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Document Title:

**Laparoscopic Gastric Banding**

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## What is gastric banding?

Gastric banding involves inserting an adjustable silicone band around the upper part of your stomach. It works by making you feel full sooner so that you eat less (see figure 1). Your surgeon can adjust the tightness of the band by injecting salt water (saline) into it through an access port (see figure 1).

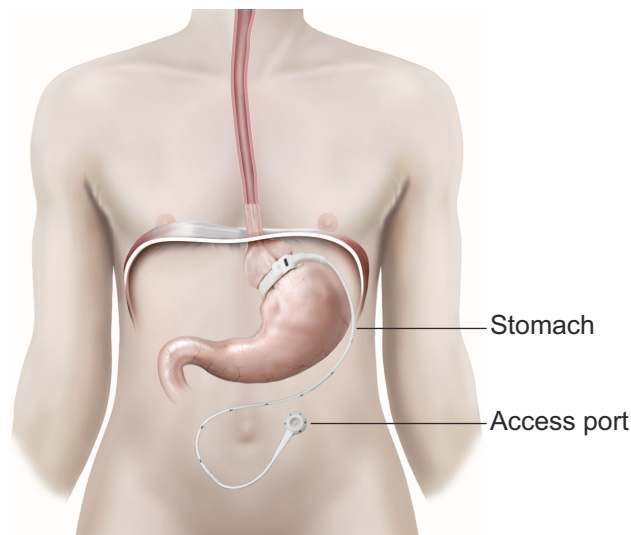


Figure 1

A gastric band around the stomach

Your surgeon will assess you and tell you if gastric banding is suitable for you. However, it is your decision to go ahead with the operation or not.

This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your surgeon or the healthcare team.

## Is gastric banding suitable for me?

Your BMI (body mass index) is a measurement used to find out if your weight is within a healthy range for your height.

A BMI score of over 30 means that you are obese. This puts your health at risk and you will benefit from a programme of healthy eating and exercise aimed at long-term weight loss.

If your BMI score is over 40 (morbid obesity), surgery may help you to achieve long-term weight loss.

Surgery may also help if you have a BMI over 35 (severe obesity) and have other medical problems such as Type-2 diabetes, high blood pressure, sleep apnoea (your breathing stops for 10 seconds or longer during sleep), breathing problems or heart disease.

Your surgeon will confirm your BMI score and carry out a detailed assessment before deciding if surgery is suitable for you. This may include asking you questions about your medical history. Your surgeon will discuss with you the changes you need to make to your lifestyle to achieve long-term weight loss. They will need to be satisfied that you are motivated to make the changes, including keeping to a new eating plan and exercising regularly.

## What are the benefits of surgery?

You should be able to achieve long-term weight loss but this depends on your ability to keep to your new lifestyle.

Long-term weight loss should improve most obesity-related health problems you may have.

## Are there any alternatives to gastric banding?

The simple approach to losing weight involves eating less, improving your diet and doing more exercise. Sometimes medication given by your GP can help. There are other surgical options to gastric banding.

- Shortening your digestive tract – Cutting away some of your bowel to limit how many calories and nutrients your body can absorb.
- Sleeve gastrectomy – Reducing the size of your stomach to a short tube shape.
- Gastric bypass (also called Roux-en-Y) – Stapling your stomach to create a smaller stomach 'pouch' and then bypassing the rest of your stomach and part of your bowel.

Gastric banding has fewer complications and there is a lower risk of developing serious complications. Recovery is usually faster, as the operation does not involve cutting your stomach or other parts of your digestive system but weight loss is slower. It may be possible to have a gastric balloon, where an inflatable silicone balloon is inserted in your stomach to make you feel full sooner so that you eat less.

A gastric balloon has fewer complications as the procedure does not involve any surgery but a gastric balloon can stay in place for only up to 9 months. Although you should achieve some initial weight loss, the weight loss is not as much and is slower compared to the surgical options.

### **What will happen if I decide not to have the operation?**

The healthcare team will continue to support your efforts to eat less, improve your diet and do more exercise. Your surgeon may recommend that you go to your GP.

If your efforts are not successful, you will continue to be at a higher risk of developing serious medical problems.

### **Is silicone safe?**

Silicon (without the 'e') is one of the most common natural elements. It becomes silicone when it combines with oxygen, hydrogen and carbon. Silicone can be made into many forms and has brought major benefits to industries, such as food production and personal-care products. Silicone is useful for healthcare products because it does not dissolve in water or react easily to changes in temperature or to substances in your body. Silicone is used to make heart-valve replacements, facial implants and tubes used to give people medication. Many studies have been carried out to find if silicone is safe. There is no evidence to suggest that people with gastric bands have a higher risk of developing diseases such as cancer and arthritis.

### **What does the operation involve?**

The healthcare team will carry out a number of checks to make sure you have the operation you came in for. You can help by confirming to your surgeon and the healthcare team your name and the operation you are having.

The operation is performed under a general anaesthetic and usually takes one to two hours. You may also have injections of local anaesthetic to help with the pain after the operation. You may be given antibiotics during the operation to reduce the risk of infection.

Your surgeon will use laparoscopic (keyhole) surgery as this is associated with less pain, less scarring and a faster return to normal activities. Your surgeon will make a small cut on your abdomen so they can insert an instrument in your abdominal cavity to inflate it with gas (carbon dioxide).

They will make several small cuts on your abdomen so they can insert tubes (ports) into your abdomen. Your surgeon will insert surgical instruments through the ports along with a telescope so they can see inside your abdomen and perform the operation (see figure 2).

Your surgeon will create a tunnel behind your stomach, just below the join with your oesophagus (gullet). They will pass the band around the upper part of your stomach and secure it. This creates a smaller upper pouch.

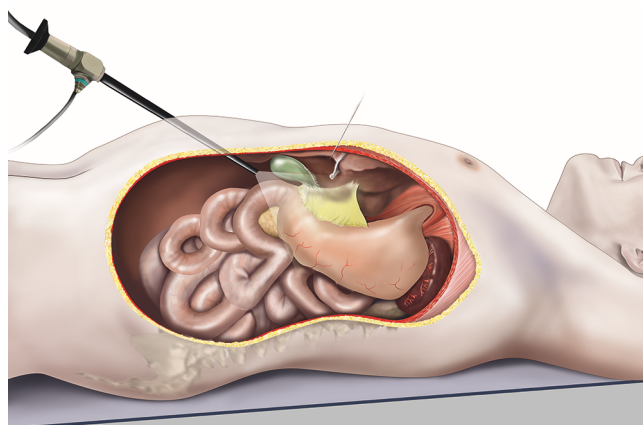


Figure 2  
Laparoscopic surgery

To help keep the band in place, your surgeon will usually fold some of the lower stomach over the band and stitch it to the upper stomach pouch. Sometimes they will stitch the band to your stomach wall. Some types of band do not need to be fixed in place.

Your surgeon will attach the access port to the balloon that is inside the band, and then to your abdominal wall just under your skin. After the operation they will be able to tighten the band by injecting saline solution through the port into the balloon. The band is usually not tightened until a few weeks later, to reduce the risk of the band slipping out of place.

For about 1 in 100 people it will not be possible to complete the operation using keyhole surgery. The operation may be changed (converted) to open surgery, which involves a larger cut on your upper abdomen.

Your surgeon will remove the instruments and close the cuts.

### **What should I do about my medication?**

Let your doctor know about all the medication you take and follow their advice. This includes all blood-thinning medication as well as herbal and complementary remedies, dietary supplements, and medication you can buy over the counter. For a few weeks you may need to take liquid forms of your medication or crush your tablets. Follow your surgeon's advice about how to take your medication.

## What can I do to help make the operation a success?

If you smoke, stopping smoking several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Your surgeon will usually give you a specific low-calorie diet to follow for several weeks before the operation, to reduce the fat content of your liver. Your liver should get smaller, making it safer for your surgeon to perform the operation. After the operation your surgeon will give you a strict eating plan. It is essential that you follow this plan to achieve long-term weight loss.

Exercise should help to prepare you for the operation and help you to recover. Before you start exercising, ask the healthcare team or your GP for advice. Keeping to an exercise programme is essential to help you to achieve long-term weight loss. Follow your surgeon's advice.

You can reduce your risk of infection in a surgical wound.

- In the week before the operation, do not shave or wax the area where a cut is likely to be made.
- Try to have a bath or shower either the day before or on the day of the operation.
- Keep warm around the time of the operation. Let the healthcare team know if you feel cold.

## What complications can happen?

The healthcare team will try to make the operation as safe as possible but complications can happen. Some of these can be serious and can even cause death (risk: 1 in 1,000).

Using keyhole surgery means it is more difficult for your surgeon to notice some complications that may happen during the operation. When you are recovering, you need to be aware of the symptoms that may show that you have a serious complication.

You should ask your doctor if there is anything you do not understand.

Any numbers which relate to risk are from studies of people who have had this operation. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

## 1 Complications of anaesthesia

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

## 2 General complications of any operation

- Pain. The healthcare team will give you medication to control the pain and it is important that you take it as you are told so you can move about and cough freely. After keyhole surgery, it is common to have some pain in your shoulders because a small amount of carbon dioxide gas may be left under your diaphragm. Your body will usually absorb the gas naturally over the next 24 hours, which will ease the symptoms.
- Bleeding during or after the operation. You may need a blood transfusion or another operation.
- Infection of the surgical site (wound). It is usually safe to shower after two days but you should check with the healthcare team. Let the healthcare team know if you get a high temperature, notice pus in your wound, or if your wound becomes red, sore or painful. An infection usually settles with antibiotics but you may need another operation.
- Unsightly scarring of your skin.
- Developing a hernia in the scar, if you have open surgery, caused by the deep muscle layers failing to heal. This appears as a bulge or rupture called an incisional hernia. If this causes problems, you may need another operation.
- Blood clot in your leg (deep-vein thrombosis – DVT). This can cause pain, swelling or redness in your leg, or the veins near the surface of your leg to appear larger than normal. The healthcare team will assess your risk. They will encourage you to get out of bed soon after the operation and may give you injections, medication, or special stockings to wear. Let the healthcare team know straightaway if you think you might have a DVT.
- Blood clot in your lung (pulmonary embolus), if a blood clot moves through your bloodstream to your lungs. Let the healthcare team know straightaway if you become short of breath, feel pain in your chest or upper back, or if you cough up blood. If you are at home, call an ambulance or go immediately to your nearest Emergency department.

## 3 Specific complications of this operation

- a Keyhole surgery complications
  - Developing a hernia near one of the cuts used to insert the ports (risk: 1 in 100). Your surgeon will try to reduce this risk by using small ports (less than a centimetre in diameter) where possible or, if they need to use larger ports, using deeper stitching to close the cuts.



- Damage to structures such as your bowel, bladder or blood vessels when inserting instruments into your abdomen (risk: less than 3 in 1,000). The risk is higher if you have had previous surgery to your abdomen. If an injury does happen, you may need open surgery. About 1 in 3 of these injuries is not obvious until after the operation.
  - Surgical emphysema (crackling sensation in your skin caused by trapped carbon dioxide gas), which settles quickly and is not serious.
- b Gastric banding complications
- Pneumothorax, where air escapes into the space around your lung. Sometimes the air will need to be let out by inserting a tube in your chest (chest drain).
  - Developing acid reflux, where acid from your stomach travels up into your oesophagus (risk: 34 in 100).
  - Stretching of your oesophagus or your oesophagus not working properly, if the band is not inserted properly or is too tight, if you vomit or retch, or eat too much food (risk: 1 in 100).
  - Difficulty swallowing for a few months because your oesophagus is inflamed (risk: 9 in 100). You should be able to swallow small amounts of most foods normally by three months.
  - Making a hole in your oesophagus or stomach, which needs repairing (risk: 1 in 1,000). This is a serious complication.
  - Constipation or diarrhoea (risk: 9 in 100). Your doctor may give you some medication.
  - Infection of the band. You may need another operation to remove it.
  - Pouch dilatation (or 'band slippage'), where the part of your stomach above the band stretches and the band slides down (risk: less than 3 in 10). This can cause reflux, vomiting, obstruction and difficulty swallowing. Follow carefully the eating plan your surgeon gives you as the problem is more likely to happen if you eat more food than the amount that can fit comfortably in the pouch.
  - Band erosion, where the band erodes through your stomach wall and does not work (risk: less than 4 in 100). You will need another operation to remove the band. It may not be possible to replace the band.

- Failure of the band. A complication such as pouch dilatation, band slippage, infection or erosion may lead to the band not working properly. If the band fails, you may need another operation to replace or remove the band (risk: less than 5 in 100).

### **How soon will I recover?**

#### **• In hospital**

After the operation you will be transferred to the recovery area and then to the ward. If you have other medical problems, you may be transferred to the intensive care unit or high dependency unit for up to 24 hours and then to the ward.

You may need anti-sickness medication. It is important to follow the eating and drinking instructions that your surgeon gives you. This will help to prevent complications and give the new pouch time to settle.

You will start with a liquid-only diet. You need to remember to protect the pouch by not drinking too much and taking only small sips at a time. You should be able to go home the next day. However, you may be able to go home the same day or your doctor may recommend that you stay a little longer.

If you do go home the same day, a responsible adult should take you home in a car or taxi and stay with you for at least 24 hours. Be near a telephone in case of an emergency.

You need to be aware of the following symptoms as they may show that you have a serious complication.

- Pain that gets worse over time or is severe when you move, breathe or cough.
- A high temperature or fever.
- Dizziness, feeling faint or shortness of breath.
- Feeling sick or not having any appetite (and this gets worse after the first one to two days).
- Not opening your bowels and not passing wind.
- Swelling of your abdomen.
- Difficulty passing urine.

If you do not continue to improve over the first few days, or if you have any of these symptoms, let the healthcare team know straightaway. If you are at home, contact your surgeon or GP. In an emergency, call an ambulance or go immediately to your nearest Emergency department.

### • Returning to normal activities

Do not drive, operate machinery or do any potentially dangerous activities (this includes cooking) for at least 24 hours and not until you have fully recovered feeling, movement and co-ordination.

If you had a general anaesthetic or sedation, you should also not sign legal documents or drink alcohol for at least 24 hours.

To reduce the risk of a blood clot, make sure you follow carefully the instructions of the healthcare team if you have been given medication or need to wear special stockings.

You will be able to take only liquids for a few weeks, progressing to soft food and then, after 4 to 6 weeks, to solid food. Follow the advice of your surgeon or dietician.

You should be able to return to work after one to two weeks, depending on how much surgery you need and your type of work.

Your doctor may tell you not to do any manual work for a while. Do not lift anything heavy for a few weeks.

Regular exercise should help you to return to normal activities as soon as possible. You should be able to start exercising again after a week.

Before you start exercising, ask the healthcare team or your GP for advice.

Do not drive until you are confident about controlling your vehicle and always check your insurance policy and with your doctor.

### • Adjusting the band

Some people do not need to have the band adjusted. If you do need an adjustment, you will usually have the first one after at least one to two months.

The adjustment is usually performed by your surgeon or a specially-trained doctor or nurse.

Sometimes it is performed by a radiologist (a doctor who specialises in x-rays and scans).

If you are female, the healthcare team may ask you to have a pregnancy test. They need to know if you are pregnant because x-rays are harmful to unborn babies. Sometimes the test does not show an early-stage pregnancy so let the healthcare team know if you could be pregnant. They will use a needle to inject saline solution into the access port under your skin. They may use x-rays to guide them while they insert the needle. You may be asked to swallow liquid barium sulphate, which shows up on x-rays, so they can check the position and tightness of the band.

For a year, you will need to come into clinic every 4 to 8 weeks to see a doctor, specially-trained nurse or dietician.

You may need several adjustments to find the right level at which you are getting enough nutrients while losing enough weight.

### • The future

For a year, aim to lose your excess weight at a weekly rate of around 0.5kg to 1kg (about 1lb to 2lbs). Sometimes people who have gastric banding do not lose as much weight as they want to (risk: 1 in 10). This is usually caused by eating between meals, eating high-calorie dense food (such as mashed potato, sweets and chocolate) and drinking too many liquid calories (found in sugar-rich fruit juice, soft drinks, milkshakes and alcohol).

For women, it may be best to wait a year before trying to become pregnant. Although pregnancy is safer if you are not morbidly obese, you may be at a higher risk of developing complications related to the operation.

The success of the operation depends on your ability to keep to your new lifestyle. On average, people who have gastric banding lose over half their excess body weight (the difference between their weight before the operation and their healthy weight).

After a year, continue to go for a check-up at least once a year, even when you have achieved your long-term weight loss. Most people need more than one operation to maintain the band.

### Summary

If you are severely or morbidly obese, you have a higher risk of developing serious medical problems. If a simple approach involving eating less, improving your diet and doing more exercise does not work, gastric banding may help you to achieve long-term weight loss. Success depends on your ability to keep to your new eating plan and exercising regularly.

Surgery is usually safe and effective but complications can happen. You need to know about them to help you to make an informed decision about surgery. Knowing about them will also help to detect and treat any problems early.

**Keep this information leaflet. Use it to help you if you need to talk to the healthcare team.**

## **Acknowledgements**

Author: Mr Ian Beckingham DM FRCS

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**This document is intended for information purposes only and should not replace advice that your relevant health professional would give you.**