

# Inpatient Craniotomy

## Information for patients who are preparing for surgery

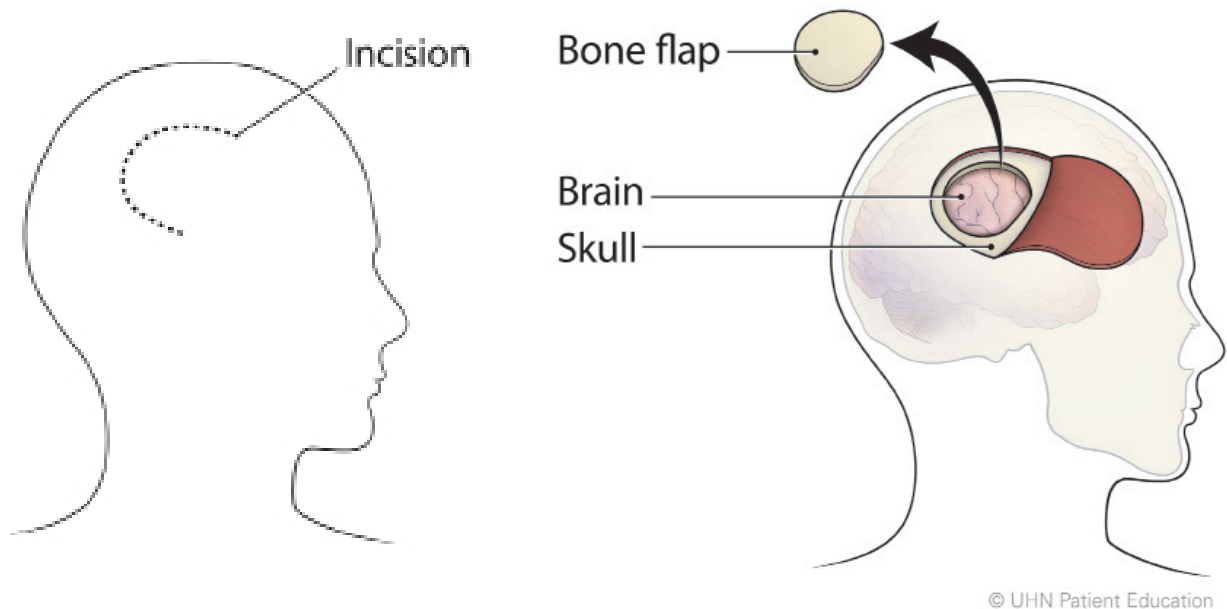
Read this brochure to learn about:

- What to expect before, during and after craniotomy surgery
- How to take care of yourself at home
- When to visit your doctor after surgery
- Warning signs to watch for



## What is a craniotomy?

A craniotomy involves making a skin incision (cut) on your scalp and removing a piece of the underlying bone of the skull. This opening is called a **bone flap** and can be different sizes depending on the reason for surgery.



The surgeon removes the bone flap as a way to access the brain. It is usually put back at the end of the surgery. The bone flap is fixed in place with titanium mini-plates and screws that are not metallic, so you don't have to worry about going through metal detectors at the airport or when having MRIs.

A **craniectomy** is a similar surgery but the bone flap is left off. This may be permanent or the bone flap will be replaced later during a second surgery called a cranioplasty.

## **Why am I having this surgery?**

There are many reasons for having a craniotomy including:

- Draining a blood clot (hematoma or hemorrhage)
- Removing a tumour
- Treating an aneurysm with surgical clipping
- Removing an arteriovenous malformation (AVM)
- Putting in a deep brain stimulator that can treat conditions such as
- Parkinson's Disease
- Treating facial pain syndromes such as trigeminal neuralgia
- Having a needle biopsy to remove a small sample of tissue needed for further testing

## **What happens before surgery?**

Before surgery you may need to do some tests such as blood work, electrocardiograms (ECG) and a chest x-ray.

You may also be seen in the Pre-Admission Clinic where a nurse and anesthesiologist will take time to go over your health history. They will review the medicines you are taking and any allergies you may have.

Some medicines may increase your risk of bleeding during or after your surgery.

Tell your doctor or health care provider if you are taking:

- Clopidogrel (Plavix)
- Prasugrel (Effient)
- Ticagrelor (Brillinta)
- Ibuprofen (Advil, Motrin, Nuprin)
- Naproxen (Naprosyn), meloxicam diclofenac (Voltaren) or Indomethacin
- Ketorolac (Toradol)
- Celecoxib (Celebrex)
- Warfarin (Coumadin)
- Dalteparin (Fragmin)
- Enoxaparin (Lovenox)
- Tinzaparin (Innohep)
- Fondaparinux (Arixtra)
- Dabigatran (Pradaxa) or Rivaroxaban (Xarelto)
- Apixaban (Eliquis) or Edoxaban (Lixiana)

Your doctor or health care provider may tell you to stop taking these medicines for a certain number of days before your surgery.

## Who is part of my surgical team?

- **A staff neurosurgeon, neurosurgical fellows and a team of residents** will do the surgery. A fellow is a fully trained neurosurgeon who is working with the staff neurosurgeon for specialized training. A resident is a medical doctor who has completed medical school and is completing their surgical training in the hospital.
- **An anesthesiologist** is a doctor who gives you anesthetics and monitors you during your surgery and after in the recovery area.

- **A team of nurses** who will be involved in your care before, during and after surgery.
- During your stay, you may also be cared for by other members of the health care team such as registered dietitians, nurse practitioners, occupational therapists, physiotherapists, speech language pathologists and social workers.

## How do I prepare for surgery?



**Do NOT eat or drink after midnight the night before surgery. You cannot have the surgery if you have food or liquids in your stomach.**

**Take your medications as instructed by the Pre-Admission Clinic or anesthesiologist with small sips of water only.**

## What happens on the day of surgery?

Before your surgery you may have an MRI or CT scan where some markers (stickers) that look like small donuts may be placed on your head. These are called **fiducials**. The MRI or CT creates a 3D map of your brain that guides the surgeons during surgery to the right location for your procedure. The markers should remain on your skin until after the surgery.

You will meet the anesthesiologist who is going to give you medicine that will help you go to sleep for the surgery and monitor you throughout.

Your health care team will:

- Review your medical history briefly
- Start an intravenous (IV)
- Review the plan for your surgery
- Answer any other questions you have

Most people forget what happens next. You will not feel any part of the surgery after you take the medicine to help you go to sleep.

Some patients have an **awake craniotomy**. This means you are aware and alert during surgery so your surgeon can ask you questions and monitor the activity in your brain as you answer. If you are having an awake craniotomy, your surgeon will talk with you about it at your clinic appointment.

## What happens after surgery?

- Right after surgery you will go to the Post Anesthesia Care Unit (PACU).
- Here the anesthesiologists and specially trained nurses will monitor you closely. They will check your blood pressure, heart rate and oxygen levels. If you have pain or nausea they will give you medicine to help with these symptoms.
- Once you recover from your anesthetic and your condition is stable, you will go to the inpatient unit or Intensive Care Unit (ICU). **Family and next of kin will be notified when the surgery is over. Friends and family can visit you in the ICU.**
- Your dressing (bandage) may feel tight. This is normal as it is holding some pressure over the surgical site. The bandage usually remains in place for 1 to 4 days after surgery.
- Swelling and bruising around the surgical site may seem to get worse in the first 2 to 3 days after surgery. Then this will improve slowly.

## When can I leave the hospital?

Usually you will be ready to go home about 2 to 4 days after your surgery. When you leave the hospital will depend on the type of surgery you are having and how you have recovered.

**The hospital discharge time is before 11:00 am.**

You need to have a family member or friend take you home. You may need help at home with chores such as shopping for groceries and light housekeeping. Make these plans well before your surgery.

Before you leave, you will get a discharge package, which includes:

- a discharge summary
- information about follow-up appointments
- a prescription for medicine, if needed
- a note about more tests you may need to do before your next appointment
- a suture or staple removal kit to bring to your family doctor or nurse practitioner



**Important!**

**It may take up to 2 weeks for your test results to be ready. If you leave the hospital without your results and you have not heard from the hospital in 2 weeks, please call your surgeon's office to follow up.**

## **How long will it take me to recover?**

It usually takes about 2 to 8 weeks to recover from the surgery. You will probably feel very tired for the first 2 weeks and then slowly have more energy.

Everyone's recovery time will be different and it can take up to 3 months to feel yourself again.

## How do I care for my incision at home?

Keep your incision (cut) clean and dry. You can remove the dressing and leave it open to air 4 days after your surgery.

If you cover your incision (such as with a hat or scarf) when you are leaving your home, be sure not to put anything tight over it. Make sure any covering you put on is clean. Avoid touching your incision as much as possible as it heals.

You may begin to wash your hair in the shower 4 to 5 days after surgery. Don't put your head underwater in a bath or while swimming until you are seen in by the surgeon during your follow-up visit.

## When you are cleaning your head:

- Use a gentle shampoo such as baby shampoo on your hair only. Don't rub the incision.
- Rinse your hair and incision with clean water.
- Pat the incision dry with a clean towel.
- Don't use conditioners and hair products while your incision is healing.
- Do not use a hair dryer.
- Pat the incision dry with a clean towel.
- Do not colour or perm your hair for 8 weeks.
- Do not put any medicated creams, antiseptics or other skin products on your incision unless your surgical team says it is safe to do so.



**Important!**

**Look at your incision, or have someone look at it for you every day. If the incision gets more red, swollen, or is leaking blood or fluid, call your surgeon's office. If you can't reach your surgeon (such as after hours or on the weekend), please go to the Emergency Department.**



## When will my staples or stitches be removed?

Your family doctor or nurse practitioner can remove your staples or stitches. Please schedule an appointment with your family doctor or nurse practitioner once you leave the hospital.

Usually staples or stitches are removed 10 to 14 days after your surgery, but it may be longer.

Your medical team will explain this before discharge.

## What about the steroid medicine?

You may have started a steroid medicine while in hospital. This medicine, called dexamethasone (Decadron), reduces brain swelling that may happen after surgery or with certain conditions such as brain tumours. Your health care team may give you a schedule to take this medicine. It is very important not to stop taking this medication suddenly.



**Important!**

**Take this medicine as directed. When you are taking steroids you will need to also take a stomach protection medicine like pantoprazole (Pantoloc). This medicine will also be prescribed for you.**

## While taking this medicine you may have these side effects:

- Feeling hungrier than usual
- Emotional changes
- Heartburn
- Insomnia (trouble sleeping)

As you take less of the steroid medicine, these side effects will get better.



**If you have a headache, nausea or vomiting that gets worse when you take less of the steroid medicine, please call your surgeon's office. If you start to feel extreme emotional imbalance, please go to emergency.**

### **What activities can I do at home?**

You should be able to slowly return to your everyday activities once you are home.

You can take short walks and do light chores around the house. It is important to get plenty of rest.

A headache or feeling very tired is usually a sign that you are doing too much, too soon.



### **Activities you should NOT do until you have your follow-up appointment with your surgeon:**

- Do not lift, push or pull anything heavier than 10 pounds (5 kilograms) such as pets, young children or groceries.
- Don't go to the gym or do your regular exercises.
- Don't play contact sports (such as soccer, football, or hockey) or do anything with a higher chance of head injury.
- Don't go swimming or take a bath where you soak your head. Talk to your doctor about when you can go swimming at your follow-up appointment.

## **What can I eat?**

Once you get home, you can eat and drink normally. You may feel nausea (upset stomach) because of the medicine you're taking. Try to take your medicines with food and eat small frequent meals during the day.

Nausea is usually better with a bland diet. Avoid eating dairy and spicy foods to help prevent nausea after surgery. Medication to help your nausea can be prescribed before you leave the hospital.

## **When can I return to work?**

When you return to work depends on your health and the type of work you do. Usually you can return to work 8 weeks after surgery. You must talk with your surgeon about this at your follow-up visit.

## **When can I drive?**

Avoid driving for 2 weeks after surgery. Please ask your surgeon if you have any driving restrictions.

Usually you may drive if:

- You have stopped taking narcotic pain medicine
- You have never had a seizure
- You have no neurological problems such as eyesight problems or weakness that may affect your ability to drive

If you have had a seizure or you are taking medicine to prevent seizures after your surgery, you cannot drive for 6 months. Please check the Ministry of Transportation of Ontario guidelines.

## When is my follow-up appointment?

My surgeon: \_\_\_\_\_

Your surgeon will schedule a follow-up appointment at the appropriate clinic about 4 to 8 weeks after you leave the hospital.

Make an appointment with your family doctor or nurse practitioner when you go home to remove your staples and/or stitches. If your health care team asked you to have blood tests, please see your family doctor or nurse practitioner to arrange them.



### **Go to the nearest emergency department if you have:**

- A fever (a temperature of 38.5 °C or higher)
- Redness, swelling, worsening pain or any leaking from your incision site
- Chills or shivering
- Neck stiffness or headaches that are getting worse
- Confusion or changes in behaviour
- New speech difficulty or weakness in a limb (leg or arm)
- Drowsiness (feel sleepy) all the time
- New or worsening seizures

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