

IN VITRO COMPARISON OF THE ACCURACY OF TWO APEX LOCATORS OF DIFFERENT GENERATIONS

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The accuracy of apex locators is very important for the correct working length determination of the root canal, and thus for successful endodontic treatment.

The aim of this study was to compare in vitro the accuracy of iPex II (the fourth generation) and Adaptive (the sixth generation) apex locators.

The material consisted of 28 root canals (16 premolars). The working length of all root canals was determined first by entering K-file #15 up to the apical foramen, what was checked by visual tracking of the top of the file. The fixed working length was then measured with a digital caliper and the obtained values were used to control measured canal lengths in two experimental groups. The teeth were immersed in the alginate before electronic measurements in order to simulate the clinical situation. In the first experimental group, the working length of the root canals was measured with iPex II, and in the second with Adaptive apex locator. All measurements were performed up to the apical foramen in the dry canal.

The results of One-way ANOVA showed that there was not statistically significant difference between examined experimental groups ($p > 0.05$). The biggest difference existed in comparison the values of Adaptive apex locator and the control group, and the lowest in comparison iPex II and Adaptive apex locators.

It can be concluded that both apex locators are accurate enough for clinical practice although they belong to different generations.

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