NHS
Oxford University Hospitals
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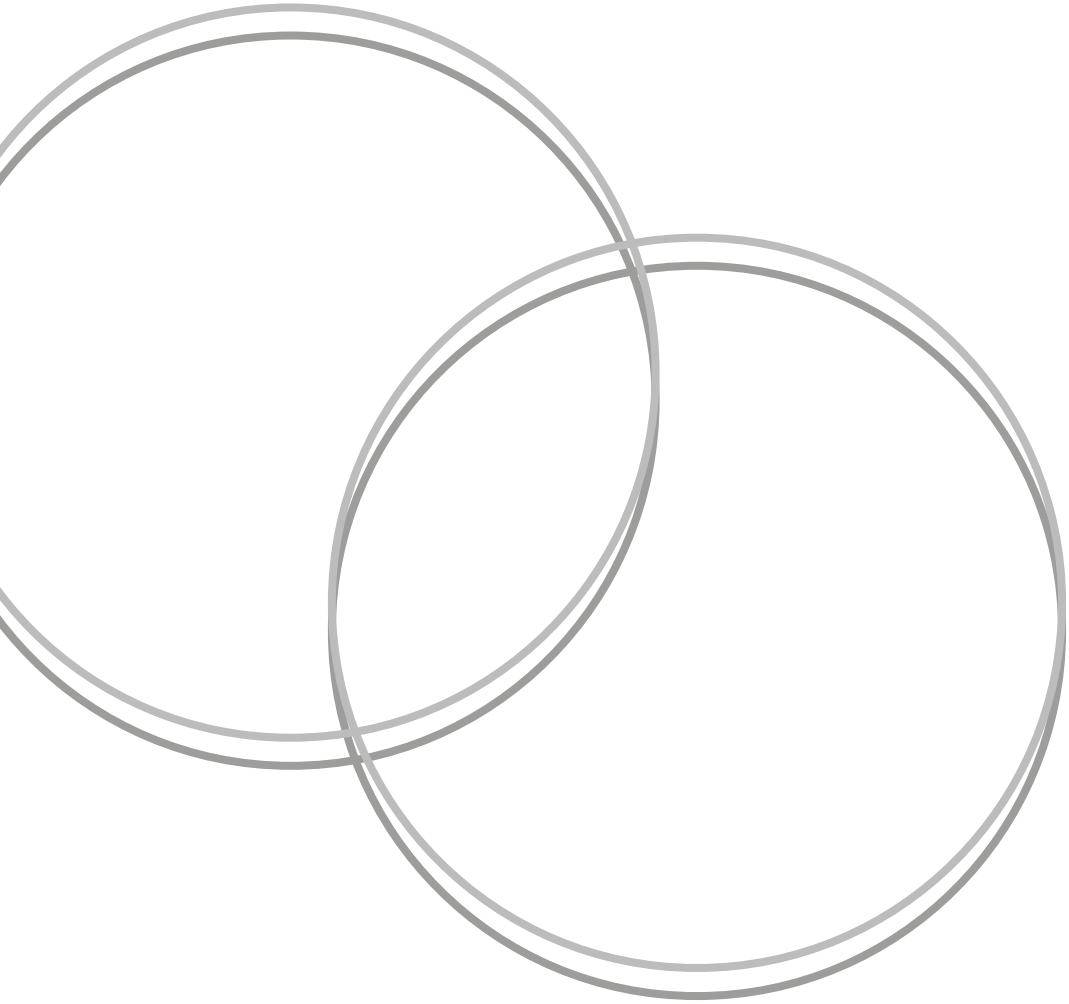
Parathyroidectomy

An operation to remove overactive parathyroid glands

Information for patients

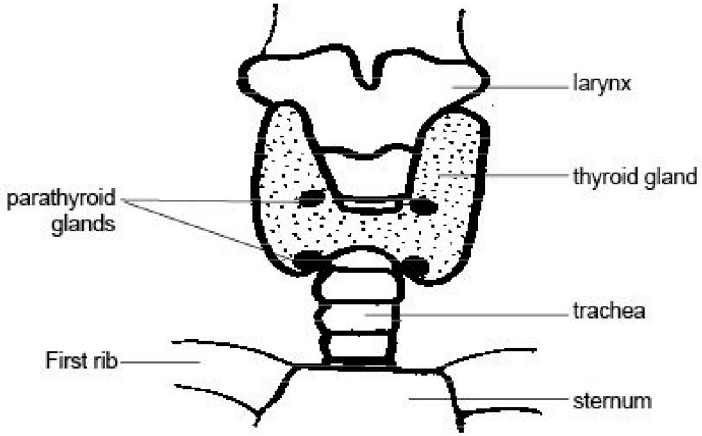


What are the parathyroid glands?

There are four parathyroid glands in your neck, each the size of a grain of rice. They are usually situated next to the thyroid gland (Figure 1). They regulate the calcium level in your blood.

Sometimes one or more of these glands does not work properly and your calcium level rises above normal.

Figure 1.



Abnormal conditions of the parathyroid

If one or more of your parathyroid glands are overactive it leads to a raised calcium level in your blood. Because of this you might experience the following symptoms:

- you might feel more tired and sleepy
- your muscles may feel weak or tender
- your joints can become sore
- you may need to pass urine more often
- you are more likely to form kidney stones
- some people develop constipation
- you may feel nervous or have a low mood.

How is parathyroid disease diagnosed?

You may not have any symptoms at all. A high calcium level could be discovered on a routine blood examination. The blood tests are done at least twice to confirm the high calcium level.

If the blood tests show high calcium levels, the parathyroid hormone level in the blood will be measured – usually this will be higher than normal. Your vitamin D levels will also be measured and you may also be asked to provide a 24 hour collection of urine to measure urinary calcium.

Following the results of the blood tests, a diagnosis will be confirmed and you will have scans of your neck to help locate which of the 4 glands is enlarged/overactive.

A sestamibi scan is done by injecting a small amount of radioactive substance (sestamibi) into a vein in your arm and taking pictures 2 and 4 hours later. This is to check if the sestamibi has collected and is concentrated in one of the parathyroid glands.

Following the sestamibi scan you may also have a ultrasound scan, which uses harmless sound waves to examine your parathyroid glands. If you are having surgery for the second time a, PETcholine scan will be arranged. This is similar to the Sestamibi scan but a different substance is injected into your vein (choline).

How can it be treated?

The only treatment for this condition is to have an operation to remove one or more of the diseased glands. After careful consideration of your symptoms, physical and laboratory tests, your doctor has recommended that you have a parathyroid operation. While you are waiting for the operation you should keep well hydrated (try to drink an extra 1 litre/2 pints of fluids daily). This helps to prevent a build-up of calcium deposits in the body.

If the scans have found the position of the parathyroid adenoma (non-cancerous tumour), you could have a minimally invasive parathyroidectomy. This is when the adenoma is removed through a small cut (less than 1 inch / 3 cm) made on your neck.

In about one in three patients the scans are not able to find the enlarged gland or the scan may find more than one enlarged gland. If this happens, you will need a bilateral neck exploration for parathyroidectomy. This uses a slightly longer cut (about 2 inch / 5 cm) in the front of your neck, through which all four glands can be seen and the enlarged one removed.

What does the operation involve?

The operation is generally carried out under general anaesthetic (you are asleep). In some cases it might be possible to be done under local anaesthetic (where the area is numbed).

Minimally invasive parathyroidectomy (MIP)

If your pre-operative scans found the position of your overactive parathyroid gland the surgeon will identify that gland and resect it.

Routine parathyroidectomy

If the pre-operative scans did not find the position of your overactive parathyroid gland or identifies more than one gland, the surgeon will make a 2 inch cut in a skin crease in the middle of your neck. The surgeon will explore both sides of your neck to find and remove the enlarged parathyroid gland(s).

The same surgical approach is used sometimes even when the scan is positive and had identified the enlarged parathyroid gland.

The wounds are closed with dissolvable stitches under the skin. The operation normally takes about 1 hour.

Will it hurt?

Once you are asleep and before starting the operation the anaesthetist will give you a local anaesthetic which will "freeze" the nerves controlling pain sensation in your neck (a procedure called superficial cervical block). This should make discomfort after the operation less likely. However, for the first few days after your operation you should expect some discomfort in your neck and when swallowing. You will be given painkillers to take home and you may want to take these regularly at first.

What are the risks of surgery?

- **Failure to find the enlarged/overactive parathyroid gland**

  Even if the pre-operative scans found the position of the overactive parathyroid gland, there is still a very small possibility that the surgeon will not find the parathyroid gland during the operation. Because of this it might be necessary to make a longer cut and to look for the enlarged /overactive parathyroid gland on both sides of the neck. Even then (although this is rare) the surgeon may not be able to find the offending parathyroid gland. In our experience this happens in 2-3 patients in 100.

- **Injury to the recurrent laryngeal nerve (risk approximately 1 in 200)**

  This nerve passes close to the thyroid and parathyroid glands and controls movement of the vocal cord on that side of the neck. Injury to this nerve causes hoarseness and weakness of the voice. This problem is more common after thyroid surgery. Generally this problem lasts for several months before the voice returns to normal.

- **Voice changes**

  Any operation on the neck can produce some change in the voice; fortunately this is not normally easy to hear and it settles within a few months. You might find your voice is slightly deeper and you might experience voice fatigue (tiredness). This can be difficult for people who use their voice for professional reasons. Please ask for further details if you have any particular concerns.

- **Bleeding**

  This is a rare complication which can lead to neck discomfort. Very rarely patients will need to return to theatre to have their neck explored so that the cause of bleeding can be identified and dealt with.

- **Low blood calcium levels**

  Once the overactive parathyroid gland has been removed, the other glands may take a few days before returning to normal activity. In addition, your bones may absorb more calcium from your blood (a condition called "hungry bone syndrome"). For these reasons your calcium levels can drop too much after the operation. This could cause tingling in your lips and fingers. To prevent such problems, we may prescribe calcium tables for you to take for the first two weeks after the operation.

- **Scar**

  Your scar may become thick and red for a few months after the operation before fading to a thin white line. Very rarely patients develop a thick, raised scar.

  These potential side effects and complications are extremely rare.

  The figures are based on our experience and results of previous operations. We have published most of these results in the surgical literature and will be happy to provide further information.

What are the risks of general anaesthesia?

Modern anaesthesia is very safe and serious problems are uncommon.

- After an anaesthetic it is common to feel sick or vomit or experience the following: sore throat, dizziness, blurred vision, headache, itching, aches, pains and backache. About 1 in 10 people experience these side effects.
- It is uncommon (1 in 1000 people) to have a chest infection, bladder problems, muscle pains, slow breathing (depressed respiration), damage to teeth, lips or tongue, an existing medical condition getting worse.
- Rarely (1 in 10,000 people or less) patients have damage to their eyes, a serious drug allergy, nerve damage, equipment failure, awareness (becoming conscious during your operation) or death.

The risk to you as an individual will depend on whether you have any other illness, personal factors (such as smoking or being overweight), or surgery which is complicated, long or done in an emergency.

Please discuss any pre-existing medical conditions with your anaesthetist.

For more information about risks associated with your anaesthetic visit **www.rcoa.ac.uk** or ask your anaesthetist.

Pre-operative assessment

Most patients come for an appointment at the Pre-operative Assessment Clinic. At this clinic you will be asked for details of your medical history and any necessary clinical examinations and investigations will be carried out. This is a good opportunity for you to ask any questions about the operation.

You will be asked about any medicines or tablets that you are taking – either prescribed by a doctor or bought over the counter in a pharmacy. It helps if you bring details of your medicines with you - for example, bring the packaging or a repeat prescription with you.

Consent

In clinic or at your pre-operative assessment appointment you may be given a copy of the consent form and further information about what happens on the day of your operation. Please read these carefully. If you have any further questions, please ask a member of the surgical team on the day of your operation before signing the consent form.

What happens on the day of your operation

Our separate leaflet explains how you should prepare for your operation and the admission process. We will give you a copy of this leaflet at your Pre-operative Assessment visit.

When you come into hospital you will be asked to bring all your medicines with you in the special green pharmacy bag which will be given to you at your Pre-operative Assessment appointment.

Recovery

You will wake up in the recovery area. You will have an oxygen mask on your face and an intravenous drip in your arm. These will be removed as soon as it is safe to do so. The recovery nurse will look after you until you are awake and comfortable enough to go to the ward.

Back on the ward

The ward nurse will check your temperature, pulse, breathing and blood pressure and ask you about any pain you may have. You will be offered pain relief.

You will be allowed to drink water at first. Once you are able to tolerate this you will be able to have a warm drink and something light to eat. You will have an intravenous drip in your arm that can be removed as soon as you are drinking enough.

When you get out of bed for the first time a member of staff should be with you in case you feel light headed or dizzy.

Going home

You will normally be allowed home on the day of your operation. However, some patients may need to stay overnight, depending on medical circumstances and surgeon preference. When you get home you should rest for 2-3 days.

Wound care

The stitches used to close the skin incision are dissolvable and hidden under the skin. Steristrips ('paper'stitches) are placed over the incision and should remain on the wound for 5-7 days. The wound should be kept dry for 48 hours. After that a few splashes on the steristrips is fine when washing but please don't soak the steristrips in water.

When it is completely healed the wound can be gently massaged with a cream to soften the scarring.

Medication

Depending on your calcium level and operative findings the surgeon will advise you prior to leaving the hospital and also supply you with calcium tablets that you may need to take for two weeks after your surgery. If you experience numbness around your lips and or fingertips you should take 2 calcium tablets and wait 20 minutes. The symptoms should resolve, if they do not, then take another 2 tablets and wait 20 minutes. Do this again once more if the symptoms do not go away. If, after this, you still have symptoms you will need to have a calcium blood test at your local Accident and Emergency department.

Is there anything I should look out for when I go home?

If you have any concerns about your wound because it is red, hot, swollen or painful you should seek advice from your GP or practice nurse.

Follow-up

We will give you an appointment to be seen in the Outpatient Department about 6 weeks after your operation. At this time the surgeon will discuss the results with you as well as any further treatment and follow up you may need.

A post operative blood test for your calcium and parathyroid hormone will be requested at your local hospital 2 weeks after the operation. If it is more convenient for you to have these bloods tests with your GP then please arrange these with your GP at 2 weeks after the operation.

Resuming normal activity and returning to work

You should be able to return to work and normal activities after about 1 week. However, this can vary depending on the type of work you do. It is normal to feel tired for the first few weeks.

You can drive as soon as you are able to perform an emergency stop without pain but check with your insurance company first as policies vary.

BAETS data registry

The British Association of Endocrine and Thyroid Surgeons (BAETS) maintains a national online registry for all endocrine (i.e. thyroid, parathyroid and adrenal operations). Each year the BAETS publishes the workload of individual surgeons, so that a patient can be aware of the experience of the surgeon with a particular type of operation. This information is easily available to the public.

Consultant surgeons in our unit submit their patient outcome data to this national audit. Your identifiable personal details will not be included (e.g., name, address) but details of the operation will be recorded. More details about this audit can be found at **www.baets.org.uk**

If you are concerned about part of your medical details being submitted for this audit, please express your wishes/views to the operating team. If you decide to opt out of data collection, this wish will be respected and will not impact on the care you receive.

Further information

If you have any questions or need further information, please telephone Pre-operative Assessment on:

John Radcliffe:

Telephone: **01865 220 640**
(8am to 5pm)

Horton General Hospital:

Telephone: **01295 229 375**
(8.30am to 4.30pm)

You may find information on the following websites useful:

www.baets.org.uk
(British Association of Endocrine and Thyroid Surgeons)

www.parathyroiduk.org
(Patients' support group)

Please sign below to confirm that you have received and read this information booklet which explains the details of your operation.

Please do not sign the consent form until you are happy that all information has been provided and that we have answered any questions you may have.

Patient signature .....

Date .....

Surgeon providing information .....

Signature .....

Grade .....

Date .....

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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