Parathyroidectomy

What are the parathyroid glands?

The parathyroid glands are small pea-sized glands situated in the neck behind the thyroid gland, which is in the lower part of the neck below the 'Adam's apple'. Normally we have four small glands, two each side of the neck.

What do the parathyroid glands do?

The parathyroid glands produce a hormone called parathormone (PTH) which is responsible for controlling calcium levels in your blood.

Too much PTH can lead to the level of calcium in your blood going too high and this is called hypercalcaemia. If this hypercalcaemia is due to overactive parathyroid glands, the condition is called hyperparathyroidism.

What causes hyperparathyroidism/hypercalcaemia?

Parathyroid enlargement can affect just one gland or all the parathyroid glands simultaneously. This enlargement causes an increased level of calcium in the blood.

Causes of primary hyperparathyroidism are:

- Parathyroid adenoma – a benign (non-cancerous) tumour. A single adenoma is found in 70-80% of instances. Very occasionally an adenoma can affect more than one gland. This only happens in about 4-5% of cases.

- Parathyroid hyperplasia – diffuse enlargement of all the parathyroid glands in 10-15% of cases.

- Familial endocrine syndromes – with abnormalities of the thyroid, adrenal and parathyroid glands causing hyperplasia (enlargement).

- Parathyroid carcinoma (cancer) is extremely rare, less than 1%.

People who have longstanding kidney failure can get what is called secondary hyperparathyroidism, when all four glands are enlarged.

Many patients with a raised blood calcium level have mild symptoms of chronic ill health, constipation, lethargy and muscle weakness, and general aches and pains in the shins.

In more serious cases of hyperparathyroidism, the excessive production of the parathyroid hormone from the enlarged parathyroid gland or glands causes excess calcium in the urine, which can result in kidney stones, and breakdown of calcium from the bones, which may result in thin, brittle bones and even fractures.

Too much calcium in the blood may also cause the following:

- Inflammation of the pancreas
- Duodenal ulcers
- Raised blood pressure
- Coronary heart disease
- Mental confusion
- Depression
- Rarely, coma

What is a parathyroidectomy?

Parathyroidectomy is the removal of one or more of the parathyroid glands and is performed to treat hyperparathyroidism.

Before your operation

Your Consultant may arrange for you to have a special scan to try to identify the location of the overactive gland or glands in the neck. This will involve the injection of a mildly radioactive substance into the bloodstream.

If the scans identify that you have a single overactive gland, then your Surgeon will perform 'targeted' surgery, minimising the amount of surgery to remove this single gland. If the scans have not been able to identify a single overactive gland, then your surgeon will need to perform a full 'neck exploration' in order to locate the affected gland or glands.

You will be asked to attend the pre-admission clinic for one visit. This is usually at least one week before your operation, but sometimes it may be six weeks prior to your operation. This is to ensure you are fit for surgery, allowing time for the necessary pre-operative tests, which may include blood tests and a heart tracing (ECG) and a chest X-ray if necessary.

You will be admitted on the day of surgery unless there are any medical or technical reasons that may require you to be admitted the day before the operation. If the operation is straightforward, then you may be able to go home the same day. Sometimes it is necessary to keep you in for a day or two to monitor your calcium levels.

Coming in to hospital

Your surgeon will have explained the operation in detail to you and obtained your signed consent for surgery when you attended the Outpatient Clinic.

However, if for some reason this has not been done, your surgeon will visit you before your operation to do this.

If you have any queries about the operation, please ask the doctors.

Your operation will be carried out under a general anaesthetic, which means you will be asleep for the whole operation.

For 'targeted' surgery, an incision (cut) approximately 2-3cm in length is made into the front of the neck, along the natural skin creases on the side of the affected gland. For those patients requiring a 'neck exploration' a central incision (cut) is made approximately 4-6cm in length.

If only one of the glands has enlarged, the surgeon removes this one gland. However, in some cases it maybe necessary to remove all four glands if they have all become enlarged. If this is the case you will need vitamin D supplements thereafter.

At the end of the operation the wound is closed with a dissolvable stitch. A drain connected to a suction bottle may be inserted under the wound to prevent any swelling or bruising after the operation.

What are the risks/complications?

- Damage to one of the nerves to the voice box on either side can result in hoarseness. This is usually temporary, but in 1% or less of cases this voice box damage may be permanent.

- It is quite common for the blood-calcium level to drop below the normal range two to four days after the operation; if this is the case you may experience tingling in your hands, fingers, lips and around your nose. You may be sent home with calcium tablets to take if this occurs. If symptoms persist, report this to us on the telephone number below and a blood test to monitor your calcium levels will be taken. If your calcium levels have fallen, the treatment would be to give you calcium or vitamin D supplements, or both.

- Small collections of blood or serum may occur under the wound. This may require needle aspiration, but this may not be necessary.

- Serious bleeding requiring a return to theatre is extremely rare. Occurrence rates 1 in 500-1000 cases.

- There is a small risk of bruising, with a 3% risk of significant bruising.

- There is around a 5% risk of wound infection.

- There will be a scar, which usually follows a natural skin crease. The scar can become relatively thick and red for a few months after the operation, before fading to a thin line.

- Some patients produce very thick scars (hypertrophic or keloid scars).
  This is common in black-skinned and fair redheaded people. In patients with generalised eczema, a new area of eczema may develop along the scar.

These risks/complications will be explained and discussed with when the surgeon asks you to sign the consent form for the operation.

After the operation

After the operation you will be sitting up supported by several pillows. This will help to reduce any neck swelling.

You will feel some discomfort and stiffness around your neck, but you will be given some medication following your operation to help ease any pain or discomfort. Pain relief may be given in different ways such as injections, tablets, or liquid medicine.

You will be given fluids by a drip in a vein in the back of your hand or arm; this will be removed once you are drinking properly again (usually very soon after the operation). Once you are tolerating fluids, you will be able to start eating as soon as you feel able. For a short period after your operation you may find it painful to swallow and you may need a softer diet for a short time.

If you have had a drain inserted into the wound, this will be removed within 24 hours.

You may take a bath or shower, but ensure you pat the wound dry using a clean towel. You can rub a small amount of un-scented moisturiser cream on the scar so it is less dry as it heals i.e. Calendula, Aloe Vera or E45 cream (available from health shops). It is not unusual to develop some swelling and bruising around the wound site. However, in the period following your operation you should seek medical advice if you notice any problems such as:

- Increased pain, redness, swelling or discharge from the wound

- High temperature

Most patients are able to return to work within two to three weeks following the operation and to lead a normal and active social life; however, some patients may find they need a little longer recovery time. If you require a certificate for work, please ask a member of staff before discharge.

It is advisable not to drive for at least one to two weeks; some people feel they need a little longer. However, please check with your insurance company, as policies vary with individual companies.

You may resume sexual relations as soon as this feels comfortable.

You will usually come for an Outpatient check-up six to eight weeks after the operation. A blood test to assess the parathyroid function and calcium level will be done on this return visit.

Please retain this information leaflet throughout your admission, making notes of specific questions you may wish to ask the Doctor and/or Nurses before discharge.

Points of contact:

If you have any queries prior to the procedure, please contact the Surgical Pre-Admission Assessment Clinic on 01603 287819.

If you have any queries following the surgery please contact the ward from which you were discharged via the main hospital switchboard on 01603 286286.

Further information and support:

Endocrine Surgeon

Web address: www.endocrinesurgeon.co.uk

For Help Giving Up Smoking: NHS Smoking Help-line 08001690169 or contact 'CIGNIFICANT' run by Norfolk PCT 0800 0854113.

This sheet describes a medical condition or surgical procedure. It has been given to you because it relates to your condition; it may help you understand it better. It does not necessarily describe your problem exactly. If you have any questions please ask your doctor.

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