Doncaster and Bassetlaw
Teaching Hospitals
NHS Foundation Trust

Bariatric Surgery

This information booklet is designed to provide you with an understanding of the different surgical weight loss options available. After reading this information and talking with our team you should have a better understanding of the benefits and risks of weight loss surgery.

Please share this information with your partner and family so that they are able to help and support you.

There may be information they need to know particularly if they are taking care of you immediately after surgery. This leaflet should answer most of your questions but is not intended to replace the discussions between you and your Doctor and the Specialist Team involved in your care. If you have any concerns or require further explanation please discuss this with a member of the team.

What is weight loss surgery?

Weight loss surgery is also known as Obesity Surgery or Bariatric Surgery and refers to surgical operations designed to help reduce excess body weight. The operations work by altering the hormonal signals from the stomach and intestine and your sensation of hunger and satiety (a feeling that you are not hungry). This combined with a healthy diet and exercise will help in the reduction of weight and improve (and may prevent) some of the conditions associated with obesity.

Why should I consider surgery for weight loss?

Clinically bariatric surgery is known to be the most effective methods to enable sustainable and durable weight loss. Many of you will have dieted for much of your life. You may have lost a large amount of weight in the past but found it difficult to keep this weight off. Carrying extra weight can contribute to many other health problems or affect you physically and emotionally. The procedures undertaken at our Trust include the gastric bypass, the sleeve gastrectomy and the adjustable gastric band. All of these operations are performed laparoscopically (keyhole surgery).

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Why treat obesity?

The main concern around excess weight is the impact it can have on your health. We know that being obese can increase the chance of developing many other diseases such as diabetes and heart disease.

Bariatric surgery has been shown to prevent or improve conditions and diseases such as:

- Type 2 diabetes.
- High blood pressure (hypertension).
- High cholesterol.
- High triglycerides.
- Heart disease.
- Asthma.
- Sleep apnoea.
- Certain cancers such as breast, colon and endometrial cancer.
- Polycystic ovary syndrome.
- Osteoarthritis and joint problems.
- Infertility.
- Stress incontinence.

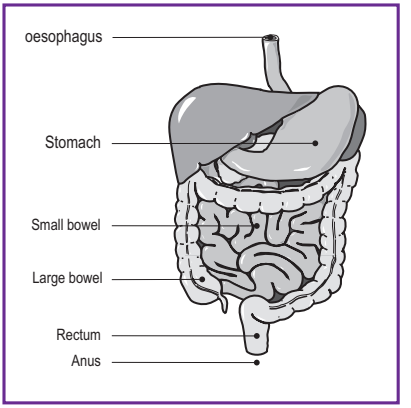
Bariatric surgery can also improve quality of life and increase life expectancy.

Bariatric surgery is an option if you have a high body mass index (BMI), are well informed, motivated and have realistic expectations about what surgery can achieve for you.

You will undergo a comprehensive multi-disciplinary assessment before you can proceed with surgery. Any personal pre-existing conditions may further increase the risk of surgery, these will be discussed with you at the time your consent is taken to proceed with surgery.

Please discuss any concerns at this time.

In order to understand the surgery it may help to have some knowledge of the digestive system:



The digestive system

From the mouth, food passes through the oesophagus (gullet or food pipe) into the stomach where it remains for several hours during digestion and is broken down into a semi-solid form.

It then passes into the small bowel where further digestion and absorption of nutrients takes place. The remaining digestive products continue into the colon (large bowel) where some water absorption occurs and then it passes from the body as waste (known as faeces).

Surgical options

The surgery is performed laparoscopically which is commonly known as key-hole surgery. This means that you will be up and about soon after surgery and should make a speedy recovery. Although you will have some pain after surgery, this is usually adequately controlled by taking painkillers regularly.

Currently there are three main surgical options available, gastric bypass, sleeve gastrectomy and the adjustable gastric band.

Gastric Bypass

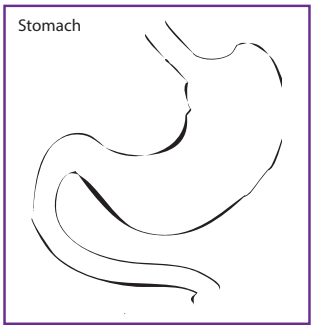
This operation involves stapling a small stomach pouch away from the original stomach. The surgeon then measures a length of small bowel and attaches this to the small stomach pouch.

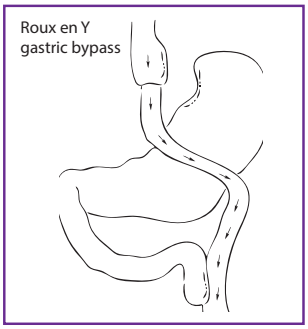
After surgery, food will follow the normal route into the small stomach pouch and then pass directly into the attached small bowel.

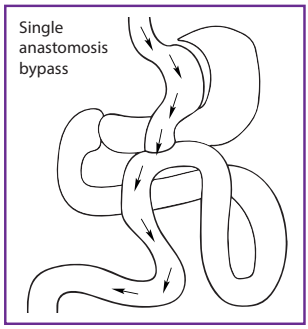
The main part of the stomach is left inside the abdomen and continues to have a blood supply. Although there is no food passing through this part of the stomach, it still produces gastric juices that are very important for digestion.

The techniques differ and the roux en Y gastric bypass requires two connections (anastomosis) and the single anastomosis has just one.

The operation helps to reduce the amount of food you can eat and also alters some of the hormonal signals from the stomach.







Benefits:

- The amount of food you can eat is restricted.
- You are likely to feel satisfied sooner and stay satisfied for longer.
- Weight loss starts from the time of surgery.
- Average weight loss is 70-80% of your excess weight.
- The gastric bypass procedure is particularly effective at reducing medication requirements and improving blood sugar control for patients affected by type 2 diabetes.

Risks:

- The gastric bypass is major surgery and although it is performed laparoscopically it involves cutting and stapling the stomach and small bowel.
- You will need to take lifelong supplementation in the form of tablet medication along with having a B12 injection every three months for the rest of your life.
- Your hair may thin although this is temporary while losing weight at a rapid rate.
- You may experience 'dumping syndrome' a condition which occurs if you eat too much sugar, fat, alcohol or large amounts of food. While it is generally not considered a health risk, it can be very unpleasant, with symptoms including nausea, vomiting, diarrhoea, sweating, feeling faint, weakness and increased heart rate (symptoms of dumping syndrome vary from person to person).
- Pain, nausea and vomiting may occur, particularly in the first few weeks after surgery. Vomiting is also common if you eat too quickly or eat too much.
- Weight re-gain can occur if you do not adhere to long-term diet and exercise advice. You will have better results if you follow lifestyle changes.

Possible complications of the gastric bypass:

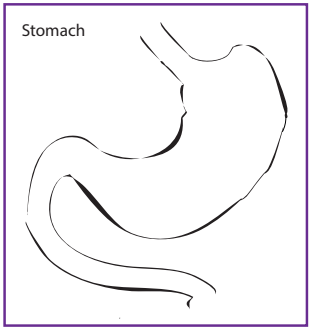
- **Leaks:** Leaks from the gastro-intestinal tract can occur where the bowel and the stomach are connected. If a complete seal does not form, bowel contents can leak into the abdomen causing a serious infection. If a leak is suspected, you may need further surgery.
- **Marginal ulcers:** These can occur at the junctions between the stomach pouch and the bowel. You will be given medication to help prevent this before you go home which you must continue until instructed by your doctor or the Bariatric Surgical Team.

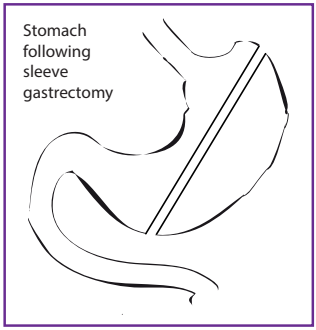
Please note that smoking after surgery significantly increases the risk of ulcer formation.

- **Anastomotic stricture:** This is a narrowing at the joins and usually responds to a balloon dilatation (stretch) which can be performed as an endoscopic procedure.
- **Internal Hernia:** This occurs when there is a protusion of an internal organ usually bowel, through a defect within the peritoneal cavity. Further surgery would be required to correct this.

Sleeve gastrectomy

This operation involves removing approximately 75% of your stomach, leaving behind a narrow tube (sleeve) which becomes your new stomach. After the surgery, food will follow the normal route into the smaller stomach and then into the small bowel. The operation helps to reduce the amount of food you can eat and also alters some of the hormonal signals from the stomach and intestine to parts of the brain that control hunger and body weight.





Benefits:

- You are likely to feel satisfied sooner and stay satisfied for longer following a meal.
- Weight loss starts from the time of surgery.
- Average weight loss is 50-70% of your excess weight.
- Your bowel remains intact so food digestion is not affected to the same extent as a gastric bypass.

Risks:

- The sleeve gastrectomy is major surgery and although it is performed laparoscopically it involves cutting and stapling the stomach.
- Your hair may thin although this is temporary while losing weight at a rapid rate.
- Most of your stomach is removed (this is a permanent procedure).

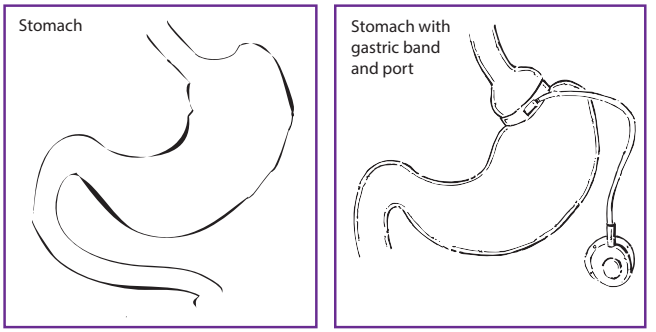
- Pain, nausea and vomiting may occur, particularly in the first few weeks after surgery.
  Vomiting is also common if you eat too quickly or eat too much.
- You will need to take lifelong supplementation in the form of tablet medication along with having a B12 injection every three months for the rest of your life.
- Weight re-gain can occur if you do not adhere to long-term diet and exercise advice. You will have better results if you follow lifestyle changes.

Possible complications of the sleeve gastrectomy:

- **Leaks:** Leaks from the gastro-intestinal tract can occur along the staple line in a sleeve gastrectomy. If a complete seal does not form, stomach contents can leak into the abdomen causing a serious infection.
  If a leak is suspected, you may need further surgery
- **Ulcers:** These can occur along the staple line. You will be given medication to help prevent this before you go home which you must continue until instructed by your doctor or the Bariatric Surgical Team. Please note that smoking after surgery significantly increases the risk of ulcer formation.

Adjustable gastric band

The gastric band is a ring placed around the top part of the stomach. There is almost no stomach above the band. When eating, you will get a sense of fullness from a very small amount of food. This feeling of satiety (a feeling that you are not hungry) is induced by the band pressing onto the surface of the stomach and stimulating the nerves leading to the brain.



The band is attached to tubing that is connected to a port. This port is attached to the abdominal muscles under the skin. Fluid can be added (by injection) to the band to increase and decrease the sense of satiety.

After the surgery, food will follow the normal route passing through the band into the larger stomach.

Benefits:

- You will feel satisfied sooner and stay satisfied for longer following a meal. The band can be adjusted to increase or decrease the satiety via the access port under the skin of the abdomen.
- Average weight loss is 50% of your excess weight.
- The surgery does not involve cutting, stapling or removing any parts of the stomach or bowel.
- The stomach and bowel remain intact so food is digested and absorbed normally.
- The gastric band can be removed if necessary.
- In suitable patients the gastric band surgery can be performed as a day-case procedure.

Risks:

- Weight loss may be slow and there is large variability in weight loss amongst patients.
- Weight loss may not start until many months after surgery until the band has been adjusted to the optimal level.
- Pain, nausea and vomiting may occur, particularly in the first few weeks following surgery. Vomiting is also common if you eat too quickly or eat too much.
- Weight re-gain can occur if you do not adhere to long-term diet and exercise advice. You will have better results if you follow lifestyle changes.
- It is a foreign body so there is potential to have complications in the long term, sometimes many years after the operation.

Possible complications of the adjustable gastric band:

- The access port may twist and therefore be inaccessible for band adjustments (you may require another operation to correct this problem).
- The port or band may leak and deflate which may require another operation to correct the problem.
- The band may move or slip and you may need to have all of the fluid removed from your band for a period of time or need another operation to remove or replace the device.
- The band may erode into your stomach wall and need another operation to remove or replace it.

- The band or port may become infected and need to be removed.

Possible complications of weight loss surgery:

- **Anaesthesia:** Patients who are obese are at greater risk of surgical anaesthetic complications (problems that occur when put to sleep).
- **Convert to open operation:** If complications occur during the surgery there is a risk that the operation will be converted to an open procedure. This will result in a large scar on the abdomen.
- **Pulmonary embolism:** This condition occurs when a blood clot in the leg breaks off and travels to the lungs. Sometimes this can cause sudden death but most patients develop sudden shortness of breath. To prevent this, you will be put on blood thinning medication and given compression stockings. You will also be encouraged to get out of bed and walk as soon as possible after surgery. The blood thinning medication will need to continue for approximately 10 days after your operation.
- **Infection:** The risk of infection is generally low. Lung infections are rare. Wound and urinary infections are also rare and can be treated with antibiotics.
- **Heart attack:** Obese patients are at increased risk of developing a heart attack due to high cardiovascular risk (such as high blood pressure, type II diabetes and high cholesterol).
- **Bleeding:** Bleeding can occur but can usually be resolved by stopping the blood thinning medication which prevents blood clotting and pulmonary embolism. Occasionally surgery may be needed to stop the bleeding.
- **Gallstones:** You may develop gallstones due to rapid weight loss. It may be necessary to undergo a further operation to remove your gallbladder although this is quite rare.
- **Bowel obstruction:** Bowel obstruction can be caused by scar tissue in the abdomen, kinking of the bowel or the development of an intestinal hernia. A further operation may be needed to correct this.
- **Spleen injuries:** These are rare but can occur during surgery. In some cases you may have to have your spleen removed.
- **Incisional hernia:** This occurs more frequently with open surgery techniques and is rare when using laparoscopic (key-hole) techniques. It usually requires an operation to repair the hernia.
- **Nutritional deficiencies:** Bariatric surgery affects the quantity of food you can eat and a gastric bypass and sleeve gastrectomy also effects absorption of both food and nutrients. Because of this your blood will be tested very regularly in the first year following your

operation and then annually thereafter.
This is to test for nutritional deficiencies. These are generally detected on your blood tests and treated with supplements. It is therefore vital that you attend all of your bariatric surgical follow-up appointments so that your bloods can be monitored very closely.

- **Death:** The risk of death associated with surgery is less than 1% although this can change in relation to the surgical procedure and your clinical conditions.
- **Smoking:** Smokers will be advised to stop smoking immediately. Smoking is associated with higher risk of leaks and ulceration after surgery. If you need support with this, we can refer you to the Stop Smoking service.

Dietary

Bariatric surgery is a tool to assist you to lose weight and improve your health. The operation can only be successful and effective if you commit to the necessary dietary and lifestyle changes. The success depends on you.

How does the operation affect eating?

Surgery restricts how much food you can eat at one time. This helps you to limit your food intake overall and therefore to lose weight. However the procedures do not alter your choice of foods and you are still ultimately responsible for what food you choose to eat. High calorie and energy-dense foods such as crisps, chocolate, ice cream, cakes and biscuits are not restricted by the operations. These types of foods are a major cause for slow weight loss, early weight stabilisation and weight regain in the long term. We recommend that people start making changes to their diet and behaviour before surgery because surgery alone will not change your habits.

What diet will I have to follow once I have had the operation?

The bariatric dietitian and nurse will visit you on the ward to discuss your diet following the operation and you will be provided with verbal and written information. Initially, you will be required to follow a fluid-only diet for a short period followed by a puréed diet and then a soft diet, and finally normal textured food. The time it takes to move between the different stages varies from individual to individual. Most people return to eating normal textured food within two to three months.

It is important not to try to move through the stages too quickly as you may suffer from vomiting. Vomiting in the early stages can be unpleasant and painful, it also significantly increases the risk of certain complications. Your dietitian and nurse will provide you with dietary guidance, and ongoing support and advice.

It is important to remain in regular contact with your dietitian and nurse before and after the operation.

In addition you will be encouraged to increase your activity levels. This will help prevent loss of muscle tissue whilst you lose weight. It will also help to maximise weight loss and prevent weight gain.

How can I start preparing for surgery?

In order for weight loss surgery to work, there are a number of rules you will need to follow. To maximise weight loss and minimise complications, you can start preparing yourself for surgery by practicing the following:

- **Eating regularly** – regular, structured meal-times stops you getting too hungry and eating too fast. Eating regularly also results in more weight loss than if you miss meals or snack all day. Routine is vital for the success of bariatric surgery. Getting into a routine of three meals spaced over a day will prepare you for what is expected as a meal pattern after surgery.
- **Healthy choices** – it is important to make healthy food choices that are generally low in fat. Following your operation you will only be able to eat small meals so it is vital that they are healthy, balanced and nutritious.
- **Eating small servings** – using a side plate or a toddler plate and cutlery helps you keep your portions under control. Aim for bites the size of your thumb nail or a teaspoon.
- **Chewing well** – to avoid food pieces becoming lodged in the stomach. This causes discomfort and complete regurgitation.
  Chewing well also helps you slow your meals down. Aim to chew your food at least 20 times before swallowing it.
- **Eating slowly** – to avoid overfilling your stomach. Over filling can result in regurgitation (vomiting). Aim for a meal to take at least 20 minutes to eat.
- **Not drinking fluids with meals** – this can overfill your stomach and lead to regurgitation and discomfort. It can also dilute your meal and push food through your stomach pouch quickly, which leads to consuming too much food and not feeling full. Aim to stop drinking 30 minutes before you are going to eat a meal and wait 30 minutes after your meal before having a drink.
- **Mental preparation** – start to analyse your eating behaviour and any triggers for comfort eating or overeating (e.g. particular situations, moods, time etc.) Start finding alternative ways of coping or other things that you can do at these times.

Outpatient appointments

Your first appointments following the Information Seminar will be with the Bariatric Surgical Team. This will be an opportunity for the team to get to know you as well as assess your past and present health.

Following these initial assessments, your care and treatment plan will be discussed with the wider multi-disciplinary team (MDT) which also include an Anaesthetist and Psychologist. You may also be required to have additional investigations or be assessed by our Psychologist.

If it is decided that bariatric surgery is a safe option for you, you will be invited back to the outpatient clinic to sign a consent form and to be put on the waiting list.

Pre-operative assessment appointment

A few weeks before your operation, you will attend the pre-operative assessment clinic where full details of your medical history are taken and routine pre-operative tests and examinations are completed. This will include blood tests, ECG (heart trace) and weight. You may be seen and examined by the anaesthetist at this time to prepare for your anaesthetic.

Pre-operative liver reducing diet

You will be advised by your dietitian to follow a specific diet during the two weeks before your operation.

The aim of this diet is to reduce the glycogen stores in the liver and so reduce the size and weight of your liver. This 'liver-shrinking' diet makes it easier for the surgeon to access your stomach and perform the weight loss operation. It is very important this diet is strictly followed. You may be tempted to have a special or larger meal before surgery, but this will reverse the effects of the diet. **If you do not follow this diet, it may not be possible to perform the operation.**

Admission to hospital

You will be admitted to hospital either the day before your surgery or on the morning of your operation. Before going to the operating theatre, you will be asked to put on a gown and compression stockings that promote blood flow in the deep veins in your legs and reduce the risk of developing blood clots. You will be asked to continue to wear these for approximately six weeks after your surgery or until you have regained your full mobility.

What type of anaesthetic will I have?

You will have a general anaesthetic for your surgery which means you will be asleep throughout the procedure.

The anaesthetist will discuss your anaesthetic and any potential risks and complications with you before the operation.

What should I expect after the operation?

From the operating theatre, you will be transferred to the theatre recovery room where you will wake up from your anaesthetic and then be taken to the ward for further recovery. It may be necessary for some patients to initially spend some time in the Department of Critical Care (DCC). More intensive nursing and observation is provided in DCC. The possibility of this will have been discussed with you at your pre-operative assessment appointment.

Immediately after the operation, you will be monitored closely by the nursing and medical staff. Your pulse, temperature, blood pressure, breathing and wounds will be checked regularly and you may receive oxygen until you are fully awake. You will have an intravenous infusion (drip) in your arm to give you fluids until you are able to take fluids by mouth. Sometimes anaesthetic makes people feel sick so it is important that you tell the nurses if you do. They will offer you an injection to help settle the sickness.

Most patients who have this operation will have some pain after the surgery. It is important you tell the nurses if you are in pain and you will be given pain killers, either by injection or orally.

You will be encouraged to get out of bed and move around on the same day as your operation. It is very important to move around as soon as possible after surgery in order to reduce the risk of blood clots and prevent problems with your chest.

Discharge from hospital

Most patients will be able to go home one to two days following surgery, though everyone is different and some may require a longer hospital stay. It is normal for your abdomen to feel sore and bloated for a few weeks. During this time, and as you need them, take pain killers given to you by the hospital. It is important to check your wound sites for signs of infection (pain, heat and redness). You must see your GP if you are concerned about your wound sites.

Following your discharge from hospital, you will probably feel tired and need to rest but this will improve. It will normally take approximately four to six weeks for you to resume your normal activity. You should avoid heavy lifting for four weeks.

You must not drive until you can wear a seatbelt comfortably and be able to perform an emergency stop. It is advisable to check with your own insurance company first.

As you begin to feel better, the team will encourage you to incorporate gentle exercise into your daily routine such as walking or swimming. As you start to lose weight, you will feel more energetic and able to undertake more exercise. Sexual activity can be resumed once it is comfortable for you.

What medication will I need?

When you are discharged from hospital, you will be given a supply of blood-thinning injections to be given each day for approximately 10 days after your operation. These are small injections into the skin of the abdomen. We advise you not to have any medications in tablet form for six weeks after your surgery. These should be changed to tablets that can be crushed, liquids or dispersible medication.

If you are on medication for diabetes or high blood pressure, you may need to have regular checks with your GP or practice nurse to monitor your condition and medication accordingly. You will be required to take vitamin and mineral supplements and the team will discuss these with you before and after surgery. You may also need to have a Vitamin B12 injection once every three months for the rest of your life. These can be arranged by your GP and given to you by your practice nurse.

Follow-up

The dietitian or specialist nurse will contact you by telephone within 48 hours of discharge from hospital. Following this, you will be asked to attend your outpatient appointment between one and six weeks after your surgery, depending on which operation you have had. This is so that the team can assess your recovery. Following this, you will be seen by the nurse specialist and/or the dietitian at regular intervals for two years. Patients who have a laparoscopic adjustable gastric band will generally be seen in the outpatient clinic on a more regular basis for band adjustments. After two years, you will be discharged back to your GP. You will be given the telephone numbers of the Bariatric Surgical Team to contact for any advice you may require at any other time.

Is there any other support available?

Doncaster's bariatric support group meets once a month. This group is open to all patients awaiting surgery or who have had bariatric surgery at Doncaster and are within the two year follow-up pathway. It is a friendly informal meeting where patients discuss their experiences with each other. For the dates and times, please speak with a member of the bariatric surgical team.

How this surgery and weight loss will affect my life?

As you start to lose weight after your surgery, you can expect to feel much healthier however you must remember that these changes will affect your everyday life in terms of going out for meals, buying clothes, going on holiday etc. Support from your family and friends are important while you make adjustments to changes in your life.

Many patients who lose a large amount of weight will have loose skin usually around the stomach and the tops of the arms and legs.

Surgery to correct excessive skin is not part of the bariatric surgery agreement and is not guaranteed once you start to lose weight. Your GP will need to refer you separately to a plastic surgeon if the skin is to be removed. It is important to remember that this will only be considered when enough weight has been lost and is being maintained.

For our female patients, we advise against pregnancy until at least two years after your operation as your body needs an appropriate amount of time to adjust. It is also important to remember that bariatric surgery may reduce the effectiveness of some forms of contraception. If you are planning to become pregnant it is important that the doctors, midwives and dieticians are aware that you have had bariatric surgery. If you do become pregnant, we advise you to contact the bariatric surgical team as soon as possible so that we can monitor your weight and blood tests closely.

Contact details

Bariatric Surgical Team, Doncaster Royal infirmary,
Tel: 01302 644363. Mobile: 07766070570
or email: bariatricsurgery@dbh.nhs.uk.

Useful websites for information:

www.bomss.org.uk
-British Obesity and Metabolic Surgery Society

www.bospauk.org
-British Obesity Surgery Patients Association

www.nhs.uk
-NHS Choices

www.wlsinfo.org.uk
-Weight Loss Surgery Info

Patient Experience Team

The team are available to help with any concerns/complaints you may have about your experience at the Trust. Their office is in the Main Foyer (Gate 4) of Doncaster Royal Infirmary. Contact can be made either in person, by telephone or email.

The contact details are:

Telephone: 01302 642764 or 0800 028 8059
Email: pals.dbh@dbh.nhs.uk