

Laparoscopic Anti-reflux Surgery (LARS) for Gastro-oesophageal Reflux Disease (GORD) & Hiatus Hernia

Gastro-oesophageal reflux

Gastro-oesophageal reflux disease (GORD) is a common disorder of the alimentary tract that affects the lower oesophageal sphincter (LOS) - the valve-like mechanism that is present at the junction of the oesophagus and the stomach. Its function is to allow the passage of food into the stomach while preventing its return (reflux) into the gullet and mouth. When the valve is weak or does not function properly the contents of the stomach (mainly acid) can reflux back into the gullet giving the patient sensations of "heartburn", regurgitation, waterbrash, and sometimes chest pain, cough and even asthma-like symptoms.

Most people experience symptoms of gastro-oesophageal reflux at sometime during their life. However if they occur regularly or are prolonged the problem is abnormal and is referred to as gastro-oesophageal reflux disease (GORD).

Causes and symptoms

GORD is often but not always associated with a hiatus hernia, which is present when a small portion of the stomach (which should be in the abdomen) slips back above the diaphragm into the chest. If the LOS is defective or has lower pressure than normal, the pressure in the stomach may exceed that of the LOS and acid or other stomach content may reflux back into the oesophagus causing heartburn or regurgitation. Alternatively the LOS may relax inappropriately in which case reflux can also occur. There is often a familial basis to the problem.

Acid reflux causes irritation and inflammation of the oesophagus which gives rise to the burning sensation and pain experienced behind the breastbone and below the rib cage (referred to as heartburn). The lining of the oesophagus may become ulcerated resulting in bleeding or scarring which may lead to stricture formation or narrowing. These may in turn be associated with pain on swallowing or even difficulty swallowing. Over a long period of time the lining of the lower oesophagus may change (known as Barrett's Oesophagus) and even become predisposed to the development of cancer.

Contributory factors

Hiatus hernia is very common and frequently contributes to the problem. Some people are born with a weak or poorly functioning LOS. Reflux may be precipitated by such things as fatty or spicy foods, over-eating, chocolates, alcohol and smoking. Reflux may occur during vigorous exercise or changes in body position such as bending or crouching down, when intra-abdominal pressure increases.

In many cases, heartburn can be relieved through dietary and lifestyle changes but some people will require regular medication or even surgery.

Treatment of GORD

Life Style Changes

In many cases dietary changes with reduction in intake or avoidance of fatty food, spicy foods or eating and drinking before lying down will reduce the problem. Reduction or avoidance of alcohol intake and smoking may help as may weight loss.

Medications

If symptoms continue despite these simple measures, more investigation and use of medication may be necessary. Antacids can reduce intensity and frequency of symptoms, but if these are needed regularly medications such as Zantac, Pepcidine, Losec or Somac will give better control of symptoms by suppressing acid secretion. If these medications are needed long-term as is often the case, or if control is imperfect consideration of surgery to remedy the problem may be worthwhile.

Surgery

An operation is indicated for those who have developed complications of GORD, those in whom medicines fail to control symptoms or those who do not wish to continue taking medication long-term.

Surgery aims to correct the underlying cause of GORD – a weak or defective LOS – and can therefore be very effective at eliminating the problem and symptoms. It is interesting to note that those who respond well to medication are also usually those who benefit most from surgery.

In the past these operations entailed major surgery using a long cut in the upper abdomen which led to 4-7 days in hospital and a recovery time of several weeks. This is no longer necessary as laparoscopic or keyhole techniques have been developed which work very well. The surgery is now accomplished through 5 small incisions (0.5-1.5cm) in the upper abdomen and results in a hospital stay of 3-4 days and a recovery time of 2-3 weeks. The operation is referred to as a laparoscopic Nissen fundoplication.

Results of Laparoscopic Anti-reflux Surgery

Providing the surgery is performed competently by surgeons trained in the technique excellent results can be expected in 85-90% of patients with total or near total relief of symptoms. Most of the other 10-15% will still be improved. A small proportion (perhaps 10-15%) of those who obtain an excellent result may develop some recurrence of symptoms in the long-term (ie many years later) but these will usually respond very well to medication. Unfortunately very occasionally patients are made worse by the surgery in which case further remedial surgery may be required.

The risks of laparoscopic Nissen fundoplication

Generally speaking the operation is very safe but as with any surgery complications may occur and there is a small risk of dying.

Complications during the operation:

- Anaesthetic problems
- Bleeding
- Injury to the oesophagus, spleen, stomach or other organs

Complications after the operation

- Infection of the wounds, abdomen, lungs or blood.
- Blood clots in the leg veins and migration into the lungs.

Your surgeon will discuss these possibilities with you and you should feel free to discuss with him any issues are of concern to you.

Possibility of conversion to open surgery

The laparoscopic approach may not be possible in some patients, or it may be necessary to convert from a laparoscopic approach to open surgery, in which case the hospital stay and recovery time will be longer. A good result from the surgery should still however be obtained. This will usually be because of an inability to visualise or handle the organs safely or effectively and may occur in the following situations:-

- Obesity
- History of prior abdominal surgery causing dense adhesions
- Bleeding during the operation
- Injury to organs like the spleen, stomach, or oesophagus that require correction.

Conversion to open surgery is not a complication. The decision is made during the operation for your safety and is based on sound surgical judgement.

Side effects of the surgery

Most patients will experience variable difficulty with swallowing food following surgery because the LOS is tightened up. However this usually resolves within one to three months after surgery. A few patients may require dilatation of the oesophagus which is done at the time of a gastroscopy under local anaesthetic throat spray and some sedation. Very rarely one may need a second operation to revise the surgery.

Some patients may find it difficult to belch or vomit and as a result they may feel a little bloated in the upper abdomen after eating. We try to perform the surgery so this will not occur.

Most patients will experience some increase in the passage of wind from their rectum. This is seldom a major problem and probably occurs because belching is not so easy.

Preparation for the operation of LARS

By the time you are referred for surgery you will most likely have been on medical therapy such as Losec, Zantac, Somac or other similar acid reducing agent.

Gastroscopy to see inside of your oesophagus, stomach and duodenum (beginning of the small bowel) will generally be necessary before surgery. At this time biopsies (small samples) may be taken from the lining of your oesophagus or stomach to look for any structural changes such as Barrett's oesophagus.

You will require motility studies of your oesophagus. This is done by passing a fine soft plastic tubing through your nose into the stomach. You will be asked to take about 10 dry swallows and 10 sips of water. This test shows whether your oesophagus contracts, and propels the swallowed water normally down into the stomach. This is important to establish before the operation is performed in order to reduce the chances of difficulty in swallowing, inability to belch or vomit and feeling of being bloated after surgery.

If your surgeon or physician is uncertain that acid reflux is the cause of your symptoms particularly if they are not typical, then you will have a 24 hour ambulatory pH study. This is done by passing a fine tube through your nose into your stomach. You will go home with the tube in place and be asked to do what you usually do except avoid drinks and food that are acidic and antacid medications. The aim of the test is to produce objective evidence that acid reflux is indeed the cause of your symptoms.

A few routine blood tests, chest X-ray, and an ECG may be needed before surgery.

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After the decision is made to proceed with surgery and you are satisfied that you have received enough information in respect of the problem and the treatment options including their associated risks and benefits you will be asked to sign a *consent* form for surgery.

If you take aspirin, warfarin or arthritis medication tell your surgeon during the initial consultation with him. You may need to stop these prior to surgery or replace them with an alternative medication for sometime before surgery. Aspirin and aspirin containing medications should be stopped 2 weeks before an operation. It is

important that you inform your surgeon well in advance, so your surgery can be planned and appropriate action can be taken in respect to the changing of your medication.

O r Surgery

You will be admitted to the hospital either on the afternoon before or the morning of the operation. You can be eating and drinking normally up to six hours prior to the operation.

If you take medication on a daily basis, discuss this with your Anaesthetist or surgeon, as they may want you to take some of your medications on the morning of surgery with a sip of water.

You will be given an injection into the subcutaneous layer of your tummy the night before your surgery and daily thereafter until you are fully mobilised. This helps to prevent the complication of clot formation in your leg veins.

The operation is performed under General Anaesthesia and usually takes 2-3 hours.

After Surgery

After the operation you will be taken to the recovery room until you are fully awake. You will then be transferred back to the ward and can be visited by family or friends.

If everything goes as planned you will be given some fluids to drink on the day of surgery and will be given soup and possibly a light diet the following day.

Most patients stay in the hospital for 3-4 nights after surgery.

If your operation is converted to an open one you will be slower to recover and will stay in the hospital for an estimated 5-7 days.

At home

You will be encouraged to engage in quiet physical activity at home over the first week.

Pain is usually mild and relieved by simple pain medication. You may experience shoulder tip pain. This is due to the gas used to create room inside your abdomen during surgery as well as operating under the diaphragm (the muscular partition between lungs and stomach through which the oesophagus passes on its way from the mouth to the stomach). This may take few days to subside completely.

You will not need to take your anti-reflux medications after surgery.

You will progress gradually over the days from a light, soft diet to more normal food. You may experience some difficulty with swallowing for some weeks and should be careful to chew your food well.

You can probably return to work after 2-3 weeks.

Warning signs suggesting you are developing a complication

- (high temperature)
- Chills
- Bleeding
- Increasing abdominal pain
- Abdominal distension
- Persistent nausea or vomiting
- Difficulty with breathing

- ^a shortness of breath, or severe chest pain
- Undue redness and /or discharge from any of your wounds.
- Pain, tenderness, or swelling of your calves and or legs.

Call our Practice nurse or your doctor and if you develop any of the above.

Follow up

There are usually no stitches to remove.

You will be seen by your surgeon 2 weeks after your operation and again after about 3 months.