



# Head and Neck Associates of Orange County, Inc.

An Incorporated Medical Group

Head & Neck Surgery

Pediatric & Adult Otolaryngology

Facial Reconstructive Surgery

## PARATHYROID SURGERY SURGICAL INSTRUCTIONS

### INTRODUCTION

Your doctor has recommended parathyroid surgery for you. The following information is provided to help you prepare for your surgery, and to help you understand more clearly the associated benefits, risks, and complications of parathyroid surgery. You are encouraged to ask your doctor any questions that you feel necessary to help you better understand the above procedure.

The parathyroid glands are four small pea-shaped glands that are located in the neck on either side of the trachea (voice box) next to the thyroid gland. In most cases there are two glands each on either side of the thyroid gland (inferior and superior), although fewer or more glands can be present, or unusually located glands can be seen. The function of the parathyroids is to produce parathyroid hormone (PTH), which helps to regulate total body calcium levels. If there is too much PTH, calcium is drained from the bones and there is increased absorption by the intestinal tract, resulting in increased levels in the blood. If there is too little PTH, the blood calcium level can fall to dangerously low levels. The most common disorder of the parathyroid gland is a parathyroid adenoma. This is called primary hyperparathyroidism. A parathyroid adenoma is a benign condition whereby the gland becomes increased in size and produces PTH in excess. In most situations, patients are unaware of their tumors and they are found on routine blood tests to have elevated blood calcium and PTH levels. In more serious cases, the bone density will diminish and kidney stones can form. Other non-specific symptoms include depression, muscle weakness, and fatigue. Every effort is made to medically treat or control these conditions preoperatively. Parathyroid malignancy is very rare.

Surgery is indicated when calcium levels are significantly elevated, or if there is a complication of hyperparathyroidism, or if the patient is relatively young. A parathyroidectomy is an operation to remove one or more of the parathyroid glands. In some situations, both sides of the neck are explored, while in other cases a directed approach is made through a small incision ("minimally invasive parathyroidectomy"). Tests such as a high-resolution ultrasound or a nuclear medicine sestamibi scan help to direct the approach preoperatively or intra-operatively. In rare situations the offending gland cannot be found, or a portion of the gland is transplanted to an alternate site in the neck or the arm.

PTH levels can now be obtained during surgery. Whereas preoperative tests help to identify hyperparathyroidism and to direct the surgical approach, intra-operative PTH levels help to guarantee the success of the operation by demonstration of a corresponding return to normal PTH levels after the suspected parathyroid adenoma is removed. A PTH determination is obtained immediately prior to the resection and compared to a PTH determination done ten minutes after the resection.

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The anatomy of the parathyroid glands is complicated by two important structures: the recurrent laryngeal nerve and the thyroid gland. The recurrent laryngeal nerve is a very important nerve that runs very close to or through the thyroid gland next to the parathyroid glands. This nerve controls movement of the vocal cord on that side of the larynx. Weakness or paralysis of one vocal cord causes a breathy weak voice and difficulty swallowing thin liquids. Weakness or paralysis of both vocal cords causes difficulty breathing. In most situations, we will use a special breathing tube that rests in the larynx (voice box) between the vocal cords that is designed to allow for the continued monitoring of their function. The thyroid gland is a large gland attached to the trachea. In rare situations, the adenoma is found within the thyroid gland and necessitates removal of the thyroid. The main goal of parathyroid surgery is to remove the offending gland(s) while protecting the recurrent laryngeal nerves, remaining normal parathyroid glands, and the thyroid.

The following instructions are designed to help you recover from parathyroid surgery as easily as possible. Taking care of you can prevent complications. It is very important that you read these instructions and follow them carefully. We will be happy to answer any questions.

## **RISKS AND COMPLICATIONS**

Your surgery will be performed safely and with care in order to obtain the best possible results. You have the right to be informed that the surgery may involve risks of unsuccessful results, complications, or injury from both known and unforeseen causes. Because individuals differ in their response to surgery, their anesthetic reactions, and their healing outcomes, ultimately there can be no guarantee made as to the results or potential complications. Furthermore, surgical outcomes may be dependent on preexisting or concurrent medical conditions.

The following complications have been reported in the medical literature. This list is not meant to be inclusive of every possible complication. They are listed here for your information only, not to frighten you, but to make you aware and more knowledgeable concerning this surgical procedure. Although many of these complications are rare, all have occurred at one time or another in the hands of experienced surgeons practicing the standards of community care. Anyone who is contemplating surgery must weigh the potential risks and complications against the potential benefits of the surgery, or any alternative to surgery.

1. Damage to the recurrent laryngeal nerve with resultant weakness or paralysis of the vocal cord or cords. This is a rare but serious complication. Unilateral weakness results in a weak, breathy voice, and there will be problems swallowing. A secondary surgical procedure will alleviate many of the symptoms of unilateral vocal cord paralysis. Bilateral vocal cord paralysis results in a relative normal voice; however the patient will have difficulty breathing and may ultimately require a tracheotomy. Every effort will be made to save all nerve branches.

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Temporary vocal cord weakness occurs much more frequently than permanent cord weakness, and will usually resolve in days to weeks. In some situations the tumor has already invaded the nerve and has caused these problems.

2. Bleeding or hematoma. In rare situations, a need for blood products or a blood transfusion. You have the right, should you choose, to have autologous or designated donor directed blood prepared in advance in case an emergency transfusion was necessary. You are encouraged to consult with your doctor if you are interested in this option.
3. Damage to the remaining parathyroid glands with resultant problems in maintaining calcium in the blood. In most situations, you only need one functioning gland to have normal calcium levels. In the rare event that all glands are removed, you would need to take calcium supplementation for the rest of your life.
4. Need for further and more aggressive surgery. In some cases, surgical exploration failed to identify the offending gland or multiple affected glands are present. Further and more aggressive surgical approaches may be necessary, such as an extensive neck or chest exploration.
5. Need for a limited or total thyroidectomy. In rare situations, the affected gland is within the thyroid gland itself, or an incidental thyroid carcinoma is identified.
6. Prolonged pain impaired healing, need for prolonged hospitalization, permanent numbness of the neck skin, poor cosmetic result, and/or scar formation.
7. Recurrence of the tumor or failure to cure the tumor despite effective therapy.
8. Need to take thyroid medications or calcium for the rest of your life. Your endocrinologist or primary care physician will usually coordinate this aspect of your treatment.

## **BEFORE SURGERY**

In most situations, the surgery is performed at the hospital or at the outpatient surgery center. An anesthesiologist will monitor you throughout the procedure. Usually, the anesthesiologist will call the night before surgery to review the medical history. If he or she is unable to reach you the night before surgery, they will talk with you that morning. If your doctor has ordered preoperative laboratory studies, you should arrange to have these done several days in advance.

You should not take aspirin, or any product containing aspirin, within 10 days of the date of your surgery. Non-steroidal anti-inflammatory medications (such as Advil) should not be taken within 7 days of the date of surgery. Many over-the-counter products contain aspirin or Advil type drugs so it is important to check all medications carefully. If there is any question please call the office or consult your Pharmacist. Tylenol is an acceptable pain reliever. Usually your doctor will give you your prescriptions at the preoperative visit. It is best to have these filled prior to the date of your surgery. Also purchase Tums-extra strength tablets; it is an excellent source of calcium. Your surgeon will advise you after surgery as to the amount and duration he may want to have you supplement your diet with calcium

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You must not eat or drink anything 6 hours prior to the time of surgery. This includes even water, candy, or chewing gum. Anything in the stomach increases the chances of an anesthetic complication. Smokers should make every effort to stop smoking, or at least reduce the number of cigarettes. This will help to improve the healing process and to reduce postoperative coughing and bleeding.

If you are sick or have a fever the day before surgery, call the office. If you wake up sick the day of surgery, still proceed to the surgical facility as planned. Your doctor will decide if it's safe to proceed with surgery.

### **THE DAY OF SURGERY**

It is important that you know precisely what time you are to check in with the surgical facility and that you allow sufficient preparation time. Bring all papers and forms with you including any preoperative orders and history sheets.

You should wear comfortable loose fitting clothes that do not have to be pulled over your head. Leave all jewelry and valuables at home. Remove all make-up with a cleansing cream. Thoroughly wash your face and neck with soap and water. Do not apply make-up or cream to your face.

Do not take any medication unless instructed by your doctor or the anesthesiologist. Usually in the pre-operative holding room, a nurse will start an intravenous infusion line (IV) and you may be given a medication to help you relax.

### **DURING SURGERY**

In the operating room, the anesthesiologist will usually use a mixture of a gas and an intravenous medication to put you to sleep and to maintain your anesthetic at a safe and comfortable level. During the procedure, you will be continuously monitored including pulse oximeter (oxygen saturation) and cardiac rhythm (EKG). The surgical team is prepared for any emergency. In addition to the surgeons and the anesthesiologist, there will be a nurse and a surgical technician in the room.

The whole procedure usually takes one to three hours. Your doctor will come to the waiting room to talk with any family or friends once you are safely to the recovery room.

### **AFTER SURGERY**

After surgery, you will be taken to the recovery room where a nurse will monitor you for about one hour. In most situations you will spend one night in the hospital, although some patients undergoing a minimally invasive parathyroidectomy may go home the same day. You will need to arrange to have a friend or family member to pick you up from the surgical facility and to take you home. He or she should spend the first night with you after your return home.

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Your neck may be swollen and bruised after surgery, and in many instances you will have a bandage wrapped around your neck. Some bandages are removed one to two days following surgery, the remaining will be removed after one week. There may be a small plastic drain exiting through the skin. Your nurse will empty and record the output from this drain. Sometimes you may even go home with a drain in place; the nursing staff will teach you how to manage this drain. **Do not cut or trim the sutures taped to your neck or remove any bandages covering the wound.**

Starting several hours after surgery, and possibly for several days following, your blood calcium will be monitored. It is not uncommon to have a decrease in your blood calcium level following surgery. Occasionally, the remaining parathyroid glands are "sleepy" following surgery and you may need to take supplemental oral calcium for several days to weeks following surgery. As discussed above, permanent calcium problems are rare. If you experience numbness and tingling of the lips, arms, or feet, and or twitching of the muscles, contact your doctor or the endocrinologist immediately. In most situations your surgeon will ask you to take Tums-Extra Strength after surgery. This helps to replenish calcium that is moving back into your bones.

Numbness, slight swelling, tingling, discoloration, bumpiness, hardness, crusting, tightness, and a small amount of redness around the incision are normal findings after surgery and should improve with time. After the bandages have been removed, clean the wound with a Q-tip soaked in hydrogen peroxide to remove all crusts. By gently removing all crusts, the wound edges will heal better with a less obvious scar. Apply Polysporin ointment, or a similar antibiotic ointment of your choice, to the cleaned wound. If you develop a rash, discontinue the ointment and notify your surgeon. You may wash your face, neck, and hair after the bandages have been removed. Avoid excessive scrubbing of the wound. Use a gentle soap and shampoo.

In the hospital and after you go home you should go to bed and rest with your head elevated on 2-3 pillows. By keeping your head elevated above your heart, you can minimize edema and swelling. You may get out of bed with assistance to use the bathroom. Avoid straining, if you are constipated, take a stool softener or a gentle laxative.

It is best to eat a light, soft, and cool diet as tolerated once you have recovered fully from the anesthetic. Even though you may be hungry immediately after surgery, it is best to go slowly to prevent postoperative nausea and vomiting. Occasionally, you may vomit one or two times immediately after surgery; if it persists, your doctor may prescribe medications to settle the stomach. It is important to remember that a good overall diet with ample rest promotes healing.

You will likely be prescribed antibiotics after surgery, and should finish all the pills that have been ordered. Some form of a narcotic will also be prescribed (usually Vicodin), and is to be taken as needed. If you require narcotics you are cautioned not to drive. If you have nausea or vomiting postoperatively, you may be prescribed anti-emesis medications such as Phenergan. If you have any questions or you feel that you are developing a reaction to any of these medications, you should consult your doctor.

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You should not take any other medication, either prescribed or over-the-counter, unless you have discussed it with your doctor.

## **GENERAL INSTRUCTIONS AND FOLLOW-UP CARE**

Your sutures will be removed approximately 7 days after surgery. You should call the office to arrange for a follow-up visit. Routine follow-up care will depend on the nature of the problem. After you have healed from your surgery, you will be asked to return to your endocrinologist for long-term monitoring of your calcium levels.

You may go back to work or school only when your doctor gives you medical clearance.

You are encouraged to rest for the first week following surgery. Avoid excessive talking, smiling, hard chewing, strenuous activities, lifting heavy objects, and bending over. Alcohol and tobacco should be avoided because they may prolong swelling and healing. We discourage tanning for 6 months after surgery. If you must be in the sun you should use a number 15 or greater sun block and consider wearing a hat. You may use your usual make-up any time after surgery.

After 3 weeks if you are not having problems with bleeding or excessive swelling, you may resume exercise and swimming. You should plan to stay in town for 3 weeks to allow for postoperative care.

## **NOTIFY YOUR DOCTOR IF YOU HAVE**

1. A sudden increase in the amount of bruising and pain associated with excessive swelling of the neck and possible difficulty breathing.
2. A fever greater than 101.5 degrees which is persistent despite increasing the amount of fluid you drink and Tylenol. A person with a fever should try to drink approximately one cup of fluid each waking hour.
3. Drainage from the wound.
4. Spasms or severe cramps in your muscles or twitching of the face. If this occurs, you should call your surgeon immediately and you will be advised to obtain a blood calcium level.

## **IF YOU WOULD LIKE TO LEARN MORE**

The physicians of Head and Neck Associates recommend **[www.medicinenet.com](http://www.medicinenet.com)** as an internet source of information. MedicineNet® is a network of U.S. Board Certified Physicians and Allied Health Professionals. Find easy-to-understand medical information to make smart health decisions with your doctor. Stay informed on all aspects of health and medicine. Get the latest health and medical news delivered to your e-mail box!

Please visit our web site at **[www.hnaoc.com](http://www.hnaoc.com)**

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## **SURGICAL FINANCIAL POLICY**

Head and Neck Associates of Orange County will submit claims to your insurance company for any surgical procedures performed by our physicians. Prior to your scheduled surgery date our staff will verify eligibility and benefits. We will also obtain precertification and/ or authorization when required by your insurance company. Please be aware however, that this is not a guaranty of payment. Any expenses deemed not covered by your insurance company for any reason, will be your financial responsibility. All monies owed by the patient, i.e., remaining deductible or coinsurance amounts and any procedures or fees deemed not medically necessary, are due prior to the date of surgery. All financial arrangements must be made prior to the date of surgery. Please be aware that this office will bill only for the physicians' services.

Any other services related to your surgery, i.e., facility, anesthesiology, radiology, laboratory or pathology will be billed by the facility providing these services, and not included in our billings.

Our office accepts the following forms of payment; Visa or Mastercard, cash and personal checks. A twenty dollar service charge will be assessed to your account for any check returned by your bank.

## **IMPORTANT PHONE NUMBERS**

If you have any questions, do not hesitate to call the office at (949) 364-4361. At night or on the weekends, if your need is urgent and cannot wait until regular business hours, you may call our emergency number at (949) 470-1403. Our answering service will contact the doctor on call. If for some reason you cannot reach the doctor on call and your need is life threatening, go to the emergency room.

## **DISCLOSURE OF OWNERSHIP INTEREST IN MISSION SURGERY CENTER**

If you are having your surgery at Mission Surgery Center, we must inform you that the surgeon has an ownership interest in the facility. This disclosure is to acknowledge such ownership interest, and to assure you that you are not compelled to have the surgery performed at the Mission Surgery Center. You are free to select any surgical facility of your choice for this procedure.

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**ATTESTATION**

I have received, read, and understood the information provided to me regarding my upcoming surgery. I have been given the opportunity to discuss freely with my doctor any concerns, alternative therapies, and have had my questions answered to my satisfaction. I understand my rights as a patient, which includes the right to a second opinion, and have discussed and made clear my preferences with my doctor. I understand that unless time permits for designated donor blood to be prepared, and my doctors feel that blood must be given emergently, I will accept banked community blood products.

I acknowledge receipt of the above discussion of potential risks and complications, as well as patient information, financial policy, surgery center disclosure and surgery pre & post-operative care information. I am comfortable with all aspects of the upcoming surgery and ask that we proceed with surgery.

\_\_\_\_\_  
Printed Name of Patient

\_\_\_\_\_  
Date of Birth

\_\_\_\_\_  
(Signature of patient or guardian)

\_\_\_\_\_  
(Date)

Witnessed by \_\_\_\_\_

\_\_\_\_\_  
(Date)

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Updated 09/13 rmiller