NHS
University Hospitals Plymouth
NHS Trust

Gastrectomy

Surgery to remove part or all of the stomach

Information for you and your family

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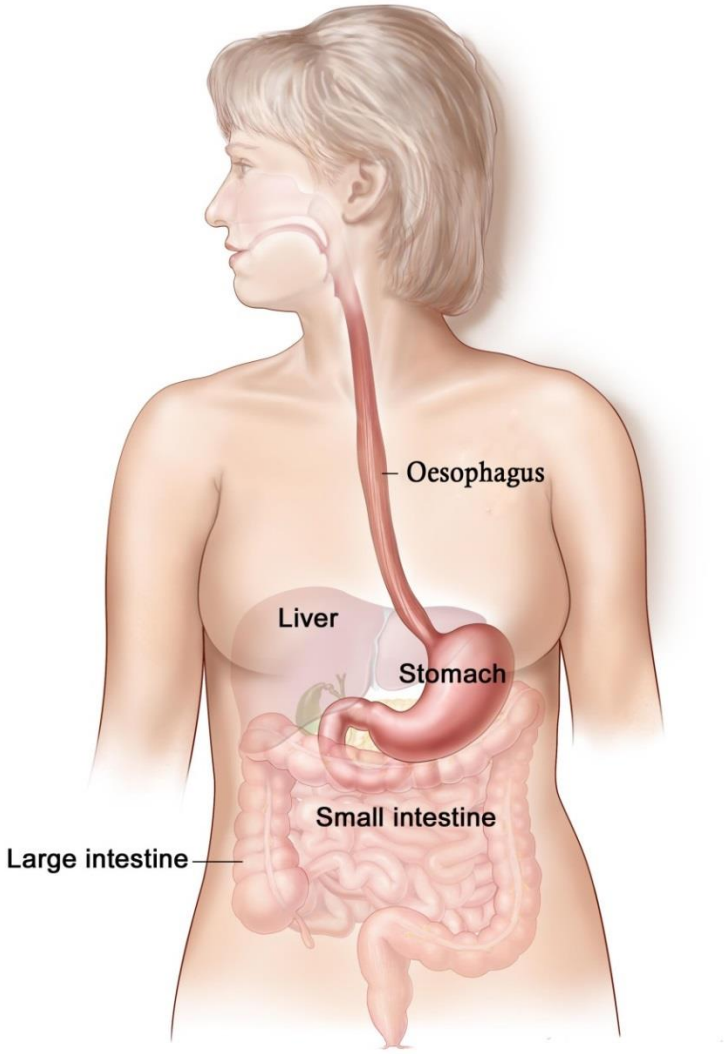
Introduction

Gastrectomy is an operation to remove part, or all, of the stomach. This information booklet has been prepared to help explain what a gastrectomy operation involves. You may be reading this because you are going to have a gastrectomy. You may be reading because you are trying to decide whether to have a gastrectomy. This booklet aims to answer the questions you will have. It should provide all the information you need for you to give your consent for surgery.

The doctors and nurses you have already seen will have discussed surgery with you, and this booklet supplements the information you have already received. It may not cover all your concerns so if you have any other questions or worries after reading please discuss with us. Contact details are at the end of the booklet.

This booklet is also for your family and friends to help them understand the operation. Please encourage them to read it as well.

What is the stomach?



The stomach is a muscular hollow organ in the upper part of your abdomen (tummy). It is the first part of the intestine in your abdomen and receives food from the oesophagus (gullet) after it has been chewed and swallowed. Food starts to be digested (broken down) in the stomach which produces acid to help the process. Partially digested food leaves the stomach through a valve called the pylorus into the small intestine where digestion continues.

Why do I need a gastrectomy?

The most common reason to have a gastrectomy is cancer of the stomach. The aim of the surgery is to remove the cancer, and may follow treatment with chemotherapy. More information is in the booklet "**Understanding Stomach Cancer**" by Macmillan Cancer Support; please ask if you don't have a copy.

Another condition which may require a gastrectomy is peptic ulcer disease. Most peptic ulcers can be cured with medication, and surgery is uncommon. Sometimes medications don't work, and sometimes the pylorus can become narrow and block the way out of the stomach. A gastrectomy can help if this is the case.

Recovering fully from major surgery will take time and effort. Please also read the booklet **"Living Well After Your Gastrectomy Operation"** which explains what to expect after surgery when you leave hospital.

Workup for a gastrectomy

There are two main areas to consider in the workup for this operation.

Firstly there are tests to check that the condition you have can be successfully treated with surgery.

Secondly there are assessments to see if you are well enough to undergo major surgery.

If you have cancer of the stomach then some, or all, of the following tests will be done to get information about the cancer:

Endoscopy: examination of the oesophagus and stomach with a flexible camera (endoscope) to identify the cancer and show which part of the stomach it is growing in.

CT scan: body scan using X-rays to show location and size of the cancer, and whether it has spread to other parts of the body.

Staging laparoscopy: keyhole surgery to examine the inside of your abdomen (tummy), looking to see if surgery is possible and whether cancer has spread.

Depending on how well you are, and whether you have other medical conditions, then some of the following assessments will be used to help decide if major surgery is safe for you:

Cardio Pulmonary Exercise Test: (CPET or CPEX test) involves cycling on an exercise bike while measuring heart and lung function. This is performed by a consultant anaesthetist who will produce, and discuss with you, a report detailing your risk profile for surgery.

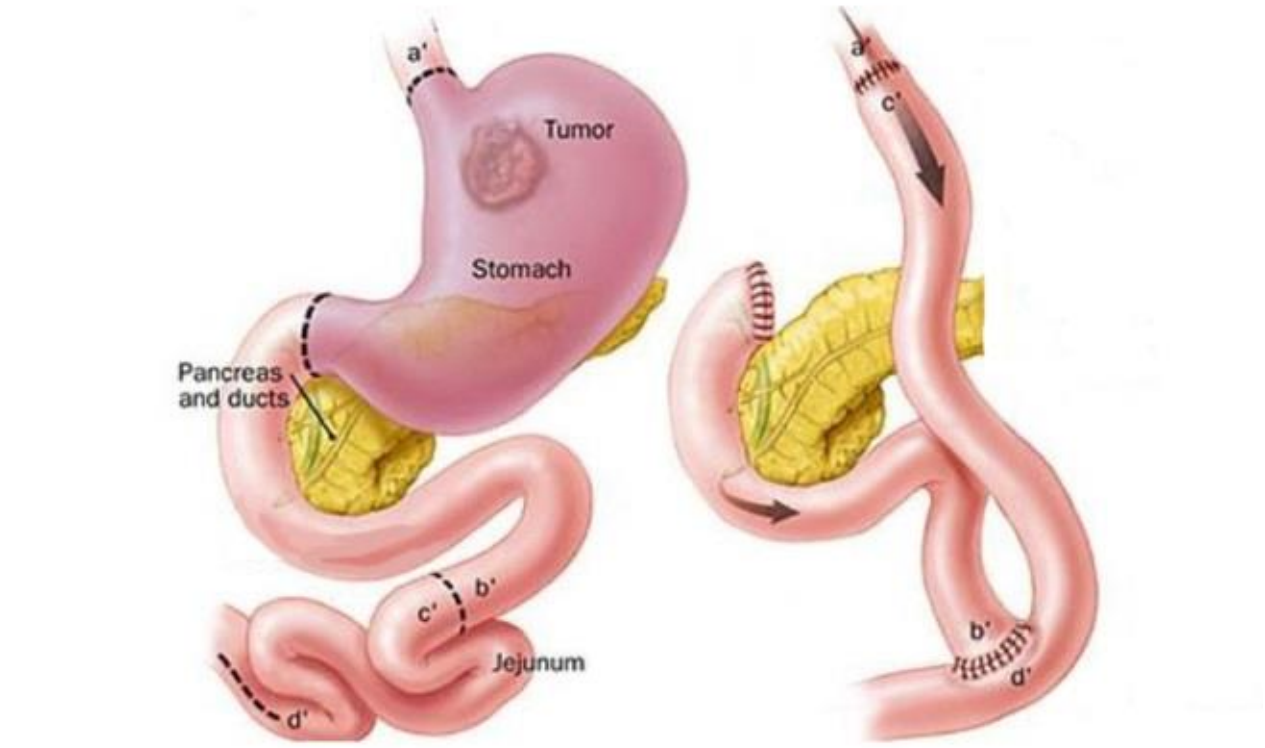
Lung function tests: measurements of how well your lungs work.

Echocardiogram: ultrasound scan of your heart which shows how well it works and if there are any problems with heart valves.

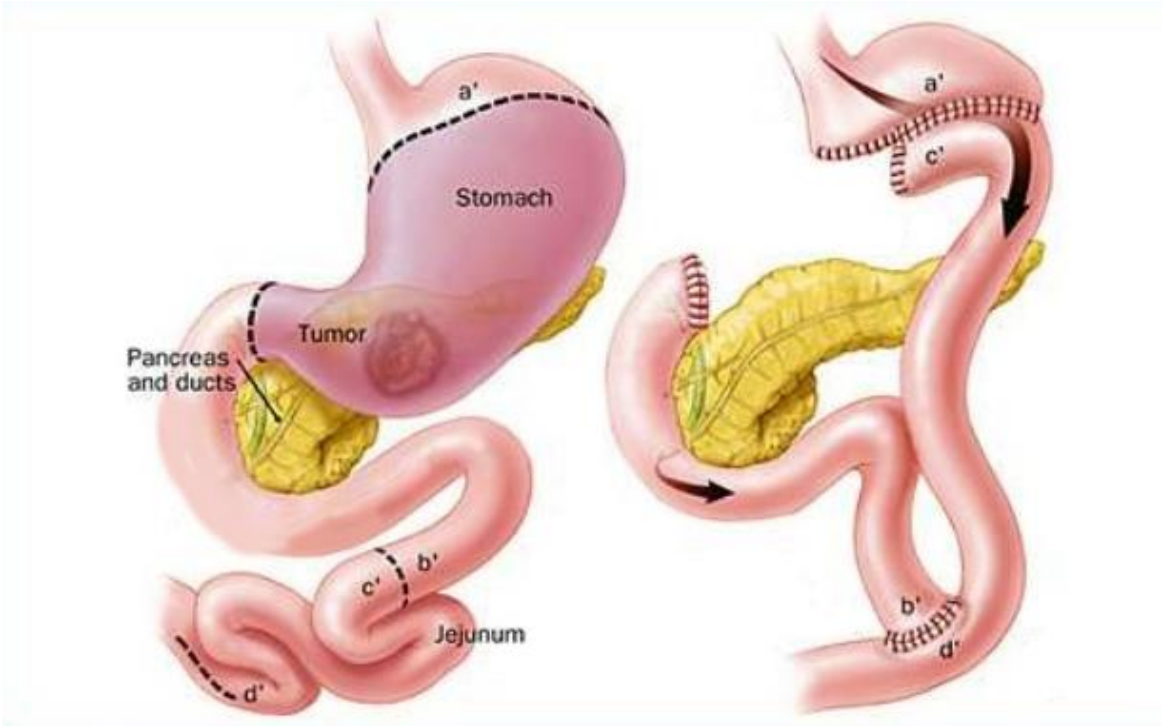
What does a gastrectomy involve?

The aim of a gastrectomy is to remove part, or all, of the stomach. After a gastrectomy the intestine needs to be joined together again to allow food to pass through. This is done by moving the small intestine up so it can be joined directly to the lower oesophagus, or remaining part of the stomach. Removing all of the stomach is called a total gastrectomy. Removing part of the stomach is called a sub-total (or partial) gastrectomy.

Total gastrectomy



Sub-total gastrectomy



What happens during the operation?

General Anaesthetic

This operation needs to be done under a general anaesthetic. This means that you are completely asleep and not aware of any part of the operation. An anaesthetist will place a drip in one of your veins and give you drugs which will send you to sleep. A breathing tube will be put into your windpipe and connected to a ventilator machine which will control your breathing while you are asleep. More information about general anaesthetics is available in the Patient Information Booklet "**Planned Surgery**" please ask if you don't have a copy.

Endoscopy

The first thing the surgeon will do is perform an endoscopy. This is an examination of the oesophagus and stomach using a flexible telescope (endoscope). It is very likely you will have had an examination like this previously as part of the tests done on your stomach. The reason it is repeated is to check that nothing has changed which may influence the operation.

Surgery

The operation is done through an incision (cut) in the upper part of the abdomen. The stomach is freed up and a decision made as to how much stomach needs to be removed. If a total gastrectomy is needed then the lower oesophagus is cut just above the stomach, and the duodenum cut just beyond the pylorus *(*see diagram on page 6*)*. If a sub-total gastrectomy is needed then the stomach is cut rather than the lower oesophagus *(*see diagram on page 7*)*. If the operation

is being done for cancer then the lymph glands around the stomach are removed too as that is part of the treatment.

Once the stomach has been removed the small intestine (jejunum) is brought up to the top of the abdomen and joined onto either the lower oesophagus, or the remaining piece of stomach.

Drips, drains and tubes

When you wake up after the operation you will have several tubes in different places which will have been put there during the procedure.

Intravenous (IV) drip: usually a smaller one in your hand/arm, and a larger one in a vein in your neck. These are used to give you fluid and medications.

Naso-gastric (NG) tube: passes down your nose into your oesophagus and to the join with the small intestine. This drains fluid and air from the small intestine or remaining stomach to take pressure off the join.

Abdominal drain: placed in your abdomen at the site of surgery to drain any fluid from the area.

Urinary catheter: placed in your bladder. This drains urine from your bladder which helps monitor kidney function after major surgery.

Local anaesthetic catheters: placed next to the incision in your abdomen. These are used to deliver pain-killing medication directly to the incision.

Normal recovery in hospital

You will need to be in hospital for at least 7 days after this operation. The following diary details what you can expect to happen during this time. This is a simplified version of the recovery plan the doctors and nurses follow on the ward, and may vary from person to person. If your recovery is delayed for any reason then you will need to stay in longer.

Day 0: day of surgery
The operation takes 3-5 hours. After this you will spend at least 1-2 hours in the recovery area before being transferred to Wolf Ward on level 7.

Day 1: first day after surgery

You will be allowed to drink up to 100mls water each hour. Some, or all, of this will drain out of the NG tube. The fluid your body needs will be given through an intravenous drip (IV).

You will be helped out of bed to sit in a chair. You will also be helped to go on short walks.

You must do regular breathing exercises, and will be seen by the physiotherapists to help with these.

Day 2: Very similar to Day 1 but you will spend more time out of bed, either sat in a chair or walking further. You must continue with regular breathing exercises.

Day 3: The NG tube will have a small bung placed in it (spigot) rather than be connected to a bag. You will be allowed to drink what you like (but not fizzy

drinks). Your nurse will check the NG every 3-4 hours to see if fluid needs to be drained.

Day 4: Very similar to Day 3. Continue to spend more time walking, and perform regular breathing exercises.

Day 5: The NG tube will be removed if there is only a small amount of fluid draining from it. You will continue to drink freely.
The abdominal drain will be removed if there is little fluid coming from it.
You will start to have pain killers by mouth – either tablets or liquid.

Day 6: You will start to have pureed food as well as drinks.

Day 7: You will be discharged home if:

- Your temperature, pulse rate, blood pressure and breathing are normal.
- All your drains have been removed.
- Your wounds are clean and healing well.
- Your pain is under control with tablets or liquid medication.
- You can walk without help.
- You are eating pureed food as discussed with the dietitian.
- You have someone to support you at home.
- None of the hospital team have concerns about your recovery.

If any of the steps in the recovery process take longer than planned then you will need to stay in hospital

longer than 7 days. An example could be if your NG tube continues to drain a lot of fluid after Day 3. This would mean the NG tube would not be removed on Day 5, and you would not be able to start food on Day 6. This would delay your discharge until it is safe to remove the NG tube, and for you to start eating. Possible complications from gastrectomy are described next.

Risks and Complications

All operations carry the risk of complications, which is when things don't go according to plan. Some of these are minor, such as an infection developing in a wound. Some are potentially life-threatening, such as having a heart attack, or developing a blood clot in your lungs. The common complications from gastrectomy are described here, as well as the less common but more serious ones.

Infection

Wound infection occurs in 5-10% of patients. Antibiotics will often be needed, and sometimes an infected wound needs to be opened up and cleaned thoroughly.

Other skin infection can happen around any tubes such as intravenous cannulas (drips) and drains, and may need antibiotics.

Urine infection can happen from having a urinary catheter in place. Catheters are removed as soon as possible to try to avoid this.
Chest infection is common, and requires antibiotics

and chest physiotherapy. Sometimes it is serious and may require treatment on the Intensive Care Unit (ICU).

Bleeding

Some blood is lost during a gastrectomy, but usually not a significant amount. If there is more major bleeding during surgery then a blood transfusion may be needed.

Most bleeding after surgery is minor. Oozing from wounds, skin bruising and blood in the fluid from NG tubes is common, and usually settles by itself.

Major bleeding from internal blood vessels after surgery is rare, but will often need a second operation to stop further blood loss.

Swelling (oedema)

It's very common to develop a lot of swelling of the legs, and sometimes the abdomen (tummy), after this operation. This happens as part of the body's response to a major operation, and because a lot of fluid is given to you through the IV drip. This swelling does settle with time, and occasionally needs medication to help get rid of the fluid.

Blood clots

Deep Vein Thrombosis (DVT) and Pulmonary Embolus (PE) are more common after major surgery. DVT is a clot forming in a vein in the legs. Sometimes these clots can detach and move to the lungs, which is then a PE. Wearing elasticated stockings, keeping mobile, and having injections of blood thinning drugs all decrease the risk. DVT can cause problems with swollen, painful legs. PE can be life-threatening.

Heart problems

Major surgery increases the risk of having a heart attack. This is now quite rare after gastrectomy, but is serious if it does happen.

Anastomotic leak

Any new join (anastomosis) in the gut can leak. The risk of this happening with the join between the small intestine and oesophagus or stomach is less than 2%. If a leak develops then a second operation is often needed to repair it. Sometimes leaks may heal without further surgery, but this takes time.

Duodenal leak

The duodenum is cut and closed with staples during a gastrectomy. Like an anastomosis this closed end can leak in which case bile and bowel content will get into the abdomen. This will usually show itself with bile leaking into the abdominal drain. Sometimes the drain will control the leak, but often a second operation is needed to wash the abdomen and repair the leak.

Chyle leak

Chyle is a milky fluid made from digestion of fatty foods. Lymph glands are removed as part of a gastrectomy for cancer, and sometimes chyle can leak from areas where this has been done. Usually this fluid will be visible in the abdominal drain. A chyle leak will often settle by itself if the gut is rested from food. Occasionally a second operation may be needed to try to stop the leak.

Injury to structures near the stomach

During any operation there is a risk of causing damage to organs in the area of the surgery. This is rare, but the stomach lies next to major organs (liver, pancreas and spleen) and a big cancer may be pressing onto these organs making surgery more difficult. Any damage recognised during the operation will be dealt with at that time. Sometimes such problems aren't obvious until a few days after surgery, and may need a further operation.

Delayed feeding

Any of the complications described above can delay when you start to eat again. If this happens you may need to have feed given either directly into your veins through a special drip, or through a tube placed into your small intestines (see diagram on page 2). This type of feeding would continue until you are able to eat.

Risk to life

There is a risk of dying with any major surgery. This is usually as a result of complications that develop in the days after an operation that don't respond to treatment. Currently the risk of dying in the first 30 days after a total gastrectomy is in the region of 5%. The risk is slightly lower for a sub-total gastrectomy.

Not able to do planned operation

Occasionally it is not possible to do the operation that has been planned. The most common reason for this is if the cancer is more advanced than the scans suggest. This may only be obvious during surgery, and can make it impossible to remove the cancer. If

this happens your surgeon will explain the reasons to you and your family once you are fully awake after surgery.

Preparation for surgery

Having major surgery such as a gastrectomy will put a lot of strain on your body, particularly on your heart and lungs. You will have a lot of tests to help assess whether you are able to have surgery, but there are some things that you must do to prepare yourself. The three important areas for you to work on are:

- **Stopping smoking**
- **Eating healthily**
- **Exercising regularly**

Stopping smoking

If you smoke then you must stop before your operation. If you continue to smoke you are much more likely to get a chest infection or heart problems following surgery. Even stopping smoking for two weeks before surgery will decrease your risk of getting complications. The longer before surgery you can stop the better.
Help is available through the NHS so please talk to us about how we can help you.

Eating healthily

It is important that you are not malnourished when you have surgery. You may have struggled to eat and lost weight in recent weeks. If that is the case, and if

you are underweight, then we will help you with nutritional advice to help you put weight back on. This may require supplement drinks, or treatments to help you eat more easily. If you have chemotherapy before surgery for cancer then you will usually start eating much better during that treatment.

If you are overweight then we will help you with nutritional advice so that you remain well nourished, but don't put any more weight on. Surgery gets more difficult if you are overweight, and we will suggest a special diet for 2-3 weeks leading up to your operation if you have a Body Mass Index (BMI) greater than 30.

Exercising regularly

Keeping fit and active as much as possible before major surgery will help your recovery afterwards. This doesn't have to be strenuous. For example walking 2-3 miles every day will help keep your heart and lungs working well, and keep you in good condition ready for your operation. If walking this far is too much then any activity which gets you "out of breath" will do.

Research studies

University Hospitals Plymouth NHS Trust is involved in a lot of research studies. These studies aim to improve our understanding of how diseases like cancer happen, and how best to treat them. You may well be asked to take part in some of these studies during your treatment. Any studies will be clearly explained to you by members of the team, and you can choose if you want to take part. If you don’t want to be involved this won’t affect your treatment at all.

Surgical team

There are 6 consultant surgeons based in Plymouth who perform gastrectomy regularly. They are:

- **Arun Ariyarathenam**
- **Joe Rahamim**
- **Richard Berrisford**
- **Grant Sanders**
- **David Chan**
- **Tim Wheatley**

They work together as a team, and discuss patients regularly through the week. You may meet one or all of them, both in the clinic and whilst in hospital. One of the consultants is always available 24/7 to deal with any issues that may develop on the ward following surgery. Ward rounds are done every day of the week including weekends.

How to contact the hospital team

Within office hours

Your specialist nurses (key workers) are available to you, your family and close friends for any questions, concerns or worries. All the surgical and oncology teams can be contacted via them.

Plymouth Nurse Specialists

Marilyn Bolter 01752 431528
Jen O'Reilly 01752 431528
Lizzie Bevan 01752 431528
Support Worker Angela Bleasdale 01752 431528

Exeter Nurse Specialists 01392 402775

North Devon Nurse Specialists 01271 314147

Torbay Nurse Specialists 01803 655890

Truro Nurse Specialists 01872 252177

Out of hours

Help is available by contacting Wolf Ward directly

Wolf Ward (open 24hrs/day) 01752 439678
Plymouth Dietetic team: 01752 432243

Your notes:

This booklet and other local patient information can be found on: www.plymouthhospitals.nhs.uk

This leaflet is available in large print and other formats and languages. Contact: Oncology Department Tel. 01752 431344

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