

Regunathan, A. A virtual replication of a round bar used in implant retention of an auricular prosthesis with the aid of the CAD and rapid prototyping systems for replacement of an existing structure (Poster presentation)

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Implant retained auricular prostheses are a successful method of rehabilitation for patients who are missing an ear when surgical reconstruction is not an option. Once titanium implants are surgically installed and associated components are connected, bar and clip retention is a method utilised by clinicians around the world for attaching the silicone prosthesis.

Present day efforts to use CAD systems have been directed towards fabrication of the CT template, design of the silicone prosthesis or digital fabrication of the mold. No work has been reported regarding the use of CAD/CAM in the replication of the metal bar, designed to retain the auricular prosthesis, in the case of wear and tear or damage.

Currently, the mold used to create the silicone prosthesis can be used repeatedly to fabricate the same auricular form for years. But at any time physical damage to the implant-retained metal superstructure will render the fit and function of the auricular prosthesis ineffective. This damage will require a complete redesign of the prosthesis and rebuild of the mold, which will be time consuming and costly for both clinicians and patients. The aim of this technical report is to present a new method for replication of the damaged metal bar with the aid of different CAD software and rapid prototyping systems without the patient needing to be present.