

# TRAUMATIC BRAIN INJURY & SURGERY

## Concussions are a Form of Traumatic Brain Injury (TBI)

### Repeated TBI Can Cause Chronic Traumatic Encephalopathy, a Degenerative and Irreversible Brain Disease

Severe head injuries cause swelling of the brain. Unlike other areas of the body that can expand with swelling, the protective nature of the skull prevents the brain from expanding, cutting off blood supply and depriving the brain of oxygen. Conversely, swelling blocks other fluids from leaving the brain, which can lead to brain damage or the death of brain cells.

TBI is the result of a sudden event, such as a fall, auto accident or a blow to the head. When the injury and swelling has become life-threatening, a surgical procedure known as decompressive craniectomy may become necessary. Please review the following information to gain a better understanding of this technique.

### 01 | Understanding the Procedure

Decompressive Craniectomy (DC) involves raising a bone flap, duraplasty, draining cerebrospinal fluid and removing intracranial lesions, if necessary. After the swelling has completely resolved, either the bone flap, prosthetics or artificial bone will be used to cover the opening.

### 02 | Determining When it is Necessary

Common symptoms of brain swelling include:

- Headache, neck pain or stiffness
- Nausea and/or vomiting
- Dizziness, stupor and/or difficulty speaking
- Vision loss or changes
- Inability to walk
- Memory loss, loss of consciousness or seizures

When these symptoms are present, your medical provider will perform a thorough examination of the head and neck, along with a CT scan and MRI.

### 03 | Other Treatment Options

In less severe cases of TBI and brain swelling, treatment may include any combination of the following:

- **Oxygen Therapy:** to ensure safe levels of oxygen in the blood
- **IV Fluids:** to stabilize blood pressure
- **Medication:** to alleviate swelling and dissolve clots
- **Ventriculostomy:** a less invasive surgical procedure to drain cerebrospinal fluid from the brain, relieving intracranial pressure

### 04 | Preventive Measures

Safety is key in preventing TBI and the need for decompressive craniectomy. The following are a few ways to protect yourself:

- **Contact Sports:** Wear helmets approved by the American Society for Testing and Materials (ASTM) at all times, and safety gear designed for your specific activity.
- **Car Safety:** Always wear a safety belt and keep your children restrained properly in car seats.
- **Safety at Home:** Secure rugs, loose cords and use handrails and safety gates.

To learn more about TBI, prevention and treatment, please visit: <http://www.traumaticbraininjury.com/>

### Did You Know?

*75% of football players get a concussion during their career*

### References

<http://www.webmd.com/brain/brain-swelling-brain-edema-intracranial-pressure>  
[http://www.nursingcenter.com/CEArticle?an=01271211-201305000-00007&Journal\\_ID=682710&Issue\\_ID=1547187](http://www.nursingcenter.com/CEArticle?an=01271211-201305000-00007&Journal_ID=682710&Issue_ID=1547187)