

Endodontic Obturation: A Volumetric Analysis Using 3D Imaging Technology
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Abstract:

A Root Canal (RC) obturation that fully occupies that prepared canal space contributes to treatment success. Invasive methods that involve sectioning of treated teeth have been used evaluate the quality of RC obturation. The aim of this study was to measure the amount of filling material in RC treated teeth using imaging methods: Cone Beam Computed tomography (CBCT) and 3D volumetric imaging software. These methods will be applied in an analysis of both Warm Vertical (WV) and Cold Lateral (CL) obturation methods. This non-invasive approach may be a preliminary step for future in vivo research. A noninvasive 3D imaging method was able to measure volume of RC fillings. Canals filled using WV contained a greater percentage of empty space than canals filled using the CL method in this study. This method could prove to be an efficient, cost effective tool for evaluating obturation material.