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Evaluation of positional accuracy of final casts obtained from three implant impression methods: invitro study

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Abstract

Backgournd and Aim: Transferring the implant position from the mouth to the definitive cast is one of the most critical steps in implant prosthodontics. The aim of the study was to compare The accuracy of casts obtained from three implant impression techniques.

Materials and Methods: In this experimental invitro study, One acrylic resin model with five implant analogs, was fabricated and three open tray techniques were tested: 1.non splinted (NS), 2.splinted with acrylic resin GC(S)& 3. Splinted, sectioned and rejoined with acrylic resin GC(SS). For each technique, five impressions with PVS (manoprane) were made. The positional accuracy of implant analogs on reference model and 15 casts, were evaluated using coordinate measuring machine. The statistical analysis of the data was performed with ANOVA and Duncan multiple range test.

Results: there was a significant statistical difference ($p \leq 0.01$) between SS technique than NS and S techniques. And no significant differences were found between NS and S techniques.

Conclusion: Based on the results, the best accuracy of the definite casts was achieved when the impression copings were splinted with auto polymerized acrylic resin GC, sectioned and rejoined.

Key words: Dental implant, Dental impression technique, Acrylic Resin

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