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Comparison of accuracy of working length measured by apex locator and periapical radiograph

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The aim of this study was to compare the accuracy of working length measured by electronic apex locator and periapical radiograph. This cross sectional analytical study was conducted at Department of Operative Dentistry, Dental section, Dow International Medical College, DUHS from November 2014 till December 2014. Thirteen (13) teeth with twenty-three (23) canals were selected in patients having age between 18 to 60 years, who were advised extraction of teeth due to any reason. Access opening was performed and working lengths of all canals were measured using K file with apex locator and periapical radiographs. Access opening was filled with restorative GIC with the files present in canals. Teeth were then subjected to extraction. All extracted teeth were evaluated by sectioning the lower half or lower one third of the apices longitudinally. The distance of the file tip from the minor constriction was measured and recorded. Data were analyzed by using SPSS version 16. Intraclass co-efficient test was applied to see the agreement between the lengths measured with radiograph and apex locator than compared to the actual lengths as noted after sectioning. P-value of <0.05 was considered as significant. The results of the study showed that accuracy of apex locator was 65% (n=15) with the file tip at minor constriction, while 22% (n=5) for periapical radiograph. Thus, it is concluded that electronic apex locator is more accurate and reliable then periapical radiograph

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