

CRANIOTOMY



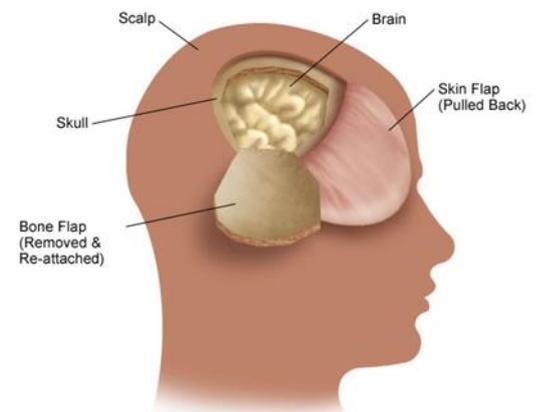
BRAIN & SPINE
CENTRE
SYDNEY

A craniotomy is the surgical removal of part of the bone from the skull to expose the brain. Specialized tools are used to remove the section of bone called the bone flap. The bone flap is temporarily removed, then replaced after the brain surgery has been done.

Some craniotomy procedures may use the guidance of computers and imaging (magnetic resonance imaging [MRI] or computerized tomography [CT] scans) to reach the precise location within the brain that is to be treated. This technique requires the use of a frame placed onto the skull or a frameless system using superficially placed markers or landmarks on the scalp. When either of these imaging procedures is used along with the craniotomy procedure, it is called stereotactic craniotomy.

REASONS FOR SURGERY

A craniotomy may be done for a variety of reasons, including removing brain tumours, clipping or repairing of an aneurysm, removing blood or blood clots from a leaking blood vessel, removing an arteriovenous malformation (AVM), draining a brain abscess (a brain abscess is a collection of pus, immune cells, and other material in the brain, usually from a bacterial or fungal infection), repairing skull fractures, repairing a tear in the membrane lining the brain (dura mater), relieving pressure within the brain (intracranial pressure) by removing damaged or swollen areas of the brain that may be caused by traumatic injury or stroke, treating epilepsy (a neurological condition involving the brain that makes people more susceptible to seizures), implanting stimulator devices to treat movement disorders such as Parkinson's disease or dystonia.



After the operation is completed the bone is usually replaced and held in place with titanium plates and screws and the skin is stitched or stapled closed. Occasionally the bone is left out to allow for brain swelling. If this is the case, the bone is then stored and replaced later.

RISKS OF SURGERY

As with any surgical procedure, complications may occur. Brain surgery risk is tied to the specific location in the brain that the operation will affect, for example, memory problems, speech difficulty, paralysis, abnormal balance or coordination and coma. Some more general complications include, but are not limited to, infection, bleeding, blood clots, pneumonia (infection of the lungs), heart attack, unstable blood pressure, seizures, muscle weakness, brain swelling, leakage of spinal fluid (the fluid that surrounds and cushions the brain), risks associated with the use of general anaesthesia, death.

PROCEDURE

You will be asked to remove any clothing, jewellery, or other objects that may interfere with the procedure, you will be given a gown to wear, an intravenous (IV) line will be inserted in your arm or hand, a urinary catheter will be inserted to drain your urine. You may be given special medications to help with the surgery e.g. medications, anti-epileptic medications.

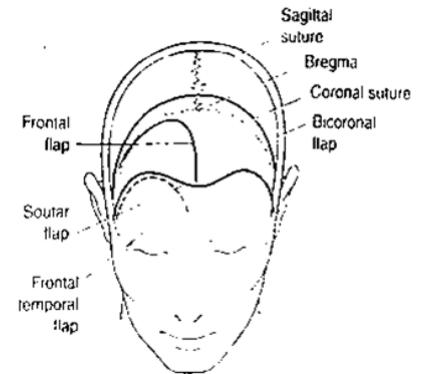
You will be positioned on the operating table in a manner that provides the best access to the side of the brain to be operated on. The anaesthetist will continuously monitor your heart rate, blood pressure, breathing, and blood oxygen level during the surgery. Your head will be held in place by a device which will be removed at the end of the surgery. Your head will be shaved and the skin over the surgical site will be cleansed with an antiseptic solution. The bone flap will be removed and saved.

The dura mater (the thick outer covering of the brain directly underneath the bone) will be separated from the bone and carefully cut open to expose the brain. Excess fluid will be allowed to flow out of the brain, if needed. Microsurgical instruments, such as a surgical microscope to magnify the area being treated, may be used. This can enable the surgeon a better view of the brain structures and distinguish between abnormal tissue and healthy tissue. Tissue samples may be sent to the lab for testing. A device, such as a drain or a special type of monitor, may be placed in the brain tissue to measure the pressure inside the skull, or intracranial pressure (ICP). ICP is pressure created by the brain tissue, cerebral spinal fluid (CSF), and blood supply inside the closed skull.

Once the surgery is completed, the surgeon will suture (sew) the layers of tissue together. The bone flap will be reattached using plates and screws. The skin incision (scalp) will be closed with sutures or surgical staples

DISCHARGE

You will usually remain in hospital for about 5-7 days following surgery. During this time, you will be monitored and assessed with regards to the timing of discharge. Medications that may have been commenced for surgery (e.g. steroids) will gradually be reduced.



Take only the pain relievers your surgeon recommends. Aspirin, ibuprofen and some other medicines you may buy at the store may cause bleeding. Eat the foods you normally do, unless your provider tells you to follow a special diet. Slowly increase your activity. It will take time to get all of your energy back. Start with walking and use hand railings when you are on stairways. DO NOT lift more than 10 kg for the first 2 months. Try not to bend over from your waist. It puts pressure on your head. Bend with your knees instead. Ask your provider when you may begin driving and return to having sex. Get enough rest. Sleep more at night, and take naps during the day. Also, take short rest periods during the day.

YOU SHOULD NOT DRIVE ANY VEHICLE UNTIL YOUR BRAIN AND SPINE CENTRE NEUROSURGEON INFORMS YOU THAT YOU MAY DRIVE AGAIN. THIS IS FOR MEDICAL AND LEGAL REASONS. GENERALLY, YOU WILL NOT BE ABLE TO DRIVE FOR A MINIMUM OF 6 WEEKS to 6 MONTHS, AND IN SOME CASES LONGER.

WOUND CARE

The wound on your head will be closed with stitches/staples which will need to be removed after one week. This may be done in hospital if you are still there or by your family doctor if you have already been discharged. Once you are home you can wash your hair using a mild shampoo and pat the area gently to dry. Swelling around the incision is normal. DO NOT put any creams or lotions on or around your incision. DO NOT use hair products with harsh chemicals (colouring, bleach, perms, or straighteners) for 3 to 4 weeks.

You should report any bloody, or clear, water-like drainage or separation of the wound edges to us as soon as you notice it.

If there is any redness, tenderness, swelling or discharge of the wounds, you should see your family doctor immediately.

FOLLOW UP

You will need to be seen again by your surgeon approximately 6 weeks after surgery for your post-operative visit. A letter advising you of your appointment date and time will be sent to you as well as a request for further imaging as recommended by you surgeon.