

3D Computed Tomography (CT) is a nondestructive scanning technology that allows you to view and inspect the external and internal structures of an object in 3D space. Computed Tomography works by taking hundreds or thousands of 2D Digital Radiography projections around a 360 degree rotation of an object. Proprietary algorithms are then used to reconstruct the 2D projections into a 3D CT volume, which will allow you to view and slice the part at any angle.

Two patients with [cranial defects](#) were presented to describe the [3D printing](#) technique for cranial [reconstruction](#). A digital prosthesis model is designed and manufactured with the aid of a [3D computed tomography](#). Both the data of large sized cranial defects and the [prosthesis](#) are transferred to a [3D printer](#) to obtain a physical model in [polylactic acid](#) which is then used in a laboratory to cast the final customised prosthesis in polymethyl methacrylate ([PMMA](#)).

A precise compliance of the prosthesis to the osseous defect was achieved. At the 6 month postoperative follow-up no complications were observed i.e. rejection, toxicity, local or systemic infection, and the aesthetic change was very significant and satisfactory. Customized 3D PMMA prosthesis offers cost advantages, a great aesthetic result, reduced operating time and good biocompatibility <sup>1)</sup>.

<sup>1)</sup>

De La Peña A, De La Peña-Brambila J, Pérez-De La Torre J, Ochoa M, Gallardo GJ. Low-cost customized cranioplasty using a 3D digital printing model: a case report. 3D Print Med. 2018;4(1):4. doi: 10.1186/s41205-018-0026-7. Epub 2018 Apr 12. PubMed PMID: 29782609; PubMed Central PMCID: PMC5954791.

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