

# Floating anchored craniotomy

**Decompressive craniectomy** is one of the available options in dealing with **traumatic brain injury** (TBI) when clinical and radiological evidence confirm that medical treatment may be insufficient. This can be achieved either by complete removal of the bone or by allowing it to float, but the indications and utility of these are yet to be resolved <sup>1)</sup>.

The “floating anchored” **craniotomy** is a **technique** utilized at the Department of Neurosurgery, Gold Coast University Hospital, Southport, Australia, in which a traditional **decompressive craniectomy** has been substituted for a floating craniotomy. The hypothesized advantages of this technique include adequate decompression, reduction in the intracranial pressure, obviating the need for a secondary cranioplasty, maintained bone protection, preventing the syndrome of the trephined, and a potential reduction in axonal stretching.

The bone plate is re-attached via multiple loosely affixed vicryl sutures, enabling decompression, but then ensuring the bone returns to its anatomical position once cerebral edema has subsided.

From the analysis of 57 consecutive patients analyzed at our institution, we have found that the floating anchored craniotomy is comparable to decompressive craniectomy for intracranial pressure reduction and has some significant theoretical advantages.

Despite the potential advantages of techniques that avoid the need for a second cranioplasty, they have not been widely adopted and have been omitted from trials examining the utility of decompressive surgery. This retrospective analysis of prospectively collected data suggests that the floating anchored craniotomy may be applicable instead of decompressive craniectomy <sup>2)</sup>.

<sup>1)</sup>

Mezue WC, Ndubuisi C, Ohaegbulam SC, Chikani M, Erechukwu U. Cranial bony decompressions in the management of head injuries: decompressive craniotomy or craniectomy? Niger J Clin Pract. 2013 Jul-Sep;16(3):343-7. doi: 10.4103/1119-3077.113459. PubMed PMID: 23771458.

<sup>2)</sup>

Gutman MJ, How E, Withers T. The floating anchored craniotomy. Surg Neurol Int. 2017 Jun 27;8:130. doi: 10.4103/sni.sni\_460\_16. eCollection 2017. PubMed PMID: 28713633; PubMed Central PMCID: PMC5502294.

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