. The vast majority of patients eventually swallow normally after anti-reflux surgery. A small number of patients find that very lumpy foods tend to stick in the lower oesophagus when swallowing which then causes discomfort. This need not be a problem for patients since it is just a matter of avoiding eating large lumps of food and making sure that food is thoroughly chewed before it is swallowed.

Abdominal bloating and flatulence, caused by increased air in the gut, may occur. Because the operation produces a one-way valve, any air or gas that is swallowed cannot be easily belched back. (You will be able to produce small belches from air in your oesophagus above the valve). For this reason you should avoid gassy drinks for at least eight weeks after your operation and you should avoid drinking large volumes of such drinks at any time. Any air in your stomach has to move through your gastrointestinal tract, so many people are aware of increased flatulence after the operation and pass more wind. This problem tends to get better with time, but some degree of increased passage of wind often remains. Some patients experience a feeling of indigestion after surgery and are advised to continue taking medications to reduce stomach acid for a few weeks after surgery. Another common post-operative occurrence is feeling full very quickly during meals, sometimes just after a few bites. This is because the stomach has been made smaller. Patients are advised to eat and drink several small meals throughout the day to avoid overtaxing the digestive tract and to make sure they are getting adequate nutrition. Many patients lose weight during this time. Over time the stomach adjusts to accommodate a normal meal. Most patients are satisfied with the results of surgery. Follow-up indicates that 10 years after surgery, 80-85% of patients continue to experience relief from symptoms.

Are there any alternatives?

Anti-reflux surgery is the only treatment that can correct the anatomical abnormalities that lead to reflux. Surgery is generally recommended when other treatments have not been satisfactory. These include:

• Acid suppressing drugs (such as Omeprazole or Lansoprazole) to reduce acid reflux (these work by reducing or neutralizing the acid in the stomach or making the stomach empty faster). However, to control your symptoms these may need to be taken regularly for the rest of your life.

• Endoscopic techniques. These involve altering the oesophageal opening into the stomach through an endoscope. Currently these techniques are experimental and only performed as part of research trials.

• Life style changes such as losing weight, avoiding foods that contribute to acid reflux and stopping smoking.
How long does it take to fully recover after anti-reflux surgery?

Most patients do not have pain as such after laparoscopic surgery, rather just some abdominal and chest discomfort. Many patients do experience some degree of discomfort in their shoulders after the procedure. This is referred pain from the diaphragm where stitches have been placed as part of the operation. Such discomfort and soreness tends to disappear over 24-48 hours.

As the surgery has been performed laparoscopically, most people are able to return home after an overnight stay in hospital. To minimise any discomfort you should take painkillers regularly over the first few days (as instructed on your prescription).

You will also be advised to avoid heavy lifting for at least 4 weeks. 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 that you do. Typically you will need two to three weeks off work.

You should not drive for at least 7–10 days after surgery. 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.

Summary

These are the key points to consider:

Why should someone have anti-reflux surgery?

- Failure to fully control reflux symptoms with adequate doses of medication
- Side effects of medication (itchy skin, joint pains, diarrhoea and bloating)
- Desire to be free of long term medication

What are the potential side effects?

- Difficulty swallowing
- Bloating and flatulence
- Feeling full
- Weight loss
- Small risk of complications

Does it work?

In properly selected patients surgery improved or eliminated heartburn and regurgitation in more than 90% of patients.

Are patients satisfied?

A number of studies have asked surgical patients if “they would do it all over again?” 85-90% said they would.

Conclusion

This booklet addresses some of the issues related to anti-reflux surgery. Your surgeon will always discuss these in more detail before your operation and give you an opportunity to ask questions.

What can I eat after surgery?

The following dietary advice can help to minimise the symptoms (which include difficulty swallowing, bloating flatulence and pain after eating).

**Stage 1: Clear Fluids**

Four hours after surgery and for the first 3 days you should:

- Drink clear fluids (for example water, clear juices, squash, smooth soups, jelly, ice cream, decaffeinated tea and coffee).
- Avoid very hot or very cold fluids / foods.
- Drink slowly.
- Allow foods to melt in the mouth before swallowing.
- Avoid alcohol and citrus fruit juices.
- Avoid carbonated (fizzy) drinks for 6 weeks.
**Stage 2: Pureed Diet**
You can start on a pureed diet (where foods are a smooth, uniform consistency and no chewing is required) 3 days after surgery for the first seven days. If you have any problems with eating these foods drop back to Stage 1.

You should:
- Eat your meals slowly.
- Stop eating when you feel full.
- Take 4 - 5 small meals daily.
- Limit foods which may cause gas or irritation (e.g. tomato products, onions, beans, caffeine, alcohol, highly spiced foods, fatty foods).
- Continue to eat a varied healthy balanced diet.

**Stage 3: Soft Diet**
You can move from a pureed diet to a soft diet (where foods are soft and moist can be broken into small pieces with a fork and require minimal chewing) 1 week after surgery for the next 3 weeks.

You should:
- Avoid any foods that cause symptoms and reintroduce them at a later date.
- Go back to Stage 2 if you experience symptoms such as bloating or difficulty swallowing.
- Eat your meals slowly.
- Stop eating when you feel full.
- Take 4 - 5 small meals daily.
- Limit foods which may cause gas or irritation (e.g. tomato products, onions, beans, caffeine, alcohol, highly spiced foods, fatty foods).
- Continue to eat a varied healthy balanced diet.

**Stage 4: Transition to your normal diet.**
Between 4 – 6 weeks after surgery you can gradually make the transition to your normal diet. You should:
- Avoid any foods that cause symptoms and reintroduce them at a later date.
- Go back to Stage 3 if you experience symptoms such as bloating or difficulty swallowing.

- Eat your meals slowly.
- Drink fluids with meals to keep your food moist.

**When should I seek help?**
- If you develop a fever above 38C or chills.
- Persistent vomiting or nausea.
- Increasing abdominal pain or distension.
- Increasing pain, redness, swelling or discharge of any of the wound sites.
- Severe bleeding.
- Difficulties in passing urine.

**Where should I seek advice or help?**
If you are unwell or develop any of the symptoms above please contact your GP or 111. If you are not unwell but do wish to discuss a problem please contact your surgeon’s secretary via switch board and they will arrange for you to be seen in clinic.

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