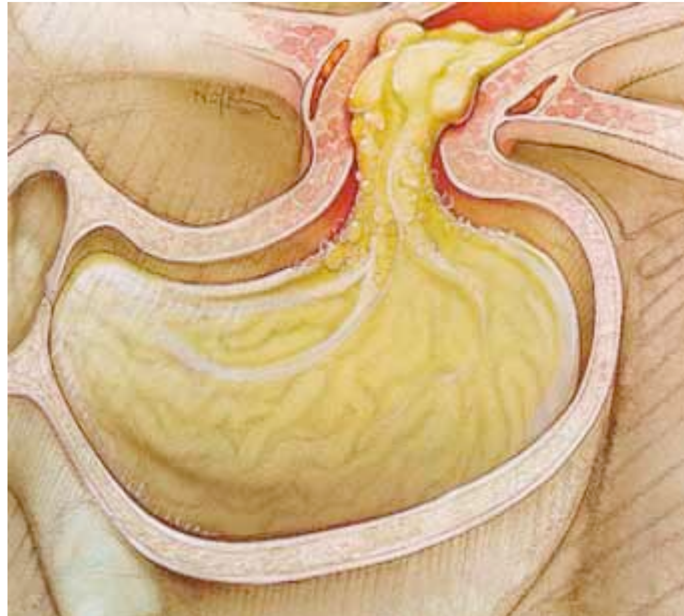
NORTH BRISTOL NHS TRUST

Patient Information Leaflet:

Surgery for Reflux Disease - Should I consider this?
Information for Patients and GPs



This information leaflet has been created by the Southmead specialist upper gastrointestinal laparoscopic surgeons:

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PATIENT INFORMATION SHEET

We have given you this booklet because you suffer from "heartburn", technically referred to as gastro-oesophageal reflux disease (GORD). One option to treat this condition is keyhole **Laparoscopic Anti-Reflux Surgery (also known as Fundoplication and Hiatus Hernia repair).**

This leaflet will explain to you:
1. What gastro-oesophageal reflux disease (GORD) is.
2. Medical and surgical treatment options for GORD.
3. How this surgery is performed.
4. Expected outcomes.
5. What to expect if you choose to have laparoscopic anti-reflux surgery.

What is Gastro-Oesophageal Reflux Disease (GORD)?
Although "heartburn" is often used to describe a variety of digestive problems, in medical terms, it is actually a symptom of gastro-oesophageal reflux disease. In this condition stomach acids accidentally "back up" from the stomach into the oesophagus.
Heartburn is described as a harsh, burning sensation in the area in between your ribs or just below your neck. The feeling may radiate through the chest and into the throat and neck. Many adults in the UK experience this uncomfortable, burning sensation at least once a month. Other symptoms may also include vomiting,
difficulty swallowing and chronic coughing or wheezing.

What causes GORD?
When you eat, food travels from your mouth to your stomach through a tube called the oesophagus. At the lower end of the oesophagus is a small ring of muscle called the lower oesophageal sphincter (LOS). The LOS acts like a one-way valve, allowing food to pass through to the stomach.
Normally, the LOS closes immediately after swallowing to prevent back-up of stomach juices which have a high acid content. GORD occurs when the LOS does not function properly allowing acid to flow back and burn the lower oesophagus.
This irritates and inflames the oesophagus, causing heartburn and eventually may damage the oesophagus.

What contributes to GORD?
Some people are born with a naturally weak sphincter (LOS). For others, however, fatty and spicy foods, certain types of medication, tight clothing, smoking, drinking alcohol, vigorous exercise or changes in body position (bending over or lying down) may cause the LOS to relax, causing reflux, or the accidental back-up of acid.
A hiatus hernia, a weakness in diaphragm that allows part of the stomach to enter the chest cavity, may be present in many patients who suffer from GORD, but may not cause symptoms of heartburn.

How is GORD treated?

GORD is generally treated in three progressive steps:

1. Lifestyle Changes

In many cases, changing diet and taking over-the-counter antacids can reduce how often and how harsh your symptoms are. Losing weight, reducing smoking and alcohol consumption, and altering eating and sleeping patterns can also help.

2. Drug Therapy

If symptoms persist after these life style changes, drug therapy may be required. Antacids neutralise stomach acids and over the counter medications reduce the amount of stomach acid produced. Both may be effective in relieving symptoms.
Prescription drugs (eg. proton-pump inhibitors like omeprazole or H2-antagonists like ranitidine and sometimes drugs to improve gullet function like domperidone) may be more effective in healing irritation of the oesophagus and relieving symptoms.
This therapy needs to be discussed with your doctor or gastroenterologist.

3. Surgery

In the right patient, surgery is a very effective and well tolerated treatment. The aim of surgery is for patients to have their symptoms of reflux cured such that they will not have to take any medication and will not have any break through symptoms.

How is laparoscopic anti-reflux surgery performed?

Most patients have their operations performed in the Main Operating Department (Gate 21) and go home 4-6 hours after the operation is finished, or with an over night stay.
To be eligible for your surgery as a day case, you must be fit and healthy, and have a responsible adult to stay with you for 24hrs. If you have small children, you will need to have a second responsible adult to look after them.
Laparoscopic anti-reflux surgery involves repairing the hiatus hernia with stitches and reinforcing the "valve" between the oesophagus and the stomach by wrapping the upper portion of the stomach around the lowest portion of the oesophagus – it
is best described as 'cuddling' the gullet with the stomach. In a laparoscopic procedure, we use five small (1/4") incisions to enter the abdomen through ports (narrow tube-like instruments).
The laparoscope, which is connected to a tiny video camera, is inserted through the small incision, giving the surgeon a magnified view of the patient's internal organs on a video screen. The entire operation is performed "inside" after the abdomen is expanded by pumping carbon dioxide gas into it.

What are the expected results after laparoscopic anti-reflux surgery?

Studies have shown that the vast majority of patients who undergo the procedure are either symptom-free or have significant improvement in their GORD symptoms. 15% -20% of patients can get a recurrent hiatus hernia but only a small percentage of patients get recurrent symptoms from this. The long term evidence shows that 80% of patients are still symptom free 10 years following the surgery, although some maybe back on a PPI medicine.
The advantage of the laparoscopic approach is that it usually provides:

- reduced postoperative pain
- shorter hospital stay (Day Case Surgery or overnight stay)
- a faster return to work (back to work at 2 weeks but no heavy lifting for 4 weeks)
- improved cosmetic result (tiny scars)

What are the risks of laparoscopic anti-reflux surgery?
There are risks inherent with any general anaesthetic procedure, but life-threatening complications are very rare (less than 1 in 1000 in one series).

Rare complications during the operation may include:
• adverse reaction to general anaesthesia
• bleeding
• injury to the oesophagus, spleen, stomach, lining of lung (pleura)
• injury to vagus nerve resulting in poor gastric function (may need surgical widening of gastric outlet)

Complications after the operation may include:
• infection of the wound, abdomen, chest or blood
• rare complications (eg. deep venous thrombosis = clots in leg veins that can spread to the lungs and cause breathing problems)
Your surgeon and team will take every step to minimise these risks which may include prophylactic antibiotics, subcutaneous heparin medication to thin the blood & special leg stockings to prevent leg vein clots, chest physiotherapy, and wound care.

What happens if the operation cannot be performed by the laparoscopic method?
In very few patients (1 in 100), the laparoscopic method is not feasible or safe because of the inability to visualise or handle the organs effectively. When a surgeon feels that it is safest to convert the laparoscopic procedure to an open one, this is not a complication, it is sound surgical judgement. Factors that may increase the possibility of converting to the “open” procedure may include obesity, a history of prior abdominal surgery causing dense scar tissue, or bleeding problems during the operation.

Are there side-effects to this operation?
• Long-term side effects to this procedure are generally uncommon (<4%)
• Some patients develop temporary difficulty swallowing immediately after the operation. This usually resolves within one to three months after surgery. A sloppy diet will be required in the six weeks following surgery and a suggested plan of eating is included in this booklet.
Occasionally, these patients may require a simple procedure to expand the oesophagus (endoscopic dilatation) or rarely reoperation (<1%).
• The ability to belch and or vomit may be limited following this procedure. Some patients complain of stomach bloating. Avoid fizzy drinks.
• Rarely, some patients report little improvement in their symptoms (<5%).

What to expect before laparoscopic surgery
To determine if you are a candidate for laparoscopic anti-reflux surgery, a thorough medical evaluation by your specialist is necessary. Some diagnostic tests like X-rays, pH and manometry study (using a fine tube through your nose to measure changes in the gullet), endoscopy (telescope test through your mouth looking at the gullet and stomach), and blood tests may be necessary. Your surgeon should then be able to discuss with you whether or not this operation may be of benefit to you. He will also help you decide between the risks and enefits of laparoscopic anti-reflux surgery and leaving the condition treated medically.
Before surgery, more information would be given to you prior to informed consent.

Your Anaesthetic
For this procedure you will need a general anaesthetic. This is a combination of drugs to make you completely unconscious. You will not feel anything or be aware of what is going on around you during the general anaesthetic. Your anaesthetist is the doctor responsible for giving your anaesthetic and for your wellbeing and safety throughout your surgery. You will meet your anaesthetist following your admission.
They will ask you questions about your health, previous anaesthetics and medicines. They will also explain the anaesthetic to you and what to expect afterwards. They might give you a premed but this does not include an anti-anxiety drug,

When it is time for your operation one of the theatre staff will walk you to theatre, unless you are unable to walk. Once in theatre the anaesthetist and their assistant will connect you to the monitoring equipment, place a drip into a vein, through which to give drugs, and give you Oxygen to breath through a facemask, before sending you to sleep.
During the surgery, as well as keeping you fully anaesthetised and continuously monitored, the anaesthetist will give you a combination of painkiller drugs and anti-sickness drugs. You will wake up in theatre at the end of the procedure and will then be taken to recovery for a period until everything is stable.
If you have discomfort or pain in recovery you will be given more painkillers to combat this and likewise, with any sickness, you will be treated with more anti-sickness medication.

To obtain more information about you anaesthetic please ask the Anaesthetist in the Pre-op assessment Department.

What to expect after Laparoscopic Surgery
You may find you have some discomfort after your operation. It is common to have pain in your shoulders this is normally nothing to worry about and it will slowly improve over a couple of weeks. If you have been given painkillers and anti sickness medicines Please take them regularly whilst you have pain. You may have a bloated feeling and have difficultly in burping this is known as Gas Bloat It is advisable to slow down when eating to avoid this however it will resolve with no long term problems but it is better to avoid it.
Your wound are stitched with dissolvable stitches so there is no need to have them removed It is advised that you keep the wounds dry for the first 48hrs after this you can shower and change the dressings. After 5 days the dressings can be removed
and left open if they are clean and dry.
Any problems or concerns with your wound you can contact your GP practice nurse who will be able to advise you.

Dietary advice for after your Hiatus Hernia repair
Following the surgery it is important to follow a special diet afterwards as swallowing may be difficult as a result of swelling around the oesophagus (gullet) in addition to the tightness from the stitches. Patients who also follow the diet advice have better outcomes and are less likely to get recurrent symptoms. It may take a month or more for swallowing to feel normal again with all foods.

It is important to realise that you may always have a degree of difficulty in swallowing large amounts of bread or red meat. We would also advise not to have too many fizzy drinks as this may cause excessive gas bloating.

Four stages of diet are advised. In each stage, when swallowing feels normal, you can move on to the next stage.

Most importantly

- have small frequent meals and snacks, rather than large meals
- eat slowly and chew foods well
- have moist foods
- If any food sticks, stop eating, relax and allow time for food to clear.

Try and drink water to wash the food down; if that fails, try some soda water. If food remains stuck, contact the hospital ward or your surgeon.

Avoid the following until swallowing is free and easy (usually four weeks):

- Fresh bread
- Rice
- Cake
- Hard biscuits
- Grilled and fried meat, especially steak, chicken, unless pureed, minced or finely chopped
- aerated drinks (soft drinks, milkshakes – unless soda water is required to relieve blockage)
- Highly spiced foods (avoid for 6 weeks).

Stage 1: Day 1 to day 7 post surgery

Fluids and semi-fluid items only - these should be smooth with no lumps

- Water, juice, cordial (no fizzy drinks)
- Milk – plain, flavoured
- Tea, coffee (not too hot)
- Soups (strained or finely pureed no lumps)
- Ice-cream, custard, jelly
- Yoghurt (plain, vanilla or honey – not with seeds or pieces of fruit)
- Smoothies (no lumps)
- Gravy, white sauce (no lumps)
- Food pureed to a thin consistency (no lumps).

A food processor or blender is useful.

Breakfast ideas

Choose from: glass of milk, smooth yoghurt, custard, jelly, tea/coffee, juice.

NO LUMPS

Lunch ideas

Choose from strained soup, puree potato Swede and carrot, gravy, white sauce, tomato sauce, jelly, custard, ice-cream, cordial, juice. **NO LUMPS**

Dinner ideas

Choose from strained soup, puree potato, puree carrot or Swede, gravy, white sauce, ice-cream, jelly, tea, coffee, and juice. **NO LUMPS**

Between meals snack ideas: milk (plain or flavoured), cordial, juice, smooth yoghurt fortified

<u>One week post surgery</u>

Stage 2: for 2 weeks
Mashed and very soft foods only - soft lumps able to be mashed with a fork.
Add in:
• porridge, breakfast cereals such as Weetabix, Cornflakes, rice crispies, well softened with milk or hot water
• Fruit – fresh fruit (soft, well ripened) stewed or tinned fruit (soft or pureed)
• Vegetables – well cooked, soft, mashed or pureed
• Pasta (spaghetti, noodles) well cooked, soft
• Pureed meats, pureed chicken – can be with gravy in a thick soup, or served with mashed/pureed vegetables
• Fish – fresh (take care to remove all bones) or canned tuna, salmon (mashed, no bones)
• Eggs – soft boiled, scrambled, and poached.
Breakfast ideas
Choose from porridge or softened cereal with milk and sugar, soft boiled egg.
Lunch ideas
Choose from smooth soup, mashed tuna or salmon with noodles and white sauce, pureed meat with mashed or pureed vegetables, pureed or mashed fruit.
Dinner ideas
Choose from pureed braised meat, poached fish fillets with white sauce, mashed potato, pureed vegetables, pureed or mashed fruit, and custard.
Between meals snack ideas: soft or mashed fruit, custard

<u>Three weeks post surgery</u>

Stage 3: for 2 weeks
Light foods with more texture - chew well
Add in:
• Tender meats, mince, stews
• Chicken - minced or finely chopped
• Salads (remove skin from peppers, cucumber and tomatoes if having difficulty)
• Toast
• Biscuits
• Alcohol in small quantities if desired.

Breakfast ideas

Choose from any of the above, plus toast with spreads, baked beans, cheese and tomato.

Lunch Ideas.

Choose from any of the above plus soup, tender braised meat and vegetables, fish in white sauce with or without cheese, canned spaghetti, creamed beans kidney, butter or baked (well cooked), cheese, salad, soft fruit, tinned or fresh.

Dinner ideas

Any of the above, plus pasta with bolognaise sauce, meat casserole, cottage pie, steamed fish, well cooked vegetables, soft fruit, fresh or tinned.

Between meals snack ideas: ripe fresh fruit, cheese, biscuits.

Five weeks post surgery

Stage 4: gradual return to normal eating

Gradually add in firmer foods. Try the food in the avoid list in small amounts one by one. Chew these foods well.

After about Five weeks, you should be able to eat a full range of foods.

However, you are advised to:

- continue with small meals and between-meals snack if need to satisfy your appetite rather than large meals
- continue to chew all foods well.

Eat slowly allowing time for food to pass into the stomach

If you are unable to eat a proper diet after about six weeks, please contact your surgeon's secretary as your surgeon may wish to see you earlier than planned in the Outpatient Department.

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Further Information:

https://patient.info/health/acid-reflux-and-oesophagitis
https://patient.info/health/hiatus-hernia-leaflet
https://cks.nice.org.uk/dyspepsia-proven-gord