

## **Evaluation of effect of root canal preparation techniques on inducing root fractures: An in vitro study**

*Asit Vats<sup>1</sup>, Ashwitha Punja<sup>2</sup>, Priyadarshini Hegde<sup>2</sup>, Mithra N Hegde, Rhythm Bains<sup>1</sup> and Kapil Loomba<sup>1</sup>*

Department of Conservative Dentistry & Endodontics, <sup>1</sup>Saraswati Dental College & Hospital, Lucknow, <sup>2</sup>AB Shetty Memorial Institute of Dental Sciences, Manglore, India.

**Abstract:** This study was done to evaluate the effect of two different root canal preparation techniques on inducing root fractures. Twenty four freshly extracted non-carious human mandibular incisors were randomly assigned to 3 groups of 8 teeth each. In the first group no canal was prepared and served as the control group. In the second group the canals were prepared using only hand instruments while in the third group canal preparation was done using both hand and rotary instruments. The results among each group were compared and statistically analyzed. This study concludes that canal preparation techniques do play a role in the causation of vertical root fractures. However, their results were not statistically significant when compared to each other.

**Keywords:** canal preparation techniques, vertical root fractures, stress concentration

**Address for Correspondence:**

Dr Asit Vats,  
2B, 1<sup>st</sup> Floor, Prakash Apartments,  
44-A, Cantt. Road, Near Burlington Crossing,  
Lucknow-226001  
Contact: +919838601333

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