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Abstract

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Several impression materials are available in the Brazilian marketplace to be used in oral rehabilitation. The aim of this study was to compare the accuracy of different impression materials used for fixed partial dentures following the manufacturers' instructions. A master model representing a partially edentulous mandibular right hemi-arch segment whose teeth were prepared to receive full crowns was used. Custom trays were prepared with auto-polymerizing acrylic resin and impressions were performed with a dental surveyor, standardizing the path of insertion and removal of the tray. Alginate and elastomeric materials were used and stone casts were obtained after the impressions. For the silicones, impression techniques were also compared. To determine the impression materials' accuracy, digital photographs of the master model and of the stone casts were taken and the discrepancies between them were measured. The data were subjected to analysis of variance and Duncan's complementary test. Polyether and addition silicone following the single-phase technique were statistically different from alginate, condensation silicone and addition silicone following the double-mix technique ($p \leq .05$), presenting smaller discrepancies. However, condensation silicone was similar ($p \geq .05$) to alginate and addition silicone following the double-mix technique, but different from polysulfide. The results led to the conclusion that different impression materials and techniques influenced the stone casts' accuracy in a way that polyether, polysulfide and addition silicone following the single-phase technique were more accurate than the other materials.

Keywords : Dental impression materials; Dental impression technique; Fixed partial denture.

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