

Temporal hollowing deformity

Temporal hollowing deformity (THD) is a visible concavity/convexity in the temporal fossa; a complication often seen following neurosurgical/craniofacial procedures. Although numerous techniques have been described, no study to date has shown the healthcare costs associated with temporal hollowing correction surgery. Thus, the purpose here is to compare and contrast the direct costs related to temporal cranioplasty using various methods including: liquid poly-methyl-methacrylate (PMMA) implants with screw fixation, prebent, modified titanium mesh implants, and customized cranial implants (CCIs) with dual-purpose design. Understanding the financial implications related to this frequently encountered complication will help to motivate surgeons/healthcare facilities to better prevent and manage THD. **METHODS:** This is a single-surgeon, single-institution retrospective review of 23 THD patients randomly selected from between 2008 and 2015. Cost analysis variables include length of hospital stay, facility/professional fees, implant material fees, payer information, reimbursement rate, and net revenue. **RESULTS:** Of the 23 patients, ages ranged from 23 to 68 years with a mean of 48.3 years (SD 11.6). Within this cohort, 39.1% received dual-purpose PMMA CCIs (CCI PLUS), 17.4% received modified titanium mesh implants, and 43.5% received hand-molded, liquid PMMA implants with screw fixation. Total facility and/or professional charges ranged from \$1978.00 to \$126478.00. Average total facility charges per patient with dual-purpose CCIs were \$34775.89 (SD±\$22205.09) versus \$35826.00 (SD±\$23509.93) for modified titanium mesh implants and \$46547.90 (SD±81061.70) for liquid PMMA implants with screws. Mean length of inpatient stay was 5.7 days (SD=8.1), and did not differ between implant types (P=0.387). **CONCLUSION:** Temporal hollowing deformity is an expensive complication post-neurosurgery, and in the most severe form, requires a revision surgery for definitive correction. Therefore, surgeons should take further initiatives to employ reconstructive methods capable of minimizing risk for costly revision surgery, reducing morbidity related to visible deformity and accompanying social stigmata, and improving overall patient satisfaction ¹⁾.

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Asemota A, Santiago GF, Zhong S, Gordon CR. Comparative Cost Analysis of Single and Mutli-Stage Temporal Deformity Correction Following Neurosurgical Procedures. J Craniofac Surg. 2017 Nov 9. doi: 10.1097/SCS.00000000000004107. [Epub ahead of print] PubMed PMID: 29135727.

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