**Parathyroid Surgery for Patients Endocrine Surgery Tygerberg Hospital**

*By Ilna Conradie and Rooi Sello with reference to BAETS patient information leaflets*

**About Tygerberg Hospital Endocrine Surgery:**

You will be managed by a TEAM of doctors. Each member of the team has a very specific role, and we need the whole team in order to offer you the best parathyroid care.

Tygerberg Hospital is an academic hospital, so there are different levels of specialists you will encounter within the team. The advantage is that you will have a lot of thought and discussion around your case, and you might even learn something when we do our academic rounds!

Endocrine surgeons, Nephrologists, Endocrinologists and Anaesthetists focus specifically on your type of disease. We will try and explain more about your disease process and why we are recommending surgery:

**What is the parathyroid and why do you need them?**

The parathyroid glands are the four small glands in your neck, at the four corners behind the thyroid gland. The thyroid gland wraps around the windpipe and swallowing pipe like a butterfly, and behind the wings you will find the parathyroid glands which are usually 3-4 mm in size.

(anatomy picture)

When the calcium levels in your blood is too low, the parathyroid glands produce parathyroid hormone that will in turn increase the calcium level so that the levels are balanced. The hormone works by:

* Taking calcium from bones and making it available in the bloodstream (this can make the bone fragile)
* Facilitating calcium to get taken up in the gut (vitamin D helps to get this job done)
* Telling the kidneys to hold back some of the calcium
* All to INCREASE THE CALCIUM LEVEL in the blood

When the calcium level in your blood is normal again, then the parathyroid glands decrease hormone production and your body is BALANCED.

**When is it abnormal?**

When one (or more) of your parathyroid glands grow bigger, and starts to make parathyroid hormone without listening to the calcium level, you end up with a high parathyroid hormone level, as well as a high calcium level. This is called primary hyperparathyroidism.

Secondary hyperparathyroidism is when the parathyroid glands are stimulated by other causes outside your parathyroid gland, most commonly due to renal failure.

Tertiary hyperparathyroidism is when secondary hyperparathyroidism persists for a long time, and eventually the parathyroid glands start to function independently – causing a high parathyroid hormone as well as high calcium.

**Why will you need surgery of your parathyroid glands?**

Most forms of primary and tertiary hyperparathyroidism will benefit from surgery, but we specifically recommend surgery when you are symptomatic, or when there are organs in your body that are already suffering because of this disease. Patients with secondary hyperparathyroidism can usually be treated with medication, but when there are complications, the Nephrologist might also refer you to the Endocrine Surgeon so that we can discuss the option of surgery.

Symptoms that may be associated with high calcium include muscle weakness, excessive thirst, stomach ulcers, kidney stones, osteoporosis, fractures, irritability, weight loss and more. In most patients, this is due to one or more abnormal parathyroid glands.

The aim of the surgery is to decrease the long-term effects on the bones and kidneys. Even in patients who do not have symptoms, parathyroid surgery is recommended.

There is medication to control high calcium levels in the blood, but these are temporary as they do not address the root cause of the problem. The operation is performed under anaesthetics, so you are completely asleep and there are two approaches:

* Focused parathyroidectomy: A 1.5-2cm incision is made in the neck and only one gland is evaluated and removed.
* Four gland exploration: A 4 cm incision is made in the middle of the neck and all 4 of the parathyroid glands are inspected. Abnormal glands are removed.

An individualised approach is used: your surgeon will recommend the approach that is most suitable for your disease, depending on the reason for surgery as well as your scan results.

**What are the risks of surgery?**

Complications of parathyroid surgery are uncommon but include bleeding in the neck, hoarseness or voice changes and low calcium levels. Your surgeon will discuss these with you.

**How to take care of your wound:**

If we do a four gland exploration, you might have a drain in your wound. This is removed when there is less than 30ml in your drain in 24 hours.

The suture is absorbable, so you do not have to remove it. Keep your dressing on for a week after the operation, and then thereafter you can use micropore as directed by your doctor.