

Gen Dent. 2005 Nov-Dec;53(6):439-443; quiz 444, 446.

## **Microleakage within endodontically treated teeth using a simplified root canal preparation technique: an in vitro study.**

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### **Abstract**

This study evaluated the effects of two canal preparation methods on leakage in endodontically treated teeth, comparing the relative leakage rates for conventionally prepared teeth and those instrumented and obturated with the Ultradent Endo-Eze system. Two groups (n=11) of freshly extracted human premolars (and some canines) with closed apices and single roots were used. The roots in the first group were instrumented with conventional stainless steel hand files and obturated with gutta-percha and Sealapex. The experimental group were instrumented and obturated using the Ultradent Endo-Eze system. Radiographic examination showed no difference in the level or quality of root canal fill for teeth prepared conventionally and those prepared using the Endo-Eze system. Leakage followed a linear trend for both groups of teeth but the rate of leakage increase was approximately twice as high (that is, 80% greater) for the conventional group than for the Endo-Eze teeth. This difference was not statistically significant due to the wide variability in the conventional group data. It was noted that canal preparation time for the Endo-Eze teeth was approximately 50% shorter than that required for conventional root canal therapy.