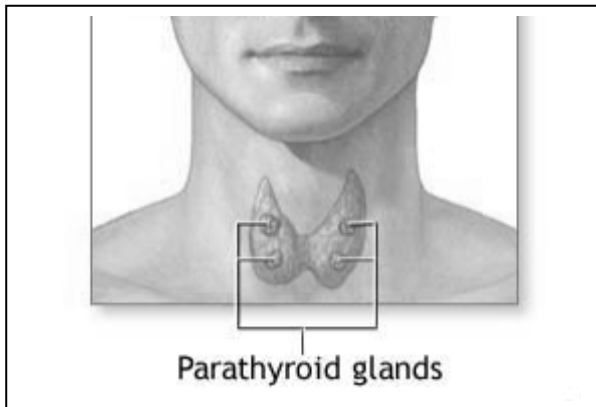


# Parathyroidectomy



The parathyroids are 4 glands about the size of a pea located in your neck which control your blood calcium level. Parathyroid hormone (PTH) steals calcium from the bones, activates vitamin D in the kidney (taking more calcium from food in the intestines), and blocks loss of calcium in the urine.

*Hyperparathyroidism* is elevation of blood calcium levels due to overactive parathyroid gland(s). This

is most frequently (85%) caused by a benign growth of one gland (adenoma) but is occasionally caused by enlargement of two or more glands (especially when familial or with vitamin D deficiency or kidney failure). Cancerous growths are fortunately rare and usually cause severe symptoms.

Symptoms of hyperparathyroidism can be mild and are common to many disorders making the condition difficult to diagnose. Symptoms include: osteoporosis (bone thinning, or fractures), bone and joint pain, kidney stones, tiredness, depression or anxiety, nausea and loss of appetite. Untreated, the condition can be serious, causing osteoporosis and increasing the risk of hypertension, heart attack and some cancers. Fortunately, surgical treatment can cure the problem in the vast majority of cases.

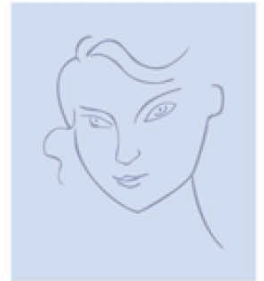
## MAKING THE DIAGNOSIS

You will commonly have had a blood test to determine calcium, 25OH vitamin D and PTH levels which will be abnormal. Occasionally a bone densitometry and 24 urine collection is performed to check for osteoporosis and kidney function. If you are over 50 years of age, have calcium levels that are not too high, kidneys work normally and bone scan is satisfactory, you may choose to be regularly monitored rather than having surgery. If so, you should drink plenty of water (to prevent kidney stones), exercise regularly and avoid smoking (to reduce your risk of osteoporosis).

If you have symptoms, high calcium levels, bone or kidney damage or are young and are considering surgery, Dr Iseli uses two tests which are complimentary in determining whether you are a candidate for minimally invasive parathyroidectomy. These are an ultrasound and a sestamibi scan which will often show a single, enlarged and overactive gland which can be targeted by surgery.

## MINIMALLY INVASIVE PARATHYROIDECTOMY

If scans indicate that there is a single culprit gland (which occurs 85% of the time), Dr Iseli may remove the gland using a minimally invasive approach. This means a smaller incision (as small as 2cm) and reduced risk of injuring the normal glands or nerves on the other side. The surgery is done under a general anesthetic (you are asleep). Only the abnormal gland is removed through a small incision on the lower part of the neck and the surgery takes about 1 hour. This surgery is 97% successful if both the ultrasound and sestamibi scans agree on which gland is overactive.



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During or after surgery, your blood PTH level will be checked and, if it has not dropped satisfactorily, you may require further surgery to check the other side for abnormal glands. This may be performed immediately or Dr Iseli may wait 1 week to see if levels will drop further. Patients with kidney failure or familial (inherited) hyperparathyroidism will likely need to have all 4 glands removed and a small part of one gland reimplanted (left in a muscle in the neck). This will mean you will have to stay in hospital for approx. 3 days to stabilize your calcium as your reimplanted gland will take 14-21 days to start working.

Most surgery is done as a day case or one night stay. Drain tubes are rarely used.

### RISKS OF SURGERY

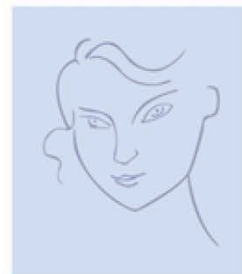
- Need for further surgery. Rarely (<15%), patients have two overactive glands and may need surgery on the other side to treat this if blood PTH levels do not drop satisfactorily.
- Hypoparathyroidism: Once the overactive gland is removed, the normal glands may take some time (usually 1-2 weeks) to start working normally. If this happens you may notice tingling around your mouth or hands or cramping. If this happens, take 3x calcium (600mg) tablets 3x/day on an empty stomach. Medications can usually be stopped after your first visit with Dr Iseli.
- Infection. This can usually be treated with *antibiotics*.
- Damage to the nerves that go to the voice box. The least amount of stretching on these nerves causes hoarseness or change in your voice. Usually this recovers by 6 weeks after surgery. Rarely (1%) hoarseness may be permanent and may be improved by corrective surgery. If both nerves are damaged (very rare), patients may feel short of breath and even require a temporary tracheostomy tube.
- Bleeding is a risk in almost all surgeries. It is of greater concern in the neck because a moderate amount of blood building up here cuts off breathing. Usually it would happen while at hospital and would require an urgent second surgery to stop it and protect against breathing difficulty.

### PREPARING FOR SURGERY

- Stop smoking (ideally 2 weeks before surgery)
- Do not eat or drink anything after midnight before surgery
- Take your normal medications with a sip of water on the morning of surgery
- Avoid aspirin or ibuprofen (painkillers other than paracetamol) for 10 days before surgery as they may increase your risk of bleeding

### AFTER SURGERY

- If you develop tingling of fingertips, around mouth or muscle cramps:
  - Take 3x calcium tablets (600mg) 3x/day until review with Dr Iseli. Take them on an empty stomach (30mins before or 2 hours after a meal). If symptoms persist take an extra calcium tablet 3x/day and call Dr Iseli's office. If you develop severe symptoms call an ambulance.
- It will be normal to have a mildly sore throat for 5-7 days after surgery. Take prescribed pain medication as required. You may use paracetamol (Panadol<sup>®</sup>, panadeine) for discomfort. Do not take aspirin or nonsteroidals such as ibuprofen, naproxen etc.
- You may shower immediately (your sutures are dissolving under the skin)
- You may resume normal diet and activities as tolerated on the day after surgery.
- Tape your wound with micropore tape for 6 weeks after the steristrips are removed or come off. Change the tape as infrequently as possible.
- After the first 6 weeks, massage your wound with bio-oil after showering.



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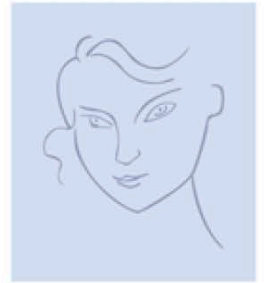
- Avoid lifting >5kg for 2 weeks after surgery and avoid driving until you can turn your head easily to both sides without pain.
- Make an appointment to see Dr Iseli 1 week after surgery.

**SEEK MEDICAL CARE IF:**

- You have increased bleeding from wounds.
- You see redness, swelling, pus or have fevers or pain in wound or your neck.
- You develop lightheadedness or feel faint.

**SEEK IMMEDIATE MEDICAL ATTENTION IF:**

- You develop a rash.
- You develop severe tingling or cramps
- You have difficulty breathing
- You develop any reaction or side effects to medications given.
- You develop swelling in your neck.
- You develop changes in speech or develop hoarseness which is getting worse.



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