Treatment of hyperparathyroidism:
The surgical experience
To select a specific step, click on a link below:

- **INTRODUCTION**
- Tests before the big day
- Preparing for the operation
- Arrive at hospital
- Anesthesia
- **Surgery:**
  - Locate the parathyroid
  - Incision
  - Find the parathyroid tissue, remove
  - Tests during surgery
  - Close incision
- Recovery

To tour the entire process, click “Next Step”

**You can return to this menu at any time by clicking MENU.**
Meet the team:
these people are here to answer your questions, prepare you, and guide you through your surgery...

Herb Chen, MD
Rebecca Sippel, MD
Sarah Schaefer, NP

Please visit the website for more information about our team!
The process:
These are steps that a typical patient might experience...

Symptoms of hyperparathyroidism (HPT) →
may include… fatigue, bone/joint pain, urinary frequency,
muscle weakness, trouble concentrating, depression, anxiety,
nausea, heartburn, abdominal pain, constipation, urinary
frequency

Visit surgeon → meet with Dr. Chen or Dr. Sippel to discuss removal of
the parathyroid gland

Surgery to remove gland → Dr. Chen or Dr. Sippel will perform
the surgery using the most up-to-date techniques discussed here
Benefits of Parathyroidectomy

• Kidney function and bone density improvement
• Resolution of any neuropsychiatric symptoms
• Improved quality of life
• Prolongs survival (10% reduction if untreated)
• Reduction in cardiovascular incidents
• Low complication rates
• Cost of surveillance is more than parathyroidectomy at 5 years

Why surgery?
There are many reasons that your doctor might recommend surgery to cure your hyperparathyroidism... here are a few:
Why surgery?
And according to the National Institute of Health (NIH):

“Surgical treatment improves [symptoms of primary hyperparathyroidism] as well as preventing recurrent nephrolithiasis and reversing osteopenia…. It should now be recommended for nearly all patients.”

In English:
- make your symptoms go away
- prevent kidney stones
- prevent bone fractures
Surgery is the only curative treatment
What to expect?

Now we are going to guide you through the surgery to remove your enlarged parathyroid gland...
Tests before the big day

In the weeks and days before surgery, your practitioner may do some tests…
Tests before the big day

Your doctor may want to do blood tests to measure your levels of calcium and parathyroid hormone (PTH). High calcium and PTH means that you have hyperparathyroidism. If just one is elevated, you have “mild” disease.
Tests before the big day

Other tests might include a bone density scan, a 24 hour urine sample, or imaging of your kidneys.
One of the most important pieces of information a surgeon needs before your operation is the exact location of the problematic parathyroid.

This can be determined using 3 tests:

1) Ultrasound  
2) Sestamibi nuclear scan  
3) CT scan
Tests before the big day

Your doctor will move a sensor over your neck. High frequency sound waves take a picture of the parathyroids, and other neck structures. This procedure is painless, and takes about 30min.
Sestamibi is a very useful tool to find parathyroids. First you will get an injection of radioactive dye. Then a scanner will take a picture of the parathryoids, which are lit up with dye. This test takes a few hours.
Tests before the big day

CT

MENU

Next Step
Before your operation, you will meet with Sarah Schaefer to have additional testing to make sure you are in good health for your operation. You will also discuss what to expect and how to prepare, and be given instructions about medications and diet.
Arrive at the hospital

You will arrive at the hospital early in the morning on the day of your surgery. Your surgeon, an anesthesiologist, and a resident or medical student will talk with you before the operation to answer any last questions.
Before your operation, an anesthesiologist will give you medicine to make sure you don’t feel anything during the surgery.

You have two options: 1) general anesthesia 2) local anesthesia
General anesthesia is given through a breathing tube in the operating room. You will be unconscious during the procedure, and not remember or feel anything. This is the most commonly used anesthesia for our patients.

General Anesthesia:
- no pain
- asleep
- breathing tube
Local anesthesia is given through an IV, with additional local injections around the neck. You will be awake, but will not remember anything. Local anesthesia is used less often, but you can discuss it as an option with your surgeon.

Local anesthesia:
- no pain
- awake
- IV
Localize the parathyroid

Once you have been given anesthesia and another injection of the radioactive marker, the surgeon will move a gamma probe (a wand with a sensor on the end) across the skin on your neck to find the parathyroid tissue.
When the parathyroid has been found, the surgeon will make a 2.5cm (1 inch) incision. This can be in the center or to the side of the neck.
The procedure used by surgeons at the UW Hospital (and described here) is the “minimally invasive” technique.

“Bilateral neck dissection,” the older method, is **NOT** used at UW anymore. It involves a much larger incision (8 cm).
NOTE: Both procedures take out the same amount of parathyroid. The major difference is that bilateral dissection has a larger incision.
The surgeon will then insert the gamma probe through the incision to zoom in on the location of the parathyroid tissue inside the neck. (The closer the probe to the parathyroid, the higher the radioactive count).

At this point, a blood test will be done to get a baseline measurement of parathyroid hormone (PTH) in your blood.
Once the parathyroid tissue is found, your surgeon will remove it.
After the tissue is removed, the surgeons will perform a few tests to ensure that all the enlarged parathyroid tissue is gone. This is important with parathyroid removal, because parathyroids are very small and can be difficult to tell apart from other tissue, even for an experienced surgeon.

Surgeons at UW use 2 methods during surgery to check this.
Using the gamma probe, an “ex-vivo” radioactive count will be done by placing the removed parathyroid tissue on the probe. Research at the UW has shown that if the count is >20% of a background count, then the correct amount of tissue was removed.
A second blood test will be done 5 and 10 minutes after the enlarged parathyroid tissue is removed. If the measurement of parathyroid hormone in your blood is less than 50% of your original level, this also indicates a successful surgery.
After your surgeon confirms that all the enlarged parathyroid tissue has been removed, the incision will be closed with stitches or glue.
Most patients go home the same day of their surgery. Some stay in the hospital overnight, and go home the next morning. You can start your everyday activities again in a few days, but should avoid strenuous activity or lifting until you see your practitioner.
We ask that you return to see your surgeon 7-10 days, and again 6 months after your surgery. During these visits, we will look at your incision for proper healing, and check that your Calcium and PTH levels have normalized, indicating a cure.
We hope this helps you feel more comfortable with your surgeon and the process of preparing for your parathyroid surgery.

If you have questions, please talk to your surgeon or NP at UW Hospital, as we want to ensure that you feel well informed at all times.

You are the most important part of this process!
Picture citations

- http://www.americalaboratory.com/assets/images/blood_sample.jpg
- http://www.endocrinology.ucla.edu/images/adn_er_thyroid_ultrasound.jpg
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