
**ABSTRACT:** To examine whether local anaesthesia is required for treating teeth with necrotic pulps (TNP) and retreatment cases (RCs) associated with periapical lesions.

**METHODS:** Root canal treatment was performed in TNP and RCs without the administration of local anaesthesia. Patients were assured that if they experienced pain, local anaesthesia would be provided. Eighty canals, 40 TNP and 40 RCs, were included in the study. Two length measurements were performed: one using an electronic apex locator (EAL), which was defined as the electronic length (EL), and the second, the length at which the patient first reported that a size 15 file was touching the periapical tissues, which is defined as the periodontal length (PL). The difference between these two measurements (Δ=PL-EL) was the parameter studied. Statistical analysis was conducted using two-way ANOVA and paired t-tests. Working length (WL) was defined in this study as being 0.5 mm short of the EL.

**RESULTS:** EL was shorter than PL in 96% of cases. The mean difference between measurements was 0.78 (±0.11) mm in the TNP group and 0.63 (±0.15) mm in the RC group; the difference was not significant. The distances between the WL and PL were thus 1.28 and 1.13 mm, respectively. In none of the 80 canals did the patient experience any pain, either during the measurements or during the instrumentation procedures.

**CONCLUSIONS:** When EALs are used, local anaesthesia may not be required for root canal treatment in teeth with necrotic pulps and retreatment cases associated with periapical lesions. This article is protected by copyright. All rights reserved.