

Craniotomy

Thank you for choosing Pacific Brain & Spine Medical Group for your surgical care. It is our experience that patients that are well-informed as to the details of their procedure, the expected outcome from surgery and the risks, have a better neurosurgical experience.

Therefore we are committed to your education, providing you with realistic expectations for your hospital and postoperative experience. Preparation is important for the whole team, and that includes YOU! In this document we will review the basics of craniotomy, your responsibilities preparing for surgery, what you will experience in the hospital, and what to expect when you return home.

What is craniotomy surgery?

Craniotomy literally means “hole in the head.” When we perform brain surgery, part of the skull is removed and the dense covering under the skull, called the **dura mater**, is open. If your surgery is for removal of a meningioma, the dura is involved with the tumor, and it is replaced with a **dural graft**. If you are having a tumor removed from the brain itself, or you are having an operation to repair a blood vessel, the dura mater is closed with suture at the end of the surgery.

With tumors of the brain and certain types of blood vessel diseases, **stereotactic navigation** is used to allow precise localization and accurate removal of the tumor or abnormal vessels. Navigation provides the best chance to preserve normal brain while comprehensively removing the abnormal tissue. It has dramatically lessened the size of the operation and the complications from surgery. We are using the most advanced type of navigation that is currently only available at three centers in all of California. The [Synaptive BrightMatter system](#) [link to Synaptive BrightMatter subpage) assures that you will have the most technically advanced surgical procedure in the world.

After the disease has been removed, the anatomy is put back together: suture in the dura, small titanium plates with screws to hold the skull and suture in the muscles and fascia, and staples in the scalp.

The length of the procedure is dependent on the complexity of the disease and can range from 2 hours to 8 hours. Basically, the operation takes as long as is necessary to safely remove the disease.

Preparing for Surgery

Prepare your home to make life after surgery easier. Stock up on fresh fruit, vegetables, frozen meals, or other food and drink items of your choice. Move frequently used items close by and in a place that does not require excessive bending or reaching. Practice this before surgery. You

should not plan to be doing household chores for the first two weeks. Arrange for family member(s) and/or friend(s) to help you with chores, errands, and support.

If you smoke, **STOP!** Tobacco, particularly nicotine can delay or interfere with your body's ability to heal after surgery. Discuss with your primary care physician your options to assist in a cessation program that does **NOT** include a nicotine product like Nicorette gum or patches.

Stop Non-Steroidal Anti-inflammatory (NSAIDs) Medications 7days prior to surgery. Examples of NSAIDs are Motrin, Advil, Ibuprofen, Aleve, Naprosyn, Mobic, Voltaren, and Diclofenac.

You may continue taking Aspirin 81 mg daily, but stop **anti-coagulant medications** 5 days prior to surgery. Discuss this with your prescribing physician..

One week before surgery, you will register at [Eden Medical Center](#) (link to Eden Medical Center). Blood work, urinalysis and possibly an EKG (heart analysis) will be done one week before surgery. If you have significant heart or lung disease additional tests and a medical clearance will be needed to ensure that you are in good health to undergo craniotomy surgery. Inform your active health care providers (Primary Care Doctor, Cardiologist, Rheumatologist, Urologist, etc.) involved in your care that you are having surgery.

Do not drink or eat anything after midnight and before your surgery. This includes water, coffee, chewing gum, and mints. If you take daily medication and have been told to continue it take it with a small sip of water.

Day of Surgery

Remember to bring your films/discs with you to the hospital on the day of surgery.

You will arrive at Eden Medical Center 2 to 3 hours before surgery. You will change into a hospital gown and an intravenous line (IV) will be started. Additional forms might be given to you to fill out. Please have a list of your current medications and dosages with you. You will meet members of your surgical team, including nurses and an anesthesiologist, who is in charge of your anesthesia.

If navigation is performed with your craniotomy the team will place fiducials on your scalp. They look like LifeSavers! Family members will definitely take a picture with them on! You will then go to the Radiology Department before the Operating Room to have a brain CT, MRI or both. These new imaging studies create the "road map" that will be used for the navigation.

After Surgery

You will go to the Post-Anesthesia Care Unit (Recovery Room) when surgery is complete. You will stay for approximately one hour. Family members and friends are not allowed in the recovery room. When you first wake up from surgery you may feel groggy, thirsty, nauseous,

confused or cold. Everyone tries to rub their eyes, but the nurses will prevent you from doing this as you can cause an abrasion to your cornea. Your throat may be sore. Nursing will provide a soothing sucker for this. You will have a catheter in your bladder. You will be wearing special sequential compression stockings (SCDs) on your calves. These prevent blood clots in your legs. Some people find the compressing action comforting, others describe it as irritating. Either way, you need to keep them on at all times while in bed!

You'll spend the first day after surgery in the Intensive Care Unit on the third floor of Eden Medical Center. A urinary catheter is usually removed the morning after surgery. Typically, patients are transferred to the Neuroscience general care floor on their second day after surgery and therapies are initiated, including assessment of your thinking, walking and general activities of daily living. Once you are able to perform these activities independently and discomfort is being managed with oral medication you will be discharged home.

Some patients may have preoperative neurologic deficits, or you may develop deficits with the surgery. If more intensive therapies are needed to rehabilitate the neurologic deficits you may be transferred to our Rehabilitation Unit to recover your ability to perform all your activities of daily living.

Wound

Your scalp incision will be closed with staples. These will be removed at your first post-op visit, one to two weeks following surgery. Until staples are removed you will place Bacitracin ointment on the incision every morning and evening. Do not use your nice pillow cases as the ointment is oil-based and may stain them.

You will be able to shampoo your hair and shower, but be careful around the incision as scrubbing will cause discomfort

For craniotomy that involves the base of the skull the muscle for chewing is manipulated. You will have some jaw pain following surgery and you will want to avoid foods that are hard to chew.

Pain Relief

Headache is normal after craniotomy and for some people it requires opiate medication for a week or two. Many people do fine with Tylenol or Extra Strength Tylenol. The best way to prevent severe headache is to avoid straining and stress-inducing environments, like noisy places and reading screens (TVs, computers, cell phones). Coughing, sneezing and constipation will cause sharper head pain.

We will provide you with prescriptions for pain and prevention of constipation to help you with your recovery. Ideally, we will send your prescriptions to your pharmacy before your scheduled surgery.

Medications to prevent constipation

We typically recommend taking both a stool softener and laxative. The combination of these 2 medications can be bought over the counter as 1 medicine called, Senokot-S.

Ingredients: Sennosides 8.6 mg (laxative) and Docusate Sodium 50 mg (stool softener).

Directions: Take 2 tablets at bedtime with a maximum of 4 tablets twice a day. Do not take for more than 2 weeks. Ensure that you drink at least 8 ounces of water daily.

Or you can purchase a stool softener and/or laxative of your choice.

Generic Name	Brand Name
Docusate	Colace, Surfak
Sennosides	Senna-Lax, Senokot

Another option is taking Miralax (polyethylene glycol). This is an odorless powder that is an osmotic-type laxative. Directions: Mix the powder with a glass (4-8 ounces) of liquid such as water, juice, coffee, or tea. Before drinking the solution, stir the powder well until it completely dissolves

When the combination of stool softeners and laxatives do not alleviate your symptoms, you might need to take a different approach, such as a rectal DULCOLAX suppository.

Please remember that constipation is common after surgery because of the anesthesia, narcotics, changes in diet/ fluid intake, and reduced physical activity.

Other ways to prevent constipation:

- Eat a high-fiber diet
- Walk Daily
- Drink Water

Exercise/Activity

The best exercise is walking. Short distances done frequently is best. Refrain from aerobic exercise or heavy exertion. Sexual activity, like other exercise, should be gradually resumed, as you feel better, usually after a couple of weeks.

No driving until after you are cleared by our staff at your follow up visit.

There will be no restrictions on your sleeping posture when you return home.

Return to Work

We will discuss when you can return to work at your second post-op visit. We advise that you take adequate time off from work to dedicate time to heal, typically six weeks.

Please complete your portion of any paperwork such as state disability or medical leave forms. Arrange for our office to complete the required paperwork if needed.

What to Watch for

- Oral Temperature greater than 101.2F, excessive redness, swelling, or drainage at the incision site, or if the incision site opens as well as new increasing pain, numbness, weakness in your legs. Swelling of the legs especially if it is noticeable in only one leg as this could indicate a DVT (blood clot) and requires immediate medical attention.
- Call our office if you have any questions or concerns relating to your recovery from surgery.
- Call your primary care physician for general medical problems.
For medical emergencies, please call 911 or report to the nearest emergency room.

After Surgery Care

You will have follow up MRIs approximately three months after surgery. Frequency of follow up visits will depend on your specific disease and will be discussed with you at your visit. Some patients require additional treatment after surgery. This will also depend on tumor pathology.