Cross-sectional morphology and minimum canal wall widths in C-shaped roots of mandibular molars

Type: Journal Article

Abstract:

The cross-sectional canal morphology and minimum widths of buccal and lingual canal walls were studied in 20 mandibular molars with C-shaped roots and canal orifices. The roots were mounted in clear resin blocks and sectioned transversely at 1-mm intervals. A total of 154 cross-sections were evaluated with an image analyzer. Twelve different longitudinal canal configurations were identified. The most prevalent were types 1-2 and 1-2-1 with each type occurring in four roots. Evaluation of the cross-sectional morphology showed that the configurations were complete "C" (27%), incomplete C (64%), and non-C (9%). The mean value for the minimum width of the lingual canal wall was 0.58 ± 0.21 mm and the buccal wall was 0.96 ± 0.26 mm. This suggests that there is a higher risk of root perforation at the thinner lingual walls of C-shaped canals during shaping and post canal preparation procedures. Both buccal and lingual canal walls were frequently narrower at mesial locations.

Author	Chai, W. L., Thong, Y. L.
Source	Journal of Endodontics
ISSN	0099-2399
DOI	10.1097/00004770-200407000-00012
Volume (Issue)	30(7)
Page	509-512
Year	2004

Keyword:

Adult, article, cheek mucosa, controlled study, female, frequency analysis, high risk, population, human, human tissue, image analysis, male, mandible, molar tooth, morphology, perforation, prevalence, risk assessment, tooth root, tooth root canal, Anatomy, Cross-Sectional, Dental Pulp Cavity, Humans, Image Processing, Computer, Assisted, Microscopy, Video, Middle Aged, Molar, Odontometry, Videotape Recording

Please Cite As:

CHAI, W. L. & THONG, Y. L. 2004. Cross-sectional morphology and minimum canal wall widths in C-shaped roots of mandibular molars. *Journal of Endodontics*, 30, 509-512.

URL:

- http://apps.webofknowledge.com >> Search Via Web of Science Accession No: 000222404600012
- http://www.scopus.com/inward/record.url?eid=2-s2.0-3242720487&partnerID=40&md5=afec66d980129351af92834fca54cdfa
- http://www.sciencedirect.com/science/article/pii/S0099239905602269
- http://www.jendodon.com/article/S0099-2399(05)60226-9/abstract
- http://www.ncbi.nlm.nih.gov/pubmed/15220648
- http://ukpmc.ac.uk/abstract/MED/15220648/reload=0;jsessionid=ZRPZP9UsJP7 U5ceL5Rqs.22