

Brazilian Oral Research

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Abstract

[ROSSETO, Maria Cristina](#) et al. Comparative study of dental arch width in plaster models, photocopies and digitized images. *Braz. oral res.* [online]. 2009, vol.23, n.2, pp. 190-195. ISSN . doi: 10.1590/S1806-83242009000200016.

The aim of this study was to comparatively assess dental arch width, in the canine and molar regions, by means of direct measurements from plaster models, photocopies and digitized images of the models. The sample consisted of 130 pairs of plaster models, photocopies and digitized images of the models of white patients (n = 65), both genders, with Class I and Class II Division 1 malocclusions, treated by standard Edgewise mechanics and extraction of the four first premolars. Maxillary and mandibular intercanine and intermolar widths were measured by a calibrated examiner, prior to and after orthodontic treatment, using the three modes of reproduction of the dental arches. Dispersion of the data relative to pre- and posttreatment intra-arch linear measurements (mm) was represented as box plots. The three measuring methods were compared by one-way ANOVA for repeated measurements ($\alpha = 0.05$). Initial / final mean values varied as follows: 33.94 to 34.29 mm / 34.49 to 34.66 mm (maxillary intercanine width); 26.23 to 26.26 mm / 26.77 to 26.84 mm (mandibular intercanine width); 49.55 to 49.66 mm / 47.28 to 47.45 mm (maxillary intermolar width) and 43.28 to 43.41 mm / 40.29 to 40.46 mm (mandibular intermolar width). There were no statistically significant differences between mean dental arch widths estimated by the three studied methods, prior to and after orthodontic treatment. It may be concluded that photocopies and digitized images of the plaster models provided reliable reproductions of the dental arches for obtaining transversal intra-arch measurements.

Keywords : Dental arch; Measures; Malocclusion; Orthodontics.

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