

**Cranioplasty of calvarial skull defects: A comparative study
between using three dimensional custom-made
cranioprosthesis versus hand-made
bone cement in restoring skull configuration.**

A thesis submitted in partial fulfillment of the requirements for the Msc degree in Neurosurgery.

By

Amr Fathi Goma Hamad

Clinical demonstrator of neurosurgery

Fayoum University

Supervised by

Prof. Dr. Hazem Mostafa Kamal

Professor of Neurosurgery

Cairo University

Prof. Dr. Waleed Abbass Abdelaal

Assistant Professor of Neurosurgery

Cairo University

Dr. Mostafa Mohammed Ali Abdllatif

Lecturer of Neurosurgery

Fayoum University



Faculty of Medicine

Cairo University

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Abstract:

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Cranioplasty is a reconstructive procedure used to restore skull configuration. Optimal skull reconstruction is a challenge for neurosurgeons, and the strategy used to achieve the best result remains a topic of debate. The most common causes leading to calvarial skull defects include: depressed fractures of the skull, decompressive craniectomies (DC), tumor infiltration of calvarial bones, congenital deformities and inflammatory lesions. Many types of materials are allowed. The subject of this study is to compare the outcome of two different manufacturing processes in reconstruction of calvarial skull defects by using 3D custom-made cranioprotheses versus hand-made bone cement implants.