

**Decompression Craniectomy: Does the Functional Outcome Change?**  
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**Problem:** The question of whether decompressive craniectomies are having a positive effect on functional outcome or if patients are simply surviving to require long term nursing care was raised.

**Evidence:** Increased intracranial pressure secondary to edema is a leading cause of brain stem herniation resulting in brain death in severe head injuries. Decompressive craniectomy is a procedure in which a section of skull is temporarily removed to relieve pressure on the brain, thus circumventing the Monroe-Kelly doctrine theory. Evidence of improved functional outcome for select MCA stroke patients undergoing this procedure is well documented.

**Strategy:** Chart review was performed on 20 patients consisting of 16 adults and 4 children.

**Practice Change:** Decompressive craniectomies were performed on patients with severe head injuries undergoing craniotomy for evacuation of hemorrhages with significant mass effect at time of procedure as well as post craniotomy patients with intractable ICP.

**Evaluation:** 20 charts were reviewed looking at age, gender, race, initial Glasgow Coma Scale, as well as utilization of ICP monitoring, hypothermia, Tracrium, Mannitol, and Pentobarbital coma. The functional outcomes included alertness, ability to follow commands, speech, movement and disposition.

**Results:** Of the 20 patients 8 either progressed to brain death or family decided to withdraw care. Of the remaining 12 on discharge, all were alert and following commands. 10 patients were moving all 4 extremities and 7 had normal speech.

**Recommendations:** Functional outcome of those surviving appears improved. The next step would be to follow patients for 1 year post injury to obtain final disposition of outcome.

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