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Original Articles

Occlusal Contact Changes with Removable and Bonded Retainers in a 1-Year Retention Period

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Abstract

Objective: To test the hypothesis that there is no difference in the number of occlusal contacts in centric occlusion in patients treated with bonded and removable retention procedures and a control group during a 1-year retention period.

Materials and Methods: Twenty-five patients received a removable Hawley retainer, and 25 patients received maxillary and mandibular bonded retainers. The retainer patients were compared with 20 control subjects with normal occlusions. Silicone-based impression bites were used to record occlusal contacts. Paired-sample *t*-test, analysis of variance (ANOVA), and Tukey tests were used to evaluate intragroup and intergroup differences.

Results: An increased number of occlusal contacts were recorded in total-arch and posterior combined (actual/near) teeth during the retention period as compared with the control group. In the Hawley group, actual and total contacts on the first and second molar and actual contacts on the premolar and canine showed statistically significant increases. In the bonded retainer group, near and total contacts on the first and second molars and premolars showed statistically significant increases. Slight occlusal changes were seen in the control sample during the observation period, presumably from growth and development. ANOVA comparisons of total contacts of anterior and posterior teeth indicated statistically significant differences in the three groups on posterior segments.

Conclusions: The hypothesis is rejected. Both retention procedures allowed relative vertical movement of the posterior teeth, but the number of contacts on the posterior segment was increased more in the bonded retainer group than in the Hawley and control groups at the end of retention.

Keywords: [Occlusal contacts](#), [Retention](#), [Bonded retainers](#), [Hawley](#)

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