Accuracy of Eight Intraoral Scanners in Determining Implant Positions for Full-arch Implant-supported Maxillary Provisional Restorations Using Analogs as Scan Bodies

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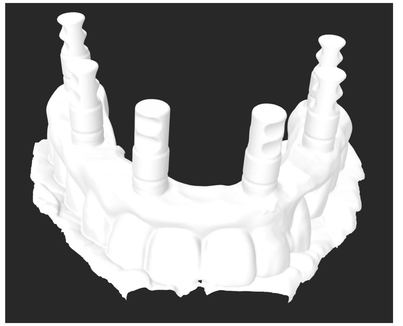
Introduction

Several factors can affect the accuracy of full-arch implant-supported restorations and their fit in the mouth. After manufacturing a provisional restoration or a verification jig, the adjusted prostheses can be used as a reference for the implant position in a new digital impression, leading to the production of a second version of this restoration that improves its fit.

Objective

This study aimed to access the influence of scanner, SB type, and implant position on the accuracy of 6 implants on a maxilla.

Methods



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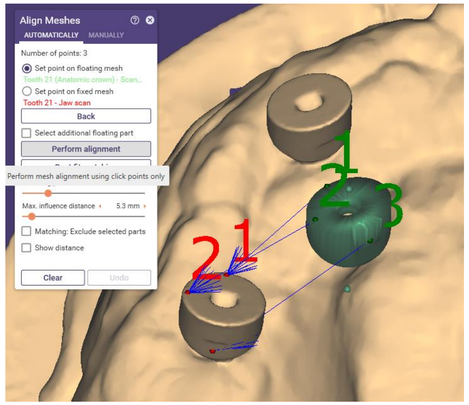

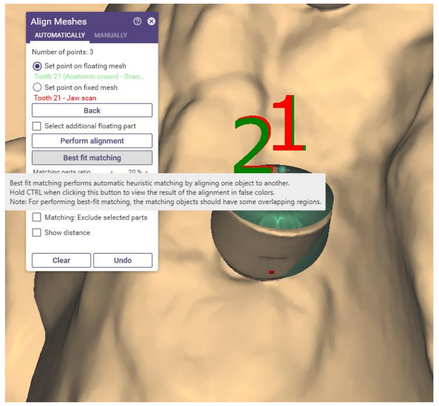

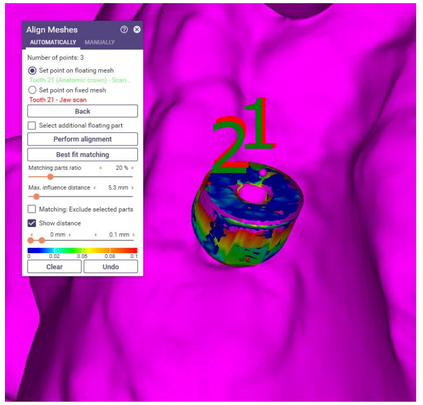

N=10

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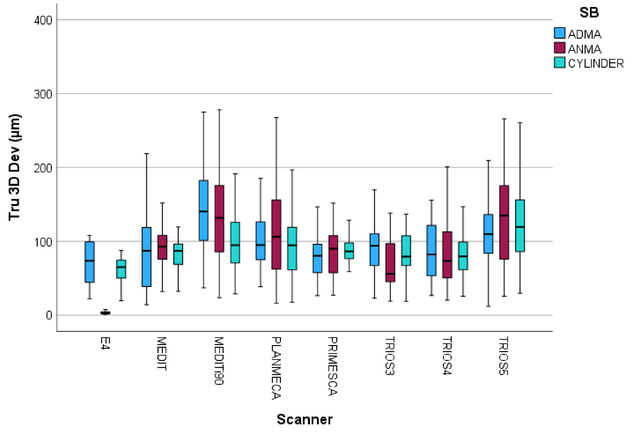
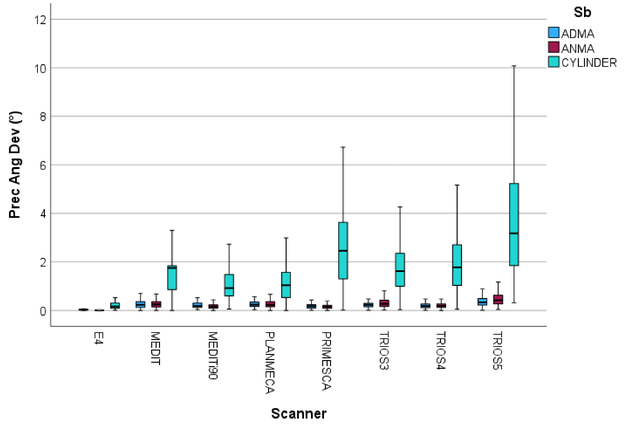
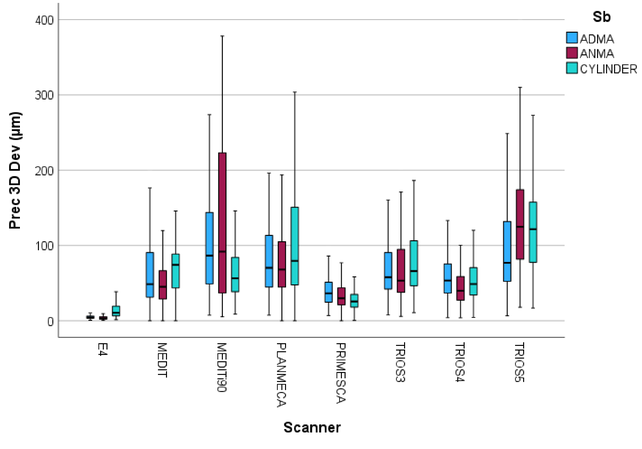
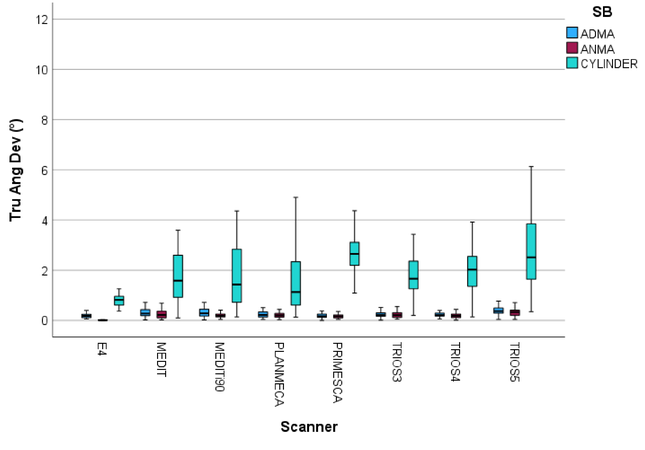
Results

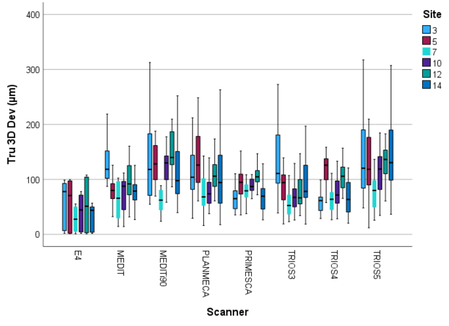
The data were subjected to Kruskal-Wallis analysis, followed by pairwise comparisons with Bonferroni correction (significance level of 0.05). The results indicated that precision and trueness were influenced by the scanner, the SB utilized, and the implant position ($p<0.001$). The bench scanner demonstrated the lowest deviation values for trueness and precision.

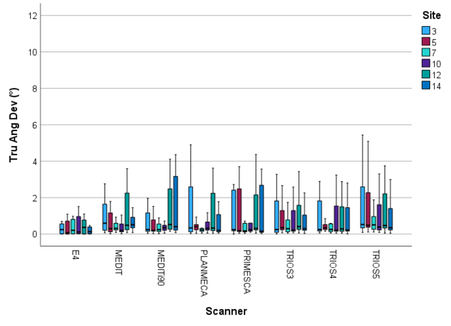


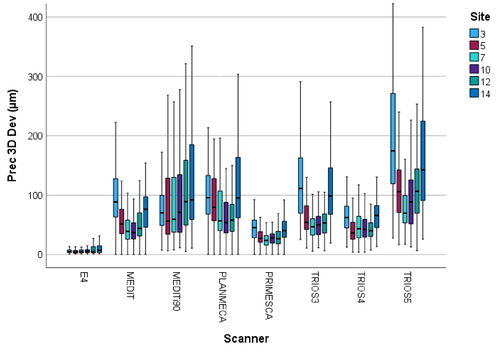


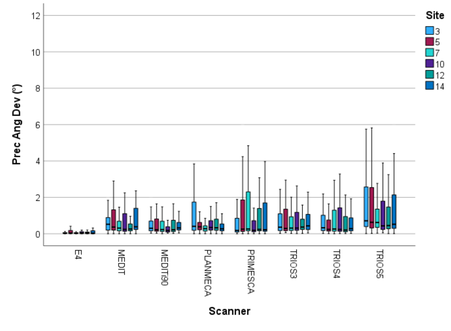












Conclusion

Regarding the limitations of this in vitro study, it can be concluded that the Scanner, SB and site of implant have influence on the accuracy of digital impressions of full-arch implant-supported restorations. The use of Analogs as SB presented to be valid for most scanners to verify or utilize the implant position from a provisional captured restoration.