incision; fix the cause and close the incision in the same fashion.

**What is the cure rate in parathyroid surgery?**
In experienced hands, 95-98% of patients will be cured of their hyperparathyroidism. It is important to have your calcium level measured 2-3 weeks after surgery and again in 6 months. During your post-op visit your surgeon will give you a prescription to have blood work done in 6 months. Please be sure to have these results sent to your surgeon.

**What are the possibilities that anything else will be found or removed at surgery?**
About 10-30% of patients have thyroid abnormalities that are found at the time of parathyroid surgery. Most of the abnormalities are identified pre-operatively with an ultrasound test. These abnormalities can be managed most efficiently at the time of surgery and may require partial or total removal of the thyroid gland.

**GENERAL INSTRUCTIONS FOR SURGERY**

1 MONTH PRIOR TO SURGERY

Laboratory Tests — Though additional tests may be required depending upon your particular surgery and medical history, the following are standard requirements for all surgical patients:

- CBC with Platelets and Differential
- Comprehensive Metabolic Panel
- Coagulation Profile
- EKG (for patients 40 years and older)
- CHEST X-RAY (for patients 60 and older)

Call our office to make arrangements for pre-operative testing at NYUH. If you choose to have your testing done elsewhere, you are responsible for getting all test results to us no later than 3 business days prior to your surgery date. If we do not receive all the required test results, we will be forced to cancel and reschedule your surgery.

THE DAY OF SURGERY

Do not eat or drink after midnight before your planned surgery. You may take your usual asthma, heart, blood pressure or seizure medication with a small sip of water that morning, unless otherwise advised. Please do not take any aspirin up to seven days before your surgery. If you are a diabetic, consult with your physician before taking your medication. If you develop a cold, sore throat, fever or any illness, please call your surgeon's office prior to your day of surgery.

Please plan to arrive at the Milstein Heart Center 2 hours prior to your surgery time. Check-in is through the 3rd floor of the Milstein Heart Center. The hospital will call you to confirm your surgery on the day prior to your surgery. The Surgical Nursing Unit will call you after 3:30 pm to confirm your surgery time. If they have not called you by 7:30 pm, please call the Nurses Unit (212-305-1379).

**ABOUT THE NEW YORK THYROID CENTER**
The New York Thyroid Center is dedicated to providing superior medical care and education for patients with thyroid and parathyroid disease. Our members research causes and treatments, as well as develop prevention programs for these diseases. Founded by the esteemed pioneer in thyroid and parathyroid surgery, Dr. Paul LoGerfo, The Center's evolved from a long-standing thyroid clinic, which was established at Columbia Presbyterian Medical Center more than 60 years ago. Members of The New York Thyroid Center include endocrinologists, surgeons, radiologists, pathologists, and ophthalmologists who are leaders in the classification, treatment and identification of thyroid and parathyroid disorders. Their efforts also extend to the medical community so that the standard of care for all thyroid and parathyroid patients may be improved worldwide.

Although our Center is based in New York, we provide a referral service to specialists across the United States. Please see our website for more information on our center, as well as extensive information on thyroid and parathyroid disease.

[www.cumc.columbia.edu/dept/thyroid](http://www.cumc.columbia.edu/dept/thyroid)

Revised February 2, 2010
If you need parathyroid surgery, it is important to know what to expect. Below are some of the most frequently asked questions. Please take a moment to read them and talk to your physician to learn more about your parathyroid disease and surgery. Although individuals have different needs, most patients follow these guidelines for their operative course. Your surgeon will discuss your individual needs at the time of your pre-operative consultation. If you find that you have additional questions after your consultation, it is a good idea to write them down before speaking to your surgeon.

Am I a candidate for minimally invasive parathyroidectomy?
Almost all patients are eligible for a minimally invasive operation. The most common localizing tests are sestamibi scanning (a nuclear medicine test) and ultrasonography. In 10-20% of patients, these tests will fail to localize an enlarged parathyroid gland. Another test that may be ordered is a parathyroid series (CT and USG of the neck). This is a special type of CT scan done only at a handful of centers in the country. The accuracy of this test in finding a diseased parathyroid gland is approximately 95%.

What approach will my surgeon use?
Your surgeon will perform the operation through the smallest possible incision; the typical incision is about 1.5 inches placed symmetrically in the midline of the neck and hidden in a natural skin fold.

What type of anesthesia will I have?
You are given the option of either general anesthesia or local anesthesia. With general anesthesia, you will be completely asleep and not feel any discomfort during the operation. Local anesthesia will numb the area of your neck and prevent you from feeling any pain. Additionally, you will have a breathing tube placed temporarily. With local anesthesia, your neck area is numb, and sedatives may be given to reduce anxiety, and you will be in a "twilight" state and not feel or be aware of the operation. However, since this is light sedation, your surgeon can communicate with you throughout the operation so your voice can be monitored if necessary.

How will my voice be monitored during surgery?
Voice monitoring can be done safely and reliably by having the patients speak during surgery while under local anesthesia, if necessary. Under general anesthesia, a device called a nerve monitor can be used to help identify and protect the nerve that controls your vocal cords.

Will my surgeon use Parathyroid Hormone (PTH) monitoring during surgery?
PTH monitoring during surgery will allow your surgeon to know if you have been cured during the operation by demonstrating an appropriate decrease in your PTH level after removal of the abnormal gland.

How long will I be hospitalized?
Depending on the time you undergo surgery, the type of anesthesia you have, your medical history, and your condition after surgery, you may be kept in the hospital overnight. However, most patients can go home the same day after a 4-6 hour observation period in the recovery room.

Will I have pain after the operation?
All operations involve some pain and discomfort. Our goal is to minimize this discomfort. At the time of operation, your surgeon will give you some numbing medicine, which will usually last 4 to 6 hours after surgery. Although you should be able to eat and drink normally, the main complaint is pain with swallowing.

Will I have stitches?
Before you are discharged from the hospital, a single suture in the incision will be removed. The incision is covered with a plastic coating, which is waterproof so that you can shower as usual (but do not submerge the incision for 5 days). The coating will peel off on its own within 7-10 days and a moisturizer can be applied to the wound to improve healing.

Will I have a scar?
Yes. All surgery causes scarring, and how a patient scars is dependent on the individual. However, there are some techniques that surgeons use to minimize scarring. These techniques include smaller incision size, careful incision placement, and hypopalliative suture material (to avoid inflammation). As a general rule, it is unusual for patients to have a noticeable scar after six months.

Will I have any physical restrictions after my surgery?
In general, your activity level depends on how much discomfort you experience. Many patients may resume regular activities within a couple of days after the operation. Most patients are able to return to work within the first week, and you are able to drive as soon as your head can be turned comfortably (this limitation is for driver safety) and you are not taking narcotic pain medication. Your surgeon will ask you not to soak in a hot bathtub or go swimming for 1 week after the surgery.

You must see the surgeon for a follow-up office visit three weeks after surgery.

What are the complications unique to parathyroid surgery?
These possible complications are directly related to the operative experience of the surgeon, and these statistics are based on our own results. Although the risk of these complications cannot be eliminated entirely, they can certainly be minimized in the hands of an experienced thyroid/parathyroid surgeon.

Hoarseness - Injuries to the nerves that control the voice are very rare in parathyroid surgery (about 1 in 300) and most are associated with parathyroid cancers or concomitant thyroid surgery. When this occurs, the main difficulties are projection of the voice and high-pitched sounds. It is usually described as hoarse, but will not necessarily be considered abnormal by strangers. Usually, voice changes are temporary, so the voice will return to normal within a few weeks and permanent change is rare.

Hypocalcaemia - Symptoms of hypocalcaemia include numbness and tingling in your hands, the soles of your feet, and around your lips. Some patients experience a "crawling" sensation in the skin, muscle cramps, or severe headaches. These symptoms appear between 24 and 48 hours after surgery. It is rare for them to appear after 72 hours. These symptoms may be caused by low calcium levels after the operation. Up to 5% of people will have a temporary low calcium level post-op, and this is usually caused by the fact that once the hyperactive parathyroid gland(s) is removed, the remaining parathyroids take time to "wake up." Less than 1% (1 in 200 or 300 people) may have a permanent low calcium level. Symptoms of hypocalcaemia can generally be prevented by taking 1,000 mg of calcium 4 times daily for 7 days after surgery (Tums, Calcorate or Ocal); after the seventh day, reduce calcium to 1,000-1,200 mg daily. If symptoms develop, you should take extra calcium and call your doctor. We also recommend a multivitamin for most patients.

Bleeding in the neck - Bleeding is a rare (1 in 300 patients) but potentially serious complication. You will be carefully observed for 4 to 6 hours in the recovery room (and sometimes stay overnight). Signs of a potential bleeding problem include swelling in the neck, feeling short of breath, a choking sensation, and a high-squeaky voice. If your surgeon is concerned about bleeding, he/she may decide to open the same small