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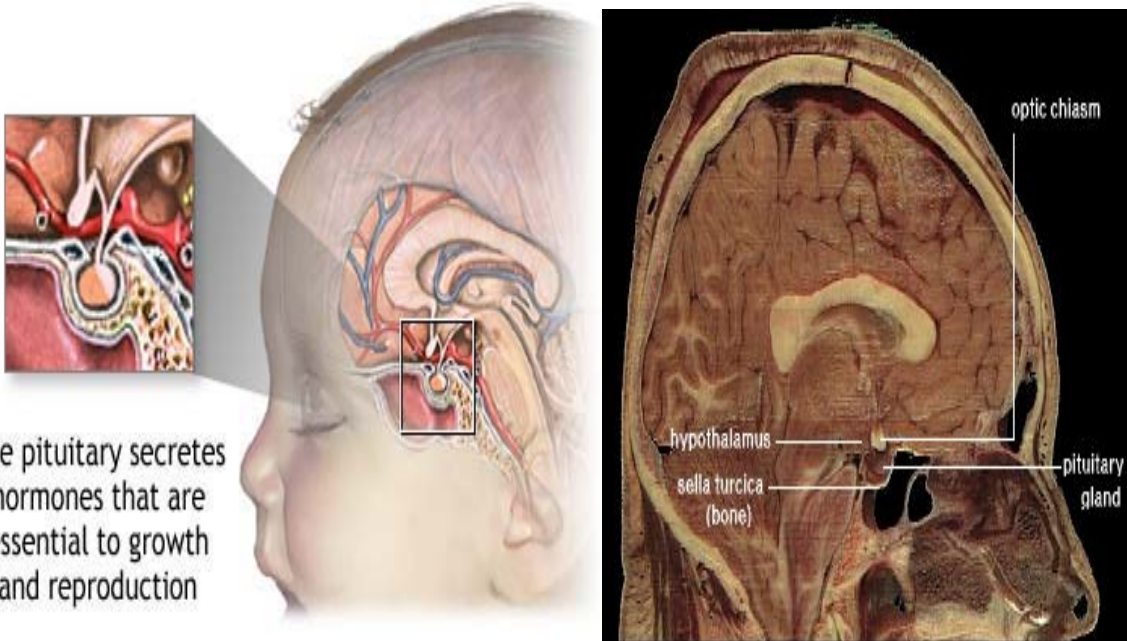
Facial Reconstructive Surgery

# PITUITARY SURGERY SURGICAL INSTRUCTIONS

## INTRODUCTION

Your doctor has recommended pituitary 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 sinus surgery. You are encouraged to ask your doctor any questions that you feel necessary to help you better understand the above procedure.

The pituitary gland is a small pea shaped-sized hormone secreting gland located in the center of the head. It rests at the base of the brain behind and adjacent to the air filled sphenoid sinus. The gland is attached to the hypothalamus (the part of the brain that sends messages to the pituitary gland by nerve fibers). The gland has three lobes: anterior, intermediate and posterior.



The purpose of the pituitary gland is to produce hormones that control the function of other organs or glands in the body. It is sometimes referred to as the “master gland” of the endocrine system. The anterior lobe produces the following hormones: Human growth hormone, the two sex hormones called luteinizing hormone (LH) and follicle-stimulating hormone (FSH), prolactin hormone for breast milk production, Thyroid-stimulating hormone (TSH), and adrenocorticotrophic hormone (ACTH). The posterior lobe produces the following two hormones: antidiuretic hormone (ADH) that increases water absorption

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into the blood by the kidneys and oxytocin that causes smooth muscle contraction of the uterus during childbirth and to help stimulate milk production.

Disorders of the pituitary gland involve either too much or too little of a particular hormone, or in some cases the tumor will grow to compress important surrounding structures.

Disorders of the pituitary gland include: **Acromegaly or gigantism**, resulting from excessive growth hormone production; **Prolactinomas or the amenorrhea-galactorrhea syndrome**, resulting from excessive prolactin hormone production that causes breast milk production (40% of all pituitary tumors); **Cushing's disease**, resulting from excessive ACTH production; **Diabetes insipidus (DI)**, resulting from a decrease in ADH production characterized by excess dilute urine leading to dehydration; **Hypopituitarism**, also called an underactive pituitary gland and the symptoms depend on what hormones are insufficiently produced by the pituitary gland; and lastly, **Compression by a macro adenoma**, which will lead to hypopituitarism, visual field cuts, headaches, and brain compression.

Indications for excision of a hormonally inactive adenomas (sometimes called a macro adenoma) include compressive symptoms, such as hypopituitarism (an underactive pituitary gland, which may lead to failure of sexual function, reduced sperm production and cessation of a woman's menstrual period), visual changes from compression on the optic nerves, pituitary apoplexy (hemorrhage into the tumor), or severe headaches. Patients with hormonally active prolactinomas are referred for surgery after failure of medical treatment. Patients with Acromegaly, hyperthyroidism or Cushing disease are offered surgery as a primary therapy. Other associated rarer conditions include Rathke cleft cysts, chordomas, and arachnoid cysts are treated surgically.

Treatment of pituitary tumors often involves the combined efforts of a multidisciplinary team, which includes a Head and Neck Surgeon (Otolaryngologist), Neurosurgeon, Endocrinologist, and sometimes an Ophthalmologist. Pituitary surgery involves the precise removal of diseased (tumor) or excessive pituitary tissue without disturbing the function of the remaining pituitary gland or its surrounding structures. In most situations, your doctors will employ a microscopic/endoscopic approach through the nose and sinuses which allows for better and precise visualization without the need for external incisions or brain manipulation. As a result there are less complications, swelling, bleeding and discomfort than with conventional external "brain" surgery with a faster recovery and higher likelihood of cure.

The following instructions are designed to help you recover from pituitary surgery as easily as possible. Taking care of your self 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. You should also have a discussion of complications with your neurosurgeon and endocrinologist as it relates to their specific roles. 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. Failure to remove or cure the effects of the tumor, recurrence of the tumor, and need for further and more aggressive surgery.
2. Hypopituitarism (see above), this can usually be treated with replacement hormones.
3. Diabetes insipidus (see above), this can usually be treated with a nasal medication called DDAVP.
4. Bleeding. 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.
5. Damage to the eye and its associated structures, blindness, or damage to the skull base with resulting meningitis, brain abscess, or leakage of spinal fluid (rare).
6. Permanent numbness of the upper teeth, palate, or face; damage to the teeth.
7. Prolonged pain, discomfort, impaired healing, and the need for prolonged hospitalization.
8. Loss of the sense or a worsening of the sense of smell or taste, chronic nasal bleeding.
9. Nasal obstruction due to the failure to straighten the septum or later re-deviation of the septum, collapse of the nasal cartilage's, or the re-growth or swelling of the turbinates.
10. Failure to resolve coexisting sinus infections, or recurrence of coexisting sinus problems and/or polyps, or the need for further or more aggressive surgery.
11. Chronic nasal drainage or excessive dryness or crusting of the nose or sinuses.
12. Failures to resolve associated "sinus or nasal" headaches or improve vision.
13. Septal perforation, which is a permanent hole inside the nose between the two sides. In rare situations this may change the outer appearance of the nose.
14. Need for adjuvant therapy such as radiation therapy or chemotherapy. Some tumors are best treated with surgery followed by radiation therapy. Your doctor may not be able to determine if you will need radiation therapy until the final results of the tissue analysis is completed post-operatively.

## **BEFORE SURGERY**

In most situations, the surgery is performed at the hospital. 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. Arrange for someone to pick you up from the hospital and to spend the first night after discharge from the hospital with you.

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. Smokers should make every effort to stop smoking, or at least reduce the number of cigarettes. This will help to reduce postoperative coughing and bleeding, and to improve healing.

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 hospital and that you allow sufficient preparation time. Bring all papers and forms with you including any preoperative orders, x-rays, 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.

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## **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 surgeon and the anesthesiologist, there will be a nurse and a surgical technician in the room.

The whole procedure usually takes about 2-4 hours. Your doctor will come to the waiting room to talk with any family or friends once you are safely to the recovery room.

In rare situations, a piece of abdominal tissue or hip tissue will be removed and used as a graft in the sinus. We will make every effort to hide any scar.

## **AFTER SURGERY**

After surgery, you will be taken to the recovery room where a nurse will monitor you for 1-2 hours. From the recovery room you will be transferred to the intensive care unit for one or more days. A catheter will be placed in your bladder during surgery to allow for the close post operative monitoring of urine flow. It is common to have an increase in urine flow (diabetes insipidus) immediately following pituitary surgery. If this persists or becomes excessive, you will be treated with a nasal medication to replace the ADH hormone. Depending on your clinical situation, you may be given other hormone replacements, such as steroids, during the course of your recovery.

You should 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 may feel decreased sensation of the nose, teeth, and mid-face following surgery. This is common and will likely improve or resolve completely after surgery. At the time of surgery, we will block some of the sensory nerves of the face with a long acting "numbing" medications that will last for 1 to 2 days.

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You may have some swelling and bruising of your nose, upper lip, cheeks, or around your eyes for several days after surgery. This swelling is normal, and will gradually go away over the next 7 to 10 days. You can help reduce it by keeping ice on your face, bridge of the nose, and eyes as much as tolerated. This will also help with postoperative edema and pain. Some patients have found frozen vegetable in packages (for example bags of frozen peas) to be a convenient ice pack which is more likely to conform to the face.

Moderate bleeding from the nose is normal, and will gradually decrease. The gauze dressing ("mustache dressing") will collect blood and should be changed only when saturated. It is not unusual to change these dressing every hour during the first 24 hours after surgery. After a few days you will probably no longer need to use the dressing. Do not take aspirin, aspirin-containing medications, or non-steroidal anti-inflammatory medications (Advil) for 3 weeks following surgery.

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. In some situations, your surgeon may prescribe steroids to be taken either preoperatively and/or postoperatively. It is very important that you take this medication as prescribed, and not discontinue it prematurely. 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. 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**

In some situations, packs will have been placed in your nose to control postoperative bleeding. You will also have several subsequent office visits to assess healing, remove crusts, and insure a speedy recovery. Your nose will probably be tender after surgery, so we will spray your nose with a special numbing medication before removing crusts. Immediately after the nasal packs are removed you should use a saline nasal spray such as "Ocean Spray" several times per day to prevent crusts from forming in your nose. Maximize moisture. Patients should always remember to maximize moisture in their nose and sinus cavities. Keeping your sinuses moist makes your mucus thinner thereby promoting better sinus drainage. This in turn helps to prevent infection. Use a humidifier, drink plenty of water, avoid drying substances such as alcohol and coffee, try to avoid smoke (which dries out sinus linings), and use plenty of saline irrigation.

After the packing has been removed, you may breathe through your nose, but do not blow or sneeze through it for 7-10 days. If you must sneeze, open your mouth. Expect some light blood-tinged drainage from the nose for several days. If bleeding becomes excessive, apply ice and rest quietly with the head elevated while holding your nose. If bleeding continues, call the office.

One of the most important things you can do after surgery is nasal irrigation. Immediately after the nasal packs are removed you should use a saline nasal spray such as "Ocean Spray" several times per day to prevent crusts from forming in your nose.

You may go back to work only when your doctor gives you medical clearance. You are encouraged to rest for the first week following surgery. Avoid strenuous activities and lifting heavy objects. 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 anytime after surgery. Try not to rest your glasses on the bridge of your nose until soreness and swelling subsides. You may wear your contact lenses once eye welling and any irritation has resolved.

Use a Q-tip to lubricate your nostrils with Vaseline; hydrogen peroxide with help to loosen crusts. After several days you may notice a few of the absorbable sutures. Be gentle while brushing your upper teeth. They will often be tender for several weeks, and you may have some numbness of the teeth and palate for several months. You may use make-up at any time to camouflage any bruising.

After 3 weeks, if you are not having problems with bleeding, you may resume exercise and swimming, but no diving for two months. 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 nose 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. Persistent sharp pain or headache which is not relieved by the prescribed pain medication.
4. Increased swelling or redness of the nose or eyes; decrease in vision.
5. Increased out-put of clear dilute urine.
6. Drainage of a thin, clear fluid in large quantities from one or both sides of the nose. This would be different from the clear, thicker mucus drainage normally produced by the nose.

#### **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.HeadAndNeckAssociates.com](http://www.HeadAndNeckAssociates.com)

**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 as it relates to the surgical approach, 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.

**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.

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

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

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

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

Updated December 08.

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