

## A Commentary on Craniotomy

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### Description

A craniotomy is a brain surgery, which involves the surgical removal of bone from the skull to expose the brain. The word craniotomy means making a hole (-otomy) in the skull (cranium).

A craniotomy can be performed to remove brain tumors or blood clots and to repair skull fractures which are caused during a severe head injury. This surgery is also recommended in the treatment of epilepsy and Parkinson's disease. Craniotomy is a critical operation performed by neurologists who specialize in surgical procedure of the brain and spine. General anesthesia and local anesthesia combination is often used in the procedure. If the operation is performed under general anesthesia then the patient will be asleep during the procedure and will not be aware of what is going on. If a sleep-awake-sleep craniotomy is undergoing then the patient will be given general anesthesia and will be woken up during the surgery.

The inner part of the skull is divided by tissue called tentorium cerebelli into an upper supratentorial part and a lower and posterior infratentorial part. First the neurosurgeon will detect the exact location for incision in the brain for bone removal and proper angle of approach to the corresponding areas of brain with the help of MRI scan and decides the type of the surgery to be performed. The location of the incision for the craniotomy will depend based on the type of surgery.

The incision is made through the frontal, temporal, parietal or occipital bones or through more than one bone for a surgery in supratentorial part and the incision is made through the back of the skull just above the neck for a surgery in infratentorial part.

A small horse shoe shaped region of the scalp is shaved off and incision is made within the scalp preferably along the upper

forehead. A local anesthetic with epinephrine is usually injected just before the incision is made to reduce the bleeding. Four to five small holes are drilled into the exposed skull with an instrument called a perforator. The section of the bone (bone flap) is removed by cutting one small hole to the next by using an instrument called Craniotome, to reveal the protective covering of the brain called Dura. The brain injury or disease is operated on which means the ruptured blood vessels are repaired, or the blood clot or tumor is removed. Once the surgery on the brain is done, the bone is usually replaced and kept in position using titanium plates and screws or soft wire, the muscle and skin are stitched up and a drain is placed inside the brain to remove any excess blood left from the surgery. The entire surgery process can take about two and a half hours.

After the surgery the wound is covered with a soft dressing and the patient has to stay in hospital for nearly two weeks. Stitches or staples are usually removed about one week after surgery. Depending on the type of the surgery performed, the medication has to be followed. Steroid medication to control swelling, anticonvulsant medication to prevent seizures and pain medication are commonly prescribed after the craniotomy.

Usually after surgery, the patient may experience wound ache for few days and headaches for about two weeks and have to wait for at least three months to return his gentle duties. If the patient experiences any signs of wound infection such as redness or discharge, or if he has any other unusual symptoms such as severe headache, seizures, vomiting, confusion or chest pain he has to consult the corresponding doctor immediately for further treatment.