



## **(Clinical approach) two cases reports of separated instrument in the second and first permanent mandibular molar respectively**

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### **Abstract**

Instrument breakage during treatment can lead to serious complications and carries the risk of treatment failure. When a file breaks in the canal, bypassing or removal can be difficult and the long-term prognosis of the tooth may be compromised. Sometimes surgery may be indicated for removal of the broken segment. Often some part of the root cannot be cleaned because of blockage by the broken file. This report presents a specific approach to non-surgical removal of a broken file from the second and first permanent mandibular molar in the apical and middle third which was partially over extended into the periapical lesion. The canal was cleaned and shaped, and then filled with mineral trioxide aggregate (MTA).

The removal of an instrument fragment located in the apical third or a middle third of the root canal is particularly complex, and attempts to do so can increase the risks of ledge formation, root perforation, and root fracture. The diameter and curvature of the canal, type of fractured instrument, and amount of potential damage to the remaining tooth structure should be considered when removing fragments from this location. Several removal techniques and devices have been described, including drills, extractors, ultrasonic tips, dental operating microscopes, and electrochemical processes, but no standardised procedure for the removal of intracanal metallic obstructions has been established. Traditional extractors, such as the Masseran kit [MicroMega, Besancon, France], and new extractor systems, such as the Endo Rescue kit [Komet/Brasseler, Savannah, GA, USA], are very useful for the removal of fractured instruments.