

ABSTRACT

Statement of the problem : An accurate and passively fitting prosthesis as well as error-free surgical procedure is mandatory for long term implant success. The fabrication of superstructures with a passive fit is the major objective of making an implant-supported prosthesis . In order to obtain a passive fit prosthesis the impression procedure needs to be accurate. An accurate impression will help in the success of the implant prosthesis

Purpose : The purpose of this in-vitro study is to evaluate the effect of various splinting materials on the accuracy of open tray implant impressions.

Materials and Methods : A metal matrix (control) with four implants was used. The implants were positioned at an angulation of 0° and 45° in relation to the surface of the matrix. Squared impression copings were splinted with self cure acrylic resin, flowable composite and elastomer. Impressions were made for each group and casts were poured with type 4 dental stone. The master casts are analysed for inter implant distances using a profile projector.

Results : Splinting the impression coping with autopolymerizing resin, adequate polymerization time and compensation procedure before impression was found to be statistically the most accurate method of splinting with its inter-implant distances showing less variation from the reference model.

Conclusion : Within limitations of the study All the splinting materials yielded master casts which had their readings close to the reference model and within the clinical limits. Among the splinting methods used in the present study, splinting the impression copings with Auto-polymerising resin (pattern resin) was more reliable than splinting with bis-GMA and Polyvinyl siloxane.