
ABSTRACT

Dimensional Accuracy comparison between intraoral scanning devices

Objective: To compare the accuracy and reliability of intra- and inter-arch linear measurements obtained from 3D digital models from intraoral scanning and from scanning conventional models. **Material and Methods:** The sample consisted of 25 volunteers (11 and 14 women) with a mean age of 29.6 years, who had their dental models divided into three groups: Group T, digital models from scanning with a Trios® intraoral scanner; Group P, models from scanning with a Panda® intraoral scanner and Control group, models from scanning conventional models with an E3® desktop-scanning, previously obtained through molding with alginate Hydrogum®. Seventy five pairs of three-dimensional digital models were analyzed. Orthoanalyzer software was used for the evaluation of measurements from this study including: Mesiodistal size of the teeth, clinical height of the crown, Inter canine, interpremolar and molar distances, perimeter and arch length, overjet and overbite. The normality of the variables was tested using the Shapiro-Wilk test. Intergroup comparisons were performed using repeated measures ANOVA and Tukey's tests ($P < 0.05$). **Results:** The normality of the sample was confirmed. All variables showed good and excellent reliability with ICC ranging from 0.808 to 0.987 and 0.814 to 0.950 from the Intra- and inter-examiner reproducibility assessment, respectively. No significant differences were found between the three study groups. **Conclusion:** Both intraoral scanning devices showed similar accuracy.

Keywords: Digital Technology; Dental models; Dimensional Measurement Accuracy; Orthodontics.
