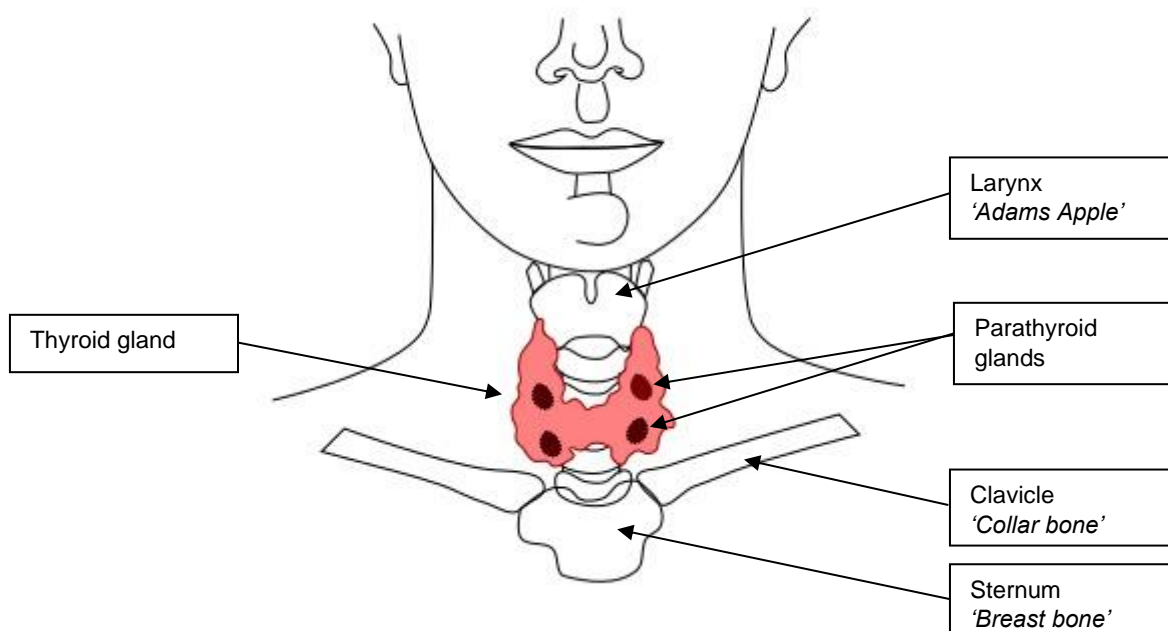


Parathyroid Surgery

This information sheet is designed to help you make an informed decision about having surgery on your parathyroid gland(s). If you have any further questions, please discuss these with our staff before your operation.

What are Parathyroid glands and what do they do?

Usually, you have four parathyroid glands. These are located behind the thyroid gland, between the thyroid gland and the windpipe; two on each side. In healthy adults, each parathyroid gland is usually about 3-4 mm in size. They are responsible for the secretion of a hormone (the parathyroid hormone, PTH) which is required for the regulation of calcium in the body.



Picture showing thyroid gland in neck (pink) with 4 parathyroid glands (dark pink) which are normally found behind the thyroid gland



Why do I need surgery on my parathyroid glands?

One common cause of high calcium in the body is due to an abnormal parathyroid gland which is 'over-functioning' and producing too much PTH.

In the majority of patients, this is due to a single abnormal parathyroid gland (*Primary Hyperparathyroidism*). In some instances, more than one gland is involved.

PTH acts on the kidneys, bone and gastrointestinal tract (stomach and bowel) to increase the calcium in the blood. Although high calcium may be associated with symptoms, many patients have their high calcium detected incidentally on routine blood tests.

Symptoms that may be associated with high calcium can include:

- muscle weakness and fatigue
- changes in your heart rate
- weight loss
- excessive thirst
- changes in urinary frequency
- dehydration
- stomach ulcers
- kidney stones
- fractures

Even in patients who do not have symptoms due to high calcium, parathyroid surgery may be recommended, as surgery decreases the long-term effects on the bones and kidneys.

Are there any alternatives to surgery?

Medication does exist to control the high calcium in the blood. You may already have discussed these options with your endocrinologist prior to referral to the surgical clinic. Medical treatment is generally of temporary benefit, and does not address the underlying problem of the overactive parathyroid gland.

What tests would I expect to have before surgery?

Prior to referral to the surgical clinic, blood and urine tests are likely to have been performed by your endocrinologist. In addition to this, all patients would need to have an *ultrasound* scan of the neck and kidneys. A specialised scan called the *Sestamibi* scan would also be required in the majority of circumstances. In some cases, a CT scan or an MRI scan may be required.



What type of parathyroid operation should I expect?

The operation is performed under a general anaesthetic so you are completely 'asleep'.

There are generally two approaches to parathyroid surgery:

Cervical, Exploration or Bilateral neck exploration operation

The surgeon will make a collar (skin-crease) incision (around 7cm or 3 inches) across the front of your neck in order to perform the surgery. The advantage of this type of surgery would be to ensure that all four parathyroid glands are inspected, and the diseased gland is removed. As with thyroid surgery, the wound may be closed with either clips or dissolvable sutures.

Minimally-Invasive Operation (MIP) – also known as a focused operation

The recent improvement of preoperative scans has allowed more accurate identification of the diseased parathyroid gland in most patients. Thus, in these patients a smaller scar can be used on one side (only 2cm long) and then closed with dissolvable stitches. Only the gland identified to be diseased on the scan(s) is removed.

Your surgeon will explain which one you are advised to consider and why.

Do I need to do anything before the surgery?

If you are on regular medications, you should continue these unless advised otherwise. Some surgeons may ask you to stop taking medicines such as aspirin, dipyridamole or clopidogrel in the days leading up to your operation. If you are on any of these tablets, discuss this with your surgeon.

Patients on blood-thinning tablets (such as warfarin, rivaroxaban or dabigatran) should inform their surgeon. You will have a pre-operative assessment prior to the day of your operation.

How long will I be in hospital?

This will often depend on the type of parathyroid surgery you require. In the majority of cases, patients will be able to go home the same day or the day after.

Care of your wound

When you are discharged from hospital you can expect to be given advice about care of your wound from the ward staff. There are different methods of close the incision and the surgeon will inform you of this. The wound may be covered by a dressing and this can usually be removed after 48 hours unless you are told otherwise. You will usually be able to take a bath or shower 48 hours after your operation. Gently pat your wound dry rather than rub it.

Your wound may be slightly raised and pink or red in the days following surgery. This will settle over time as it heals. Eventually the wound should become flat and pale but this may take several months.

Unless suggested by your medical team, it is not advisable to rub any ointments or bio-oils onto the wound immediately after your surgery before the wound has had chance to heal. It is best to wait until you have been seen in the postoperative clinic and discuss with your surgeon if you wish to use such products.

What can I expect after the operation, and how soon will I recover?

It is normal to feel tired following parathyroid surgery. The symptoms of tiredness that you may have had pre-operatively may take a few weeks to resolve.

Following a neck exploration, you should be able to eat and drink normally, but some patients feel as though there is a lump in their throat as they swallow. This is common and will disappear in time.

When can I start driving again?

Before resuming driving you need to ensure that you can make an emergency stop without hurting your neck. You also need to be able to comfortably turn your neck to look around as you drive, for example, when you change lanes. You should inform your car insurance company that you have had a parathyroid operation as different insurers may have their own rules about how long you should wait after an operation before you return to driving.

When can I go back to work?

This will depend on the type of work you do and the operation you have had. You may be able to return to office-based work 1-2 weeks after surgery but may take up to 4 weeks for heavier work after four weeks. Your surgical team will advise you.

What are the potential complications of having parathyroid surgery?

Parathyroid surgery is generally a safe procedure. The vast majority of patients undergoing an operation on the parathyroid gland have no complications. However, as with any surgical procedure, there are some risks associated with the operation and these should be fully explained to you by your surgical team.



Voice changes:

There are two possible reasons for such changes to occur:

Injury to the recurrent laryngeal nerve(s):

There are two recurrent laryngeal nerves, one on each side of the neck. They pass behind the thyroid gland and into the larynx (voice box) where they control movements of the vocal cords.

If “bruised”, the nerve does not work properly immediately after surgery but recovers and should return to normal function during the next few days or weeks. Sometimes, however, it can take up to a few months for the voice to return to normal.

Permanent damage to one of these nerves (risk: approximately 1 in 100) causes a hoarse, croaky and weak voice. The body usually adapts to the damage and symptoms may get better with time. If voice problems persists you may be referred for voice therapy. Sometimes further specialist surgery is required to improve the voice.

Permanent damage to both nerves is *very* rare indeed but is a serious problem that may have to be treated by putting a permanent tracheostomy (breathing tube) into the windpipe in the neck.

Non-specific voice changes:

Any operation on the neck can produce some change in the voice even when there is no injury to the nerves controlling movement of the vocal cords. Fortunately this voice change is not normally noticeable and recovers within a few months of the operation. You might find your voice is slightly deeper and you might experience voice fatigue. This may be significant for those who use their voice for professional reasons.

Low calcium levels:

In some cases, after parathyroid surgery, calcium levels may drop *too* low. This is almost always temporary whilst the body regains balance of calcium levels. Your surgical team will check for this postoperatively. If you feel tingling or spasms in your lips, fingers or toes after the operation, then this could be an indication that your calcium levels may be low, and you will need to seek attention from your GP or your surgical team. You may be prescribed calcium tablets temporarily.

Calcium Levels Remaining High Despite Surgery

Occasionally, in around 3 to 5 operations out of every 100, the blood calcium levels remain high despite patients undergoing surgery. This indicates that the operation has not been successful in curing the condition. This may involve repeating the tests and scans you have already had to see if further information may be gained. Occasionally, more involved tests are required along with further surgery. If this is the case your surgical team will explain these to you.

Bleeding after the operation:

This is an uncommon complication that can lead to neck discomfort or, in more severe cases, breathing difficulties. Occasionally, patients will need to return to the operating theatre for further surgery to have the neck explored so that the cause of bleeding can be dealt with.

Neck skin numbness:

Some patients may experience numbness around the surgery scar after their operation. This usually settles in the fullness of time.

Swallowing difficulties:

Following a neck exploration, you should be able to eat and drink normally, but some patients feel as though there is a lump in their throat as they swallow. This is common and will disappear in time.

Scar:

Sometimes the scar may be red for a few months after the operation before fading to a thin white line. It takes about six months to one year for the scar to reach its final appearance. Some patients may develop a thick exaggerated scar which is unsightly but this is very rare.

Wound infection:

Infection is uncommon but if it happens it can be treated with antibiotics.

Wound swelling:

Some degree of swelling around the wound is normal following any type of surgery including parathyroid operations.

Further information

This information leaflet has been adapted from the British Association of Endocrine and Thyroid surgery (BAETS) leaflet. Further information can be found at: www.baets.org.uk

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Please contact the Patient Advice and Liaison Service (PALS) if you require this leaflet in a different format, or would like to feedback your experience of the hospital. Email ruh-tr.pals@nhs.net or telephone 01225 825656.