

## Brazilian Oral Research

Print version ISSN 1806-8324

### Abstract

[CAMPOS, Tomie Nakakuki](#) et al. Evaluation of the apical seal after intraradicular retainer removal with ultrasound or carbide bur. *Braz. oral res.* [online]. 2007, vol.21, n.3, pp. 253-258. ISSN 1806-8324. doi: 10.1590/S1806-83242007000300011.


There are situations in which intraradicular retainers have to be removed and replaced. The objective of this research was to evaluate the apical seal after the removal of a custom cast post and core with a carbide bur or with an ultrasound apparatus. Twenty five roots of extracted human incisors were used. They were endodontically treated and prepared to receive the posts. The posts and cores were cast with 2 types of dental alloys, CuAlZn and PdAg, and were cemented with zinc phosphate cement. After 24 hours, they were removed using the two above mentioned techniques. Then, the roots had their external surface made impermeable by two layers of cyanoacrylate adhesive, leaving only the cervical area for dye penetration. The teeth were immersed in rhodamine for 24 hours. They were then cut and observed under an optical microscope and analyzed with appropriate software (Imagelab).

The results were submitted to ANOVA, and they evidenced that, regarding the alloy factor, PdAg posts presented a larger mean infiltration value (2.23  $\pm$  0.48 mm) as compared to the posts made of CuAlZn (1.39  $\pm$  0.48 mm) ( $p = 0.025$ ). Regarding the technique factor, there was no significant difference ( $p = 0.9$ ) between the removal of the intraradicular retainer using ultrasound (1.99  $\pm$  0.62 mm) or using a rotating cutting instrument (1.62  $\pm$  0.62 mm). Under these experimental conditions, it was possible to conclude that the degree of apical leakage was directly related to the alloy type, and it was present in both techniques used.

Keywords : Dental leakage; Post and core technique; Dental alloys; Dental instruments; Ultrasonics.

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