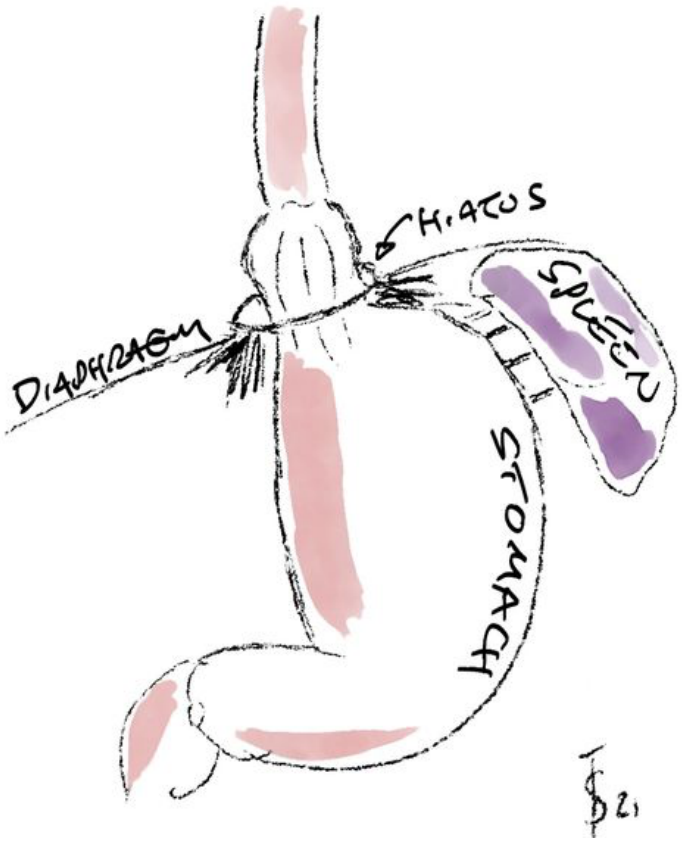
Reflux



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Jersey 2024

reflux

Reflux is common. Around 20% of us have regular ‘symptoms’ of acid reflux. But nearly everyone gets some reflux, that’s normal.

The most common symptoms is retrosternal (behind the breastbone) burning discomfort, rising from the abdomen and heading up towards your throat. We call this heartburn.

Some people bring up food or fluid into their mouth, this is called acid or water brash or regurgitation. Others can feel food getting stuck due to the inflammation or causing pain on the way down. Rarely, some people get atypical reflux symptoms such as a chronic cough or symptoms in their mouth or throat.

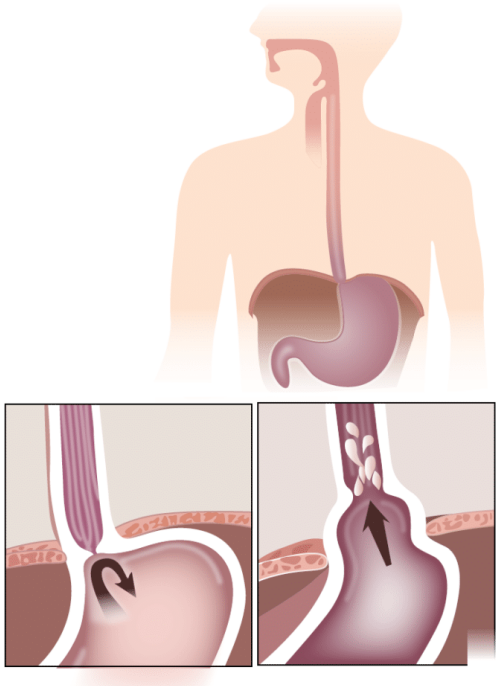
Essentially, ‘reflux’ is caused by the acid in your stomach ‘refluxing’ back into your oesophagus (food pipe). Some acid reflux is normal but too much or too often and the lining of the oesophagus, which is not acid resistant like the stomach lining, becomes damaged.

When acid reflux causes problematic symptoms, we call it Gastro-Oesophageal Reflux Disease or GORD (in America it’s GERD, they can’t spell). Here is a typical endoscopic photograph of acid burns in the oesophagus – oesophagitis.

There is a ring of muscle at the lower end of the oesophagus called the lower oesophageal sphincter (LOS), a high pressure zone which works as a valve to let food into the stomach but stop acid and food going back up. If the valve does not work properly then acid can flow backwards and burn the oesophagus. The commonest cause of valve failure is an anatomical defect - a hiatus hernia.

This when the ‘hiatus’, the hole through the diaphragm (which is the big muscle between your chest and abdomen) that the oesophagus passes through into the abdomen is wider than it should be. This allows a bit of your stomach to slip up into your chest and means that

the LOS can't work properly. Hence acid can flow back into your oesophagus, cause reflux symptoms and damage your oesophagus. Equally, some people have a weak LOS. Some foodstuffs (such as alcohol, caffeine, spices) affect the function of the LOS and so does pressure from wearing tight clothes, eating a large meal or exercising after eating.

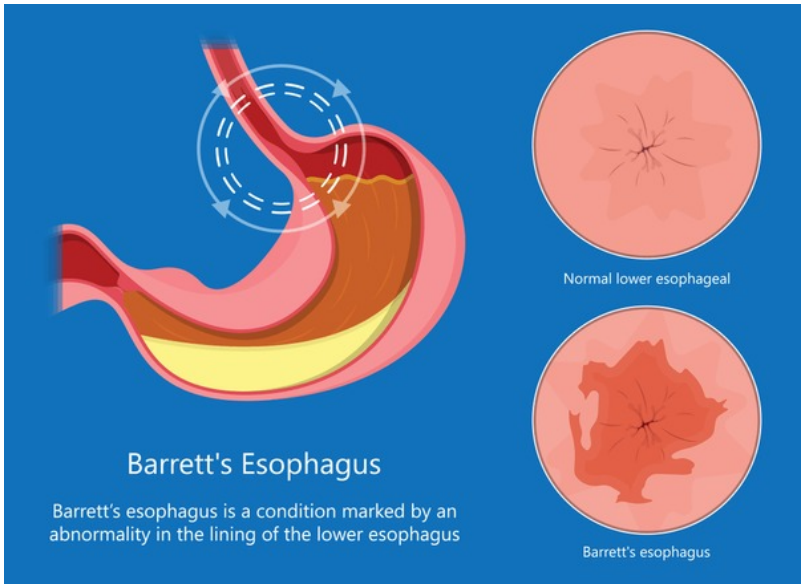


A hiatus hernia may occur without reflux and reflux may occur without a hiatus hernia but they usually co-exist and when surgery is required they are treated together.

We see reflux endoscopically as burns (oesophagitis). When scar tissue forms to repair your oesophagus, this can tighten it, causing a 'stricture', or lead to your body trying to protect the oesophagus from the acid and change the lining to one like the stomach lining.

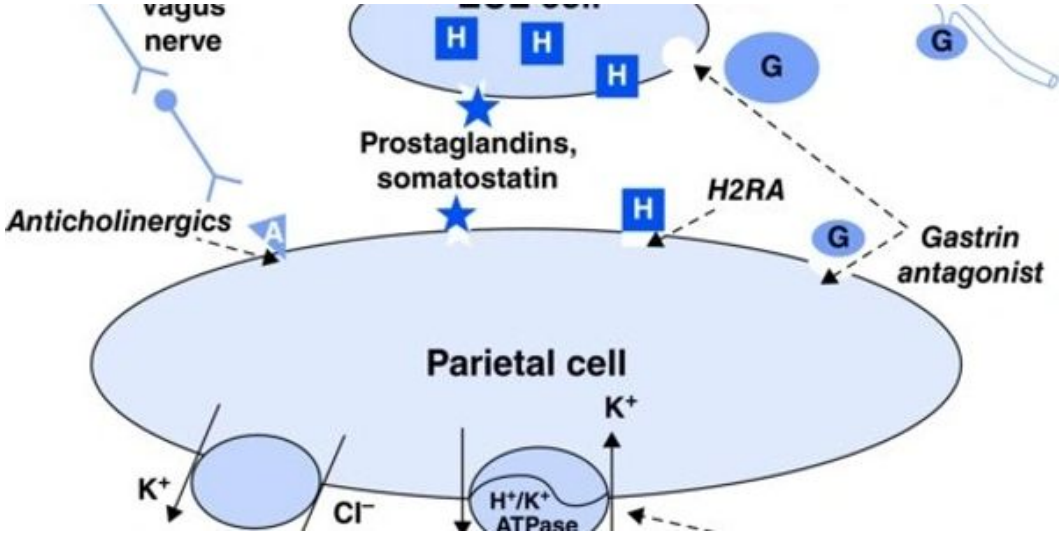
We call this change Barrett's oesophagus (named after an Aussie surgeon who worked in London in the 1940s, Sir Norman Barrett).

Once something in the body changes, there is always a risk it can change again and this can be a cancerous change. Although that risk is small, we consider Barrett's Oesophagus to be a pre-malignant condition and recommend keeping a close eye on it if you have it. This will mean regular endoscopies (gastroscopies) to look at the Barrett's and to take biopsies.



treatment for reflux

When you go to your doctor with heartburn then they again will make sure that you do not have 'alarm symptoms' - to help rule out the rare cases where these symptoms are caused by an underlying cancer.



Your doctor may suggest lifestyle changes such as stopping smoking, eating healthier foods and avoiding ones that cause your symptoms, not eating late at night and trying to lose some weight. Then they will either refer you for investigations or a more formal assessment as below with me or simply start some medication that has revolutionised acid problems: these are called the proton pump inhibitors (PPIs). There are 5 of these: omeprazole, pantoprazole, lansoprazole, rabeprazole and esomeprazole. They all work in the same way in the lab to reduce your stomach acid but one may work a little better than another or have different side-effects for you personally. I strongly advise taking these tablets 30 minutes away from anything else – food or other medication. Perhaps take it as soon as you get up in the morning and leave breakfast for half an hour. There is an older class of drugs called histamine receptor antagonists (H_2RAs) but these are not as 'strong' and thus, not as effective.

You can also continue to take antacids, like Gaviscon, in between doses (but again don't do this for at least 30 minutes after taking your PPI).

the problems of PPIs

PPIs have been around since the early 1990s and if your symptoms are controlled by PPIs then these are safe to take long-term, but they do have side-effects; not everyone gets complete acid reflux relief; and there are some potential issues if you must take them longer term. Although PPIs have shown to be amazing drugs, it is unlikely that we can improve on them for acid reduction – as we do need some acid in our stomachs.

The incidence of short-term side-effects with PPIs is low. The most common ones are headaches, nausea, diarrhoea, abdominal pain, muscle aches, fatigue and dizziness and more uncommonly rashes, itches, flatulence, constipation, anxiety and even depression.

We try to minimise these by keeping the dose as low as possible but up to 50% of patients do complain of breakthrough acid symptoms and need to have their dose increased. This is often due to nighttime symptoms, this is called 'nocturnal acid breakthrough'. Your doctor may change your prescription to a twice daily regimen to see if this helps.

Longer term, we know that taking a PPI can affect the absorption of calcium, iron, magnesium, and vitamin B_{12} since we need acid to help to absorb these. There have been some studies that show that the risk of fractures was increased with PPI use but others that do not confirm this risk. So it's a bit controversial. There is an association between PPIs and getting pneumonia; a greater chance of some bacterial gastroenteritis infections (due to changes in your gut microbiome), and of developing dementia.

In addition to this, not everyone wants to take medication for life and PPIs don't actually stop reflux; they just reduce the acid content of the fluid that is being refluxed. The reflux still occurs, but with less damaging amounts of acid in the refluxate.

tests and investigations

If you get heartburn, then you may be already using over-the-counter treatments; antacids such as Rennie's or Gaviscon. Sometimes your doctor will give you stronger medication. If these don't work or you have troublesome symptoms, then you may need some investigations.

We consider some symptoms as more of a concern – this is if you are losing weight unintentionally, have persistent symptoms despite treatment, have trouble swallowing or food sticking, are anaemic, have close relatives who have had oesophageal or gastric cancer or you are over 55 years old. If this is the case, then you warrant more urgent investigation.

When we meet, I will try to get a history of your reflux, as well as discuss any previous and current health issues that you have had. All this information is confidential and is recorded only in medical records. I will review any blood tests and your investigations to date.

I will need to know about illnesses, medications and allergies. If you have had any surgery before and if you had any issues with surgery or anaesthetics. Smoking increases the risk of complications, even stopping for two weeks before surgery can reverse these risks.

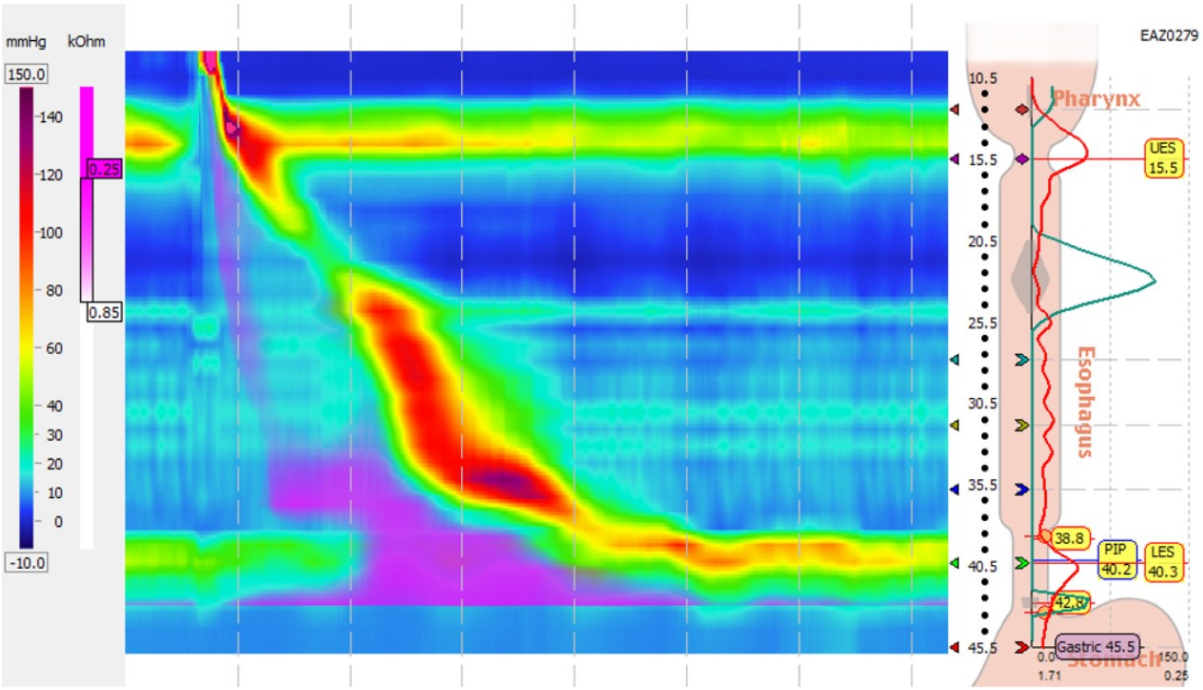
Please bring a list of your medications and tell me if you are taking any blood thinning medications such as aspirin, clopidogrel or a DOAC such as apixaban. These may need to be stopped if you are recommended to have surgery.

I would nearly always recommend an endoscopy (gastroscopy) first, which I will perform at the hospital under sedation or with throat spray (numbing the back of your throat). This

allows me to see the anatomy of your hiatus, to assess if there is a hiatus hernia or other underlying problem, if there are any burns to the oesophagus and if there are any Barrett's changes and. It reassuringly also helps to rule out cancer of the oesophagus or stomach, which although uncommon, are clearly very serious conditions.

Sometimes I ask for a radiology swallow test – this is often called a barium swallow. This can give me different information from the gastroscopy as it is 'dynamic'. I can see a little of how your oesophagus is working, as well as assess for a hiatus hernia and reflux.

high resolution manometry



Finally, I may need to get some oesophageal physiology tests. These are sensitive tests of the function of the oesophagus – how it squeezes, how hard it squeezes and when (manometry), and how much acid is refluxing and when (pH testing or impedance testing). We don't have all these tests available in Jersey so this may require a trip to Southampton or Portsmouth or London.

We will then discuss your options, the risks and benefits and how you wish to proceed.

cause not effect

Anti-reflux surgery treats the cause (i.e. repairs your hiatus hernia so that you don't reflux at all) rather than PPIs which treat the effect (i.e. you still reflux but with reduced acid in the fluid, so you get less symptoms).

You may not want to take PPIs for life and can't skip a dose or you get your symptoms back; or have side-effects or your symptoms persist despite the tablets. If this is the case, then I need to make sure that your symptoms are genuinely due to acid reflux. You will need an endoscopy, swallow test and maybe also oesophageal physiology testing before surgery.

There are several different operations for acid reflux. The best known is the group of surgeries called **fundoplications**. These developed from an operation called the Nissen fundoplication (after a brilliant surgeon, Rudolph Nissen, who famously saved the life of Albert Einstein – it's a great story). The operation involves two steps: the first is a repair of the muscle of the hiatus using stitches. The second step wraps the top part of the stomach (fundus) around the lower part of the oesophagus to re-form an anti-reflux barrier – a high pressure zone just like the lower oesophageal sphincter. The classic Nissen version is a full 360 degree wrap but I perform partial (180-270 degree: Dor, Watson, Toupet) wraps as well depending on your symptoms and your risk of post-surgery side-effects. In forming a high-pressure zone, this stops reflux but also reduces the ability to belch or vomit – the high pressure unfortunately works in both directions. As a result, this can cause bloating after eating (gas bloat) and increased wind (flatus). This is the reason for forming partial wraps, as they have less pressure and thus cause less side effects. The alternative is the LINX device, more on this later.

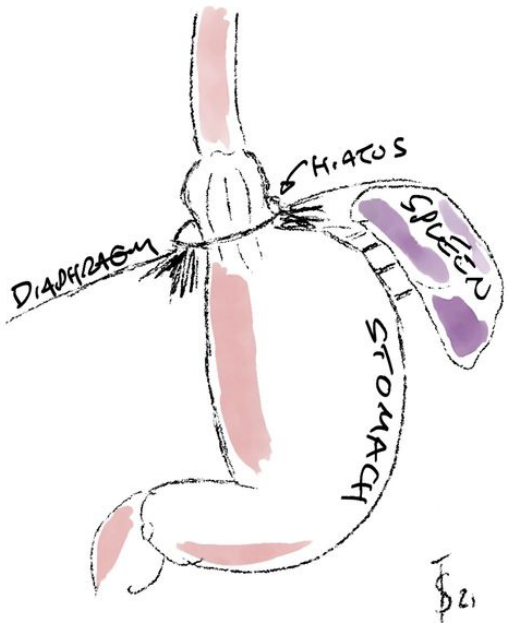
There are lots of different ways of doing anti-reflux surgery so I'm happy to discuss all these options with you and choose the best balance of operation for you and your symptoms. I worked in Adelaide for almost ten years – which is where many of these operations were devised!

You will be asked to come to a pre-admission clinic check at Enid Quenault Centre prior to surgery and then you will be admitted on the day of surgery. You can continue to drink water up to two hours before surgery, but you must not eat or drink other fluids for 6 hours prior to surgery. You will need to have a full general anaesthetic, there are no alternatives.

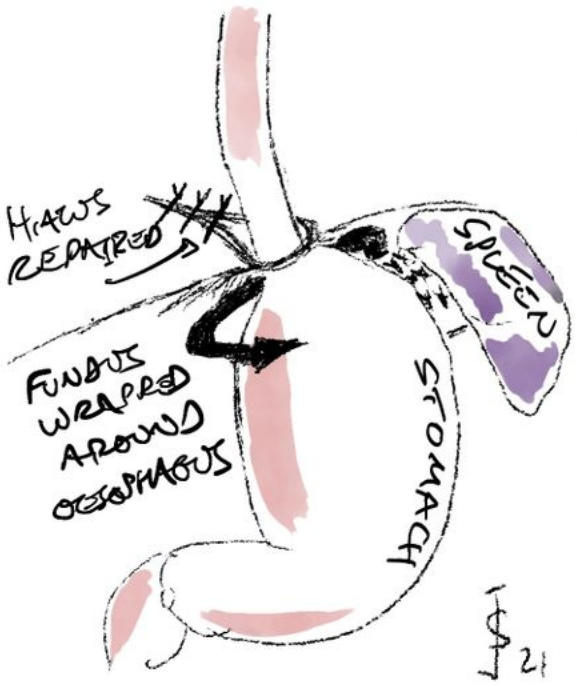
A thin telescope – the laparoscope – is introduced into your abdominal cavity using a small incision and CO_2 gas is used to gently expand your abdomen so that there is room to look around. The laparoscope has a video camera on the end which transfers the images to a monitor screen that I watch in the operating room. This technology means that the whole surgery can be done using five small incisions: two or three are 1cm in length and one or two are ½ cm in length. The benefits of doing surgery in this fashion rather than a single, large incision (open surgery) means less discomfort after surgery, less time in hospital, a quicker recovery and ultimately, small scars. It usually takes 60-90 minutes to perform, with one night in hospital.

Rarely, I will have to 'convert' your surgery to an open procedure, making that bigger incision. This is nearly always done for safety reasons. If it's not safe to continue with laparoscopic surgery, then I will not hesitate to do this. Open surgery is safe and effective – this is not a complication of the surgery; it will only ever be done to protect you and it is uncommon. In fact, I have never had to do this conversion to an open operation for a patient having their surgery in a routine, elective situation but that is not to say that this cannot happen. The official rate for this to occur is in up to 5% of elective laparoscopic surgeries and would generally require a longer length of hospital recovery and recovery at home.

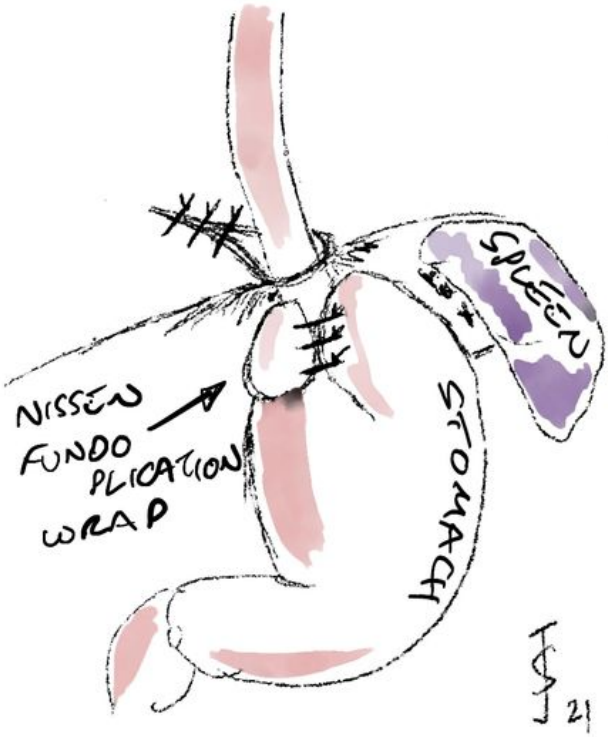
hiatus hernia



hiatal repair and start of wrap



fundoplication wrap completed



does it work?

Fundoplications are quite simply, one of the most effective operations that we can do. It's quick, it's easy to recover from, it's safe and it's reversible. The satisfaction ratings for the procedure are consistently between 90-95%. Most patients are 'cured' of their heartburn and regurgitation and enjoy better quality of life when compared to patients taking medication.

However, with any surgery there are failures and there is also some drift of effect over time. Both the oesophagus and stomach move when you swallow and eat, so sometimes stitches loosen with time and occasionally this leads to the wrap 'slipping' its position and thus a return of the reflux symptoms. Overall, somewhere between 20-50% of patients will get reflux symptoms again and need to go back on to a PPI, albeit at a lower dose and with better control – please bear this in mind in your decision making. The same is true for the hiatus hernia repair, which essentially has occurred because of a weak muscle and thus can recur over time as well. Anti-reflux surgery can be re-done but with lower success rates and higher complication rates every time.

All operations come with side-effects: the most classical for anti-reflux surgery is dysphagia (trouble with food sticking). There is a technical balance point with forming the high-pressure zone be that with a wrap or an artificial sphincter (LINX) – this area has to be 'tight enough' to stop reflux but not too tight or it will cause food to stick. Nearly everyone has some feeling of tightness for the first six weeks or so and should stay on soft or sloppy foods. As a result, most patients lose 5-10kg of weight with the change in diet. Gradually, as the surgical swelling reduces, you can eat more normally but most people will still avoid solid foods like lumps of steak. With the LINX device the post-op diet is lightly different as we want to expand the device from day one or it can tighten rather than loosen over time.

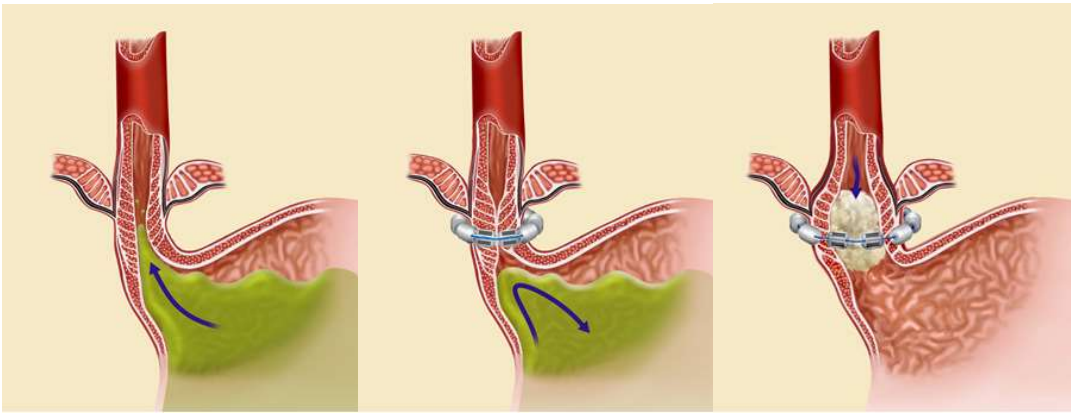
the LINX device

As mentioned, there are some surgical alternatives to a fundoplication – there is a new operation using a magnetic 'necklace' that is wrapped around the lower oesophagus, the LINX® Reflux Management System (LINX device). This has become established as an option for patients and is no longer deemed to be experimental. This is a flexible ring of titanium

beads, each with a magnetic core, connected together with a titanium wire to form a ring or necklace shape. The idea is that this becomes a replacement lower oesophageal sphincter. It is surgically implanted around the lower end of the oesophagus in the same way as the fundoplication wrap is done – with laparoscopic surgery after repair of your hiatus hernia.

The LINX device prevent the contents of the stomach from refluxing as the fluid does not reach the pressure required to 'open' the ring. But when you swallow, the pressure in your oesophagus increases and the magnetic beads move apart on the titanium wire ring. As the beads move apart, the magnetic force decreases and allows food or liquids to pass through more easily into the stomach. After the food or liquids have passed into the stomach, the magnetic beads pull themselves back into the closed position. It's very clever. Initial trials were promising but it has taken a few years before the longer term data has properly supported these results. In a recently published study that has followed patients for over 5 years after having a LINX device implanted: there were no device erosions, migrations, or malfunctions noted. So it's safe. It was excellent in controlling reflux symptoms with regurgitation reported in only 1% of patients at 5 years. All patients reported the preserved ability to belch and vomit if needed. Which is different from fundoplication surgery. The only issue appears to be some persistent troublesome difficulty with swallowing in around 5-6%

of patients. This is not vastly different from fundoplication surgery, so I am now happy to offer this to patients.



As they are magnets, patients who have the LINX device should not be exposed to, or undergo, an MRI (Magnetic Resonance Imaging) in a magnet more powerful than 1.5 Tesla for the current version of the device. Exposure to the more powerful MRI could cause serious injury to the patient or damage the device. It does not limit you ever having CT scans or PET scans or ultrasound scans.

There is also a new silicone implant that some surgeons are placing to reduce reflux - RefluxStop™. This is again placed during laparoscopic surgery with a concurrent hiatus hernia repair. The early results are excellent and perhaps the wind-related side-effects that are the main issue with fundoplication and the LINX device are lower. But… only early results (6 months or so) are available from studies of a small number of trial patients (around 50 patients). I will not offer this to patients until we have longer and bigger studies. It remains experimental in my opinion.

Finally, if you have obesity then we can consider a Roux-en-Y Gastric Bypass, which is arguably the best operation for reflux that we have as all the acidic juices from the stomach are diverted away from your oesophagus.

We can discuss all these options.

risks

Laparoscopic anti-reflux surgery is generally a safe operation and even complex revisional surgery is usually done this way, but all surgery and anaesthesia carry some risk and you need to be aware of this. Complications occur in around 5% of patients - most are mild and resolve easily but major complications can happen and can turn life-threatening. I will send you an eConsent form that runs through these risks, because it is important that you have enough time and information to weigh up the benefits, risks and limitations of surgery. Risks are higher if you are overweight, smoke or have had previous upper gastrointestinal surgery. These are some of the important risks:

General Risks

Bleeding is always possible from any surgery. Uncommonly you may need to return to theatre to stop bleeding. Nausea and discomfort are common. Cardiovascular complications such as heart attack, pulmonary embolism or stroke can occur and can threaten your life.

Deep vein thrombosis (DVT) or a pulmonary embolism (PE) can occur. For most patients, I use calf compressors during your surgery and anti-embolic stockings but if your risk is higher for clots then you may be given a dose of a blood thinning medication or a course of these post-operatively to prevent them. Mobilising as soon as possible after surgery is good for you. As soon as you can, move around your house and go for some short walks. Rarely in all laparoscopic surgery, there is a risk of CO_2 travelling into your blood system and behaving like a blood clot. This is dangerous but extremely rare.

Chest infections: deep breathing after surgery can prevent this.

Wound problems, such as infections – I give you antibiotics during surgery to reduce this risk but if you develop pain, swelling or redness of a wound then this may need antibiotic treatment.

Scars: cutting the skin is always associated with scarring and this can be very variable between patients – some patients develop tiny scars and other have raised, itchy and red scars. But most scars heal well over time.

Specific Risks

Injuries to other surrounding structures (we call these ‘iatrogenic’ injuries) are always possible with any surgery. The stomach or oesophagus can be damaged during dissection of these and the spleen also lies close to the stomach and in theory can be damaged by the surgery and have to be removed. I’ve never personally had this happen but I have seen it happen when an extremely experienced surgeon was operating. So never say never.

If you get troublesome swallowing difficulties after surgery then this can usually be improved by an endoscopic stretch of the repair site and rarely needs revisional surgery. Many patients get gas bloat after eating as it can be difficult to belch and release the gas that you swallow naturally with every mouthful. This can also mean that you pass more flatus. That sounds amusing, but it can be socially damaging for some people. These side effects may resolve without treatment over time and with dietary changes but in a small number of patients persist permanently. Overall re-operation for post-operative issues or recurrent reflux in the longer term runs at around 5-10%.

Re-operation

Sometimes returning to theatre for a re-operation is necessary for your safety, and to control the situation and stop this progressing into a more major situation. This may be as a laparoscopic operation again or may need to be done as an open operation.

List of complications and side-effects

- Wind related issues – gas bloat, increased flatus (common)
- Persistent food sticking sensation (common)
- Recurrent hiatus hernia or slippage of the wrap (uncommon)
- Injury to lung and pneumothorax (uncommon)
- Wound infection (uncommon)
- Bleeding (uncommon)
- Need for splenectomy (rare)
- Perforation and peritonitis (uncommon)
- Deep vein thrombosis and pulmonary embolism (uncommon)
- Heart attack (uncommon)
- Chest infections (uncommon)
- Delayed stomach emptying - gastroparesis (uncommon)
- Late recurrent reflux symptoms (uncommon)
- Death (rare)

after surgery

I want to minimise your stay in hospital. It's better for you and it also means that you can recover in the comfort of your own home away from the hustle and bustle of a busy hospital ward. So, we try to do these surgeries with only one night stay or even as a day case with no nights spent in hospital. Getting you moving as soon as possible after surgery reduces your pain, reduces the risk of chest infections and reduces the risk of blood clots. You will be discharged with simple painkillers.

When you wake after surgery, you will be monitored for a short period of time in 'recovery' and then when safe to do so transfer back to your ward. You will have some mild pain in your wounds and in your shoulders (due to the gas). These both settle rapidly. The discomfort goes after a day or two and the abdominal wounds will take a week to ten days to be completely comfortable. Essentially, by the end of a week you should have minimal discomfort. You may feel nauseated and have a sore throat. I advise that you take simple painkillers, such as paracetamol, and regular anti-nausea drugs, such as cyclizine or ondansetron, regularly over the first few days. I don't want you to retch or vomit if possible as this places the repair under unnecessary strain. You will be given fluids on the ward once fully awake and if your observations are all fine then you will be discharged with painkillers and dressings.

You will have dressings over your wounds. Please leave these in place for as long as you can – you will get better wound healing if you do. You can shower and pat these dry. It's preferable that you take a shower, rather than a bath as this prevents the wounds becoming 'soggy'. If you need to replace a dressing or have a problem with a wound, then please let me know. All your stitches are under the skin and will dissolve – there is no need to have these removed. Sometimes after your dressings come off, you can feel the end of a stitch – if it irritates you then you can cut this flush to the skin. There is no need to apply further plasters unless you feel it would be more comfortable to do so.

The incisions will probably be red and itchy for 1-2 weeks and bruising around them is common. Once healed there will be a small, pink scar. Over the next few months, they will become less and less noticeable. There may be some persistent bumpiness and bruising around the wounds, but again this gradually improves. It is common to be numb around

wounds due to tiny skin nerves that we cannot see being cut. In most people this sensation will return, but some wounds stay permanently numb.

Wound infections are not uncommon so if you have increasing tenderness, pus-like discharge, swelling or increasing redness of the wounds then visit your GP as you may need some antibiotics to resolve the infection and discomfort.

Make sure someone can pick you up from the hospital and that you have adequate support in place for when you get home. Make sure that you have enough supplies of your regular medications.

Once home it is important to both rest when you can and mobilise safely and gently when you can. Most activities can be resumed after 3-5 days but I would avoid vigorous exercise or heavy lifting for around 6 weeks to allow the hernia repair to heal fully and strongly. It is normal to feel tired after surgery, so listen to your body, rest up and take it easy for those few days. You can feel groggy after an anaesthetic so don't sign any documents or make any major decisions for a couple of days! Basically, you should be able to resume most of your normal daily activities when you feel comfortable to do so.

You cannot drive for a week after surgery as you must be able to do an emergency stop without discomfort – if you drive for work, then you will need to be signed off by a doctor to resume this. Please be aware that driving whilst unfit may invalidate your insurance.

You may find that you have a brief episode of constipation due to the fasting, the change in diet with low fibre intake, the anaesthetic and painkillers. This will settle over time – maximise your fluid intake. Sometimes a mild laxative can help. Drink plenty of fluids so that you don't get dehydrated.

Almost immediately, your reflux should stop.

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. If you have a desk job you may feel ready to return in a week or so. If you are involved in manual labour or heavy lifting, you may require a bit more time. Typically, you will need between two and three weeks off work. If you need a sick certificate, then let me know and I will write this for you.

I generally see you again two weeks after your surgery but do not hesitate to get in touch with me via hospital switchboard if you or your family are concerned about your condition. If you do have a complication, then the earlier this is picked up the easier it is to deal with it and stop any long-term consequences.

diet after the procedure

You **will** need to make some changes to your diet.

This is only a general guide for fundoplication – it is different if you opt for a LINX device; if you are experiencing difficulties or have specific dietary requirements then please let me know or ask to be referred to a Dietitian.

Most patients will experience some difficulty swallowing as well as wind related issues such as more belching, bloating and flatulence. These symptoms are normal but can last for a few weeks.

Stage 1: Liquid Diet (up to seven days)

I advise to stay on a liquid diet for the first few days after surgery. Even so, you will still need to drink slowly. If you are not eating much then consider taking some vitamin supplements.

Stage 1 diet ideas

- Water & cordial & fruit juice
- Smoothies (thin to begin with – consider starining to remove pulp etc.)
- Smooth, thin soups
- Milky drinks - hot chocolate, latte, milkshakes, malted drinks
- Ice cream (allow it to melt before swallowing)

Avoid

- Very hot or very cold fluids
- Fizzy drinks (which can cause bloating and gas)
- Alcohol
- Too much caffeine
- Citrus based juices

Stage 2: Soft/Moist Diet (Week 2-4)

The next stage is to start to thicken up things a little. Consider this as a gradual transition through wet or moist pureed foods without too many lumps. You can use a blender or mash up food and add fluid to get the right consistency such as gravy, cream or milk, water or sauces.

Stage 2 diet ideas

- Milky porridge, wheat biscuits with plenty of milk
- Yoghurt or fromage frais
- Scrambled eggs
- Minced meat (add plenty of gravy)
- Fish with white sauce
- Creamy/cheesy mashed potatoes or baked potato insides (without the skin) with butter or a soft filling such as beans, cheese, tuna
- Mashed veggies, mushy peas, avocado
- Thicker soups
- Rice puddings, custard, mousse
- Tinned or stewed fruit
- Dunked biscuits
- Chocolate

Stage 3: Soft Diet (Weeks 4-6)

Progress on to a soft diet as tolerated. Start to thicken up the foods you have been eating – such as porridge, eggs and mash but continue to chew well and avoid big lumps.

Stage 3 diet ideas

- Fish poached in sauce, fish pie, Shepherd's/Cottage Pie, Corned Beef Hash

- Casseroles, stews, hotpots
- Tinned tuna/ salmon (be cautious of small bones) with mayonnaise or sauce
- Cauliflower/macroni cheese
- Well cooked pasta dishes
- Soft fruits like raspberries, strawberries, ripe banana

Stage 4: 'Normal' diet (Week 6 onwards)

By about 6 weeks you should be managing a fairly normal diet.

Some general tips:

- Stay well hydrated - drink plenty of water, hot drinks etc. between 'meals'.
- Sit upright when eating and eat little and often, rather than try to eat a full meal.
- Chew well, avoid solid lumps and take your time!
- Drink a little bit of fluid with meals and use sauces or gravy to keep food moist
- Avoid fizzy drinks, chewing gum and drinking through a straw as these tend to worsen belching
- Also limit gas forming foods such as lentils/beans/onions/peppers
- Take it easy with alcohol and caffeinated drinks
- Avoid eating for at least two hours before going to bed
- Consider sleeping propped up to begin with
- If you are struggling after advancing to the next stage of the diet, go back to the previous stage and continue to build-up your diet according to your tolerance

Avoid

The following foods can potentially become stuck above the wrap at any time and are best avoided or eaten with caution after a good chew:

- Bread and pastries tend to form 'gluey' balls
- Uncooked raw vegetables
- Dry foods like solid meat
- Tough skins like jacket potato skins, crispy coatings
- Hard foods such as nuts, popcorn, crisps, dry crackers
- Fruit pith – oranges, green beans and pineapples are particularly fibrous
- Carbonated drinks will make you feel bloated and pass more flatus. As will tomatoes, citrus foods and beans.

This leaflet for general information purposes. It is not a substitute for a face-to-face discussion and nor does it contain every fact about anti-reflux surgery, it's risk or benefits. I cannot guarantee that treatment will meet all your expectations or that surgery carries no risks.

If you have any concerns or questions, then please write them down and ask me about them.

Let someone know if you have <u>any</u> of the following.

This can be your GP, the A&E department or me.

You can get hold of me through the hospital switchboard:

1. *Fever >38C*
2. *Redness, swelling, pain, bleeding or discharge from your wounds*
3. *Severe pain on swallowing*
4. *Cough, shortness of breath, chest pain or severe nausea and vomiting*
5. *Pain or swelling in your legs/feet/calves*
6. *Feeling weak, dizzy or faint*

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