

Patient Instructions: Transphenoidal Approach for Pituitary Lesions

Surgical Technique

There are a number of reasons that a surgeon would need to operate on the pituitary gland (a hormone secreting gland at the base of the brain, just behind and between the eyes), but the most common is for pituitary adenomas. These are tumors located within the pituitary gland that push on normal structures of the brain including the optic nerves and can cause visual loss. Surgery is the primary treatment when the tumor cannot be controlled by medication.

To access the pituitary, the surgeon will use minimally invasive techniques to go through the nose and open a small window in the base of the skull behind the sphenoid sinus. An endoscopic or microsurgical approach is used or some combination of both, avoiding the need for any incisions. After opening the bone, the covering of the brain is opened and the pituitary is exposed and the tumor is removed. The surgeon will use a combination of intraoperative X-rays, computer guidance, and sometime intraoperative MRI to help guide the surgery and ensure optimal outcome. Boulder Neurosurgical Associates is the only group of neurosurgeons in Colorado using intraoperative MRI. Please visit www.bnasurg.com for more information.

Before Surgery

The morning of surgery, you will be scheduled for a 'stereotactic' imaging study (usually an MRI). You will have several small round stickers applied to your scalp to assist us during surgery with our stereotactic navigation system, similar to ultra-accurate GPS for the brain. It is important not to touch, pick or remove the round stickers once they have been applied to your scalp. Small areas of hair will need to be clipped to facilitate sticking these to your scalp.

- Seven days prior to surgery, please do not take any anti-inflammatory NSAID medications (Celebrex, Ibuprofen, Aleve, Naprosyn, Advil, etc.) as this could prolong your bleeding time in surgery.
- Do not eat or drink anything after midnight the day before surgery. This means nothing to drink the morning of surgery except you may take your normal medication with a sip of water if needed. This includes your blood pressure medicine, which in general should be taken. Consult your surgeon or primary care doctor regarding insulin if you take it.
- Do not be late to check in on the day of surgery or it may be cancelled.
- Bring your preoperative folder with you to the surgery and have it when you check in.
- If you have a copy of your MRI or x-rays, please bring these with you to the surgery even if your surgeon has seen them already or might even have a copy. Surgery may be cancelled if we do not have your radiographic images.

After Surgery

Following surgery, you will be cared for in the ICU, like all of our patients undergoing "brain surgery." For many of our patients they are ready for discharge on the following day, but other times several days may be required to recover. If there has been a leakage of spinal fluid, usually a small drain will be placed in the lower back to help the leak heal at the site of surgery and this will remain in place for usually 3-5 days. Once ready for discharge, you will go home with some prescriptions to help with any residual discomfort and usually a tapering dose of some stress hormones to help your body recover from the surgery.

As with any major surgery, you must allow time for the body to recover. It may take up to a month or more before you recover your usual energy level. You should start gradually increasing the level of physical activities starting with short and frequent walks. You may discontinue wearing stockings when ambulating without difficulty.

Activity Level

- Do not lift more than 5-10 pounds for the first few weeks after surgery. This may be increased to approximately 20 pounds after 4-6 weeks.
- You may drive after approximately two weeks and as soon as it is comfortable to do so and when no longer under the influence of pain medications. If you have had a seizure or have visual deficits, you may not drive until cleared by a neurologist.
- Avoid activities with the potential for a fall or physical contact (high energy or high impact activities) until cleared by surgeon.
- Because of the approach through the nose and sinuses we do not recommend using a straw to drink or blowing the nose for 6 weeks after surgery.

Nasal discharge

- If anything other than occasional spotting is noted to be coming from the nose (such as clear spinal fluid or pus), your surgeon should be notified.
- The office should be notified if sustained fevers of greater than 101 F are observed.

Bathing

- You may shower on second day following surgery.

- No soaking in a bathtub, hot tub or pool for at least 2 weeks.

Diet (Narcotic pain medications are very constipating, be proactive with stool softeners and laxatives)

- A high fiber diet is recommended.
- Do not strain on the toilet. Keep stools soft with a high fiber diet and/or use of prune juice, Metamucil, Fiber One cereal etc.

Pain Medications

- Do not take NSAID medications (Ibuprofen, Naprosyn, etc.) or Cox-2 inhibitors (i.e. Celebrex) for 1 week following surgery.
- Tylenol can be taken as needed.
- Narcotic pain medications are prescribed if Tylenol is inadequate.
- You should not let pain get out of control before taking medication or it will be less effective.
- We will not refill pain medications over the weekend or after hours. Anticipate the need for medication refills.

Follow-up

- Please call Boulder Neurosurgical Associates' (BNA) office (303-938-5700) and schedule your routine post-surgical visit for 7-14 days after discharge. We should be able to discuss your final pathology report at that visit.
- We will make arrangements for a follow-up MRI at 3 months and thereafter at the discretion of the surgeon.
- We will follow you usually for several years with MRIs to keep an eye on the tumor and pituitary. It is the patient's responsibility to ensure that this is scheduled on a regular basis, often annually.
- If the lesion is a pituitary adenoma, occasionally postoperative stereotactic radiosurgery (**CyberKnife**) can be used to control any residual tumor or recurrent tumor. Your surgeon will discuss this on a case-by-case basis.

When to Call Your Doctor

Please call your BNA physician's office immediately or go to the emergency room if you have:

- Ongoing nausea and/or vomiting
- Severe or worsening headaches
- Progressive difficulty seeing or speaking
- Clear fluid leakage from the nose
- Fever greater than 101F
- Seizures
- Any new neurologic sensory or motor deficits (weakness, numbness)
- Leg swelling with calf tenderness
- Burning during urination

Other FAQs

How long will I be in the hospital? This varies depending on your surgery. Often, patients spend the first night in the ICU for close observation, although this is not always the case. Patients often go home the second or third day after surgery, unless unexpected medical or surgical complications arise. We have found that patients generally prefer the comforts and support that home has to offer. The sooner you go home, the lower your risk of complications such as hospital-acquired wound infections, blood clots and urinary tract infections.

How much time off from work? This varies depending on the surgery, your job and you as an individual; but usually 2-3 weeks is sufficient. For jobs requiring lifting and physical exertion, up to a month may be required.

When can I resume driving? Driving is acceptable about 2 weeks after surgery depending on pain medication use. We generally recommend that you refrain from driving while taking pain medications following the surgery. If you have had a seizure or have visual deficits, you may not drive until cleared by a neurologist.

What about pain and other medications? We will prescribe pain medications and other peri-operative medications on the day of surgery or prior to your discharge from the facility or hospital. Steroids medications must be filled on the day of discharge.

What about Physical Therapy? We usually recommend PT and will refer you to therapy at your first postoperative visit. Please refrain from high energy/high impact activities such as running or horseback riding. A good rule of thumb is 'if it hurts don't do it'.

What kind of follow-up is required? Patients return to our office for routine follow up appointments at intervals that are determined on a case-by-case basis. We typically see patients back in the office within a couple weeks following surgery and then increase this to several months followed by an annual exam. Your individual needs will be determined by your surgeon at each follow-up visit.