

# Custom made cranioplasty

Pre-fabricated custom [bone flaps](#): commercially manufactured using 3-D printing based on thin-cut CT scans of the defect and, if available, utilizing a “mirror image” of the intact contralateral side as a model for the desired contour

- a) polymethylmethacrylate
- b) PEEK(poly-ether-ether-ketone)
- c) titanium
- d) tantalum
- e) acrylic

To repair large, complex, skull defects one can choose either to reconstruct the vaults strictly intra-operatively or to prepare a so called “custom-made cranial implant,” prior to the operation. The disadvantages of intra-operative repair are time-consuming, increasing risk to the patient, insufficient protection from trauma and infection, often resulting in suboptimal cosmesis. However, custom made [cranioplasty implants](#) have the advantages of a reduced operative time, less invasive surgery, improved cosmetic results, faster recuperation, and reduced costs due to a short operative time

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