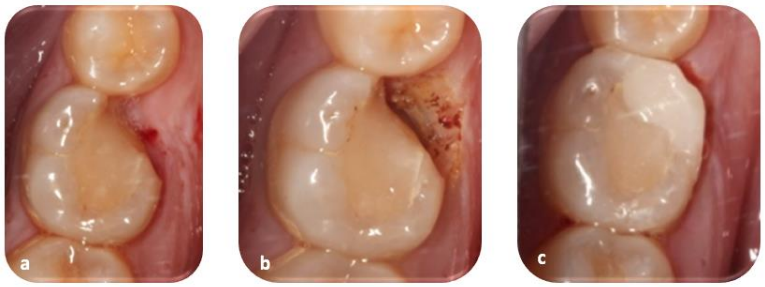
Fractured file Lower molar

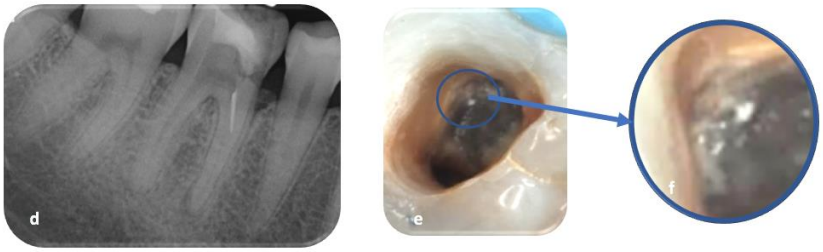
Root canal treatment of tooth 46 had been started 4 months ago by her GDP, however an instrument was fractured in the mesio buccal canal Her symptoms began six months ago after the filling initially fractured

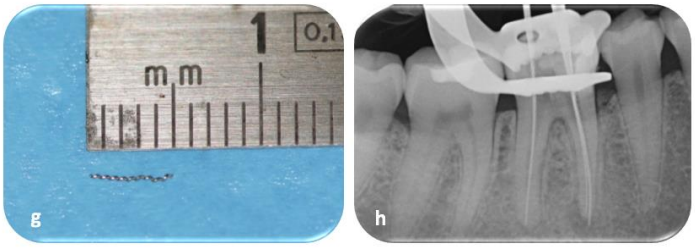
A gingivectomy of 2mm from the mesio-lingual aspect of tooth 46 was carried out to expose sufficient tooth structure to isolate tooth 46 and 2mm ferrule for the final completed restoration.

All endodontic treatment was carried out using a dental operating microscope over two visits. The coronal part of the fractured instrument could be seen in the MB canal and the access cavity was modified to create straight-line access to the fragment. A few millimeters of the coronal aspect was exposed using ultrasonic instruments. The ultrasonic tip was gently placed in contract with the fragment and rotated in a counter clockwise direction, which resulted in displacement of the fragment

The incidence of file fracture ranges between 0.4 and 5% (Pettiette et al. 2002; Al-Fourzan et al. 2003) and presents as a barrier to mechanical and chemical debridement. The endodontic prognosis after instrument fracture is affected by the stage and extent of canal preparation and disinfection at the time of separation. When attempting to treat such cases the pulp status, apical pathology, position and type of instrument need to be considered.
In this case, a stainless steel hand file had been fractured early on in the instrumentation procedure, leaving infected tissue beyond the remaining canal. This would significantly affect the prognosis of the tooth unless the instrument was removed or bypassed.
Successful removal of instruments is dependent on the position of the file within the canal, visibility, length and type of files fractured (Shen et al 2004, Parashos & Messer 2006). Studies have also shown that instrument fractured in the mesial canals of lower molars are associated with lower incidence of fractured instrument removal (Hulsmann and Schinkel 1999). In this instance, the file was accessible and visible with the use of a microscope and successfully removed with the use of ultrasonic vibration.







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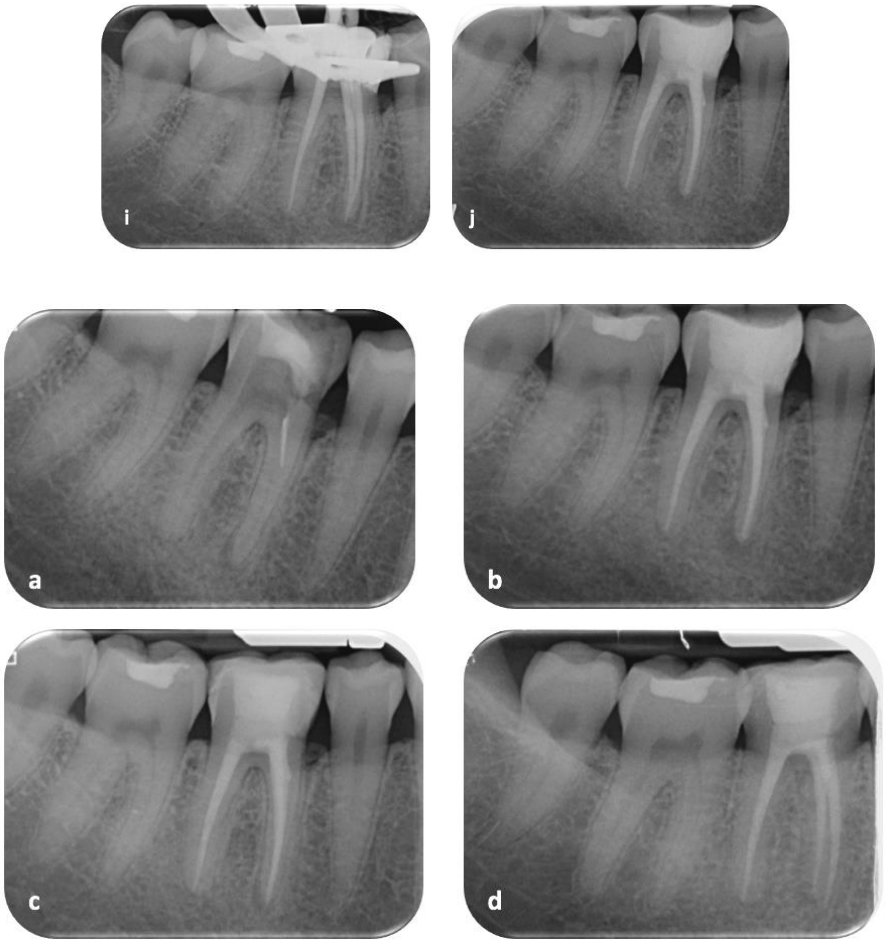
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