

The curvature of mesial root canals of mandibular first molars

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I. Objectives

The purpose this study was to determine the frequency, angle, and the radius of curvature of the mesial root canals of mandibular first molars.

II. Material and Methods

One hundred clinical radiographs of mandibular molar were digitized by scanning and analyzed by public domain software(Scion Image Beta 4.02). The angle of curvatures were determined by Snyder method and the radius of curvatures were measured by the method of Schaefer et al.

III. Results

The angle of curvatures ranged from 19°-45° and most of the canals had the angle of curvature in the range of 25°-40°. The radius of curvatures ranged from 4mm-12mm and most of the canals had the radius of curvature in the range of 6mm-9mm. The starting point of curvatures were located below the canal orifice in the range of 4mm-6mm.

IV. Conclusions

The angle and radius of curvatures were in the same range of previously published data. Because of moderate to severe curvature of the mesial root canals of mandibular first molar, special care should be exercised in engine driven instrumentation.