

The WaveOne System of Endodontic Treatment: Clinical Case Report of a Lower Molar

Abstract

The WaveOne® endodontic system (WaveOne) is based on files made with more flexible and resistant nickel-titanium alloy (M-Wire). The WaveOne offers three files which have different diameters and conicities: Small (0.21 mm/0.06 mm), Primary (0.25mm/0.08mm), Large (0.40mm/0.08mm). The system recommends a root canal preparation with single instrument in reciprocal and progressive movement to the apical direction. This study reports the endodontic treatment of a lower molar with WaveOne. A 30-year-old female patient attended the FACIPLAC endodontic clinic with diagnosis of irreversible pulpitis. After anesthesia, isolation and coronary access; the exploration and odontometry of the root canals were performed with NiTi files compatible with the anatomical diameters (DA). The mesiobuccal canal was prepared with the Small file (DA=15), the mesio-lingual with the Primary file (DA=20) and distal canal with the Large instrument (DA=25). The files were attached to the contra-angle handpiece at X - Smart Plus device, in reciprocal movement. The irrigation was performed with Milton's solution. All canals were filled with the endodontic sealer and single gutta-percha cones corresponding to the system files. The radiographic confirmation of the obturation was followed by the final procedures, temporary restoration with glass ionomer and the final radiography. The root canals prepared with WaveOne presented ideal conicity. The anatomical aspects of the channels and curvatures were preserved in this technique. The Wave One System led to the reduction of working time and operator fatigue. After 12 months, the clinical-radiographic success was confirmed.

Descriptors: Pulpitis. Root canal preparation. Endodontics.