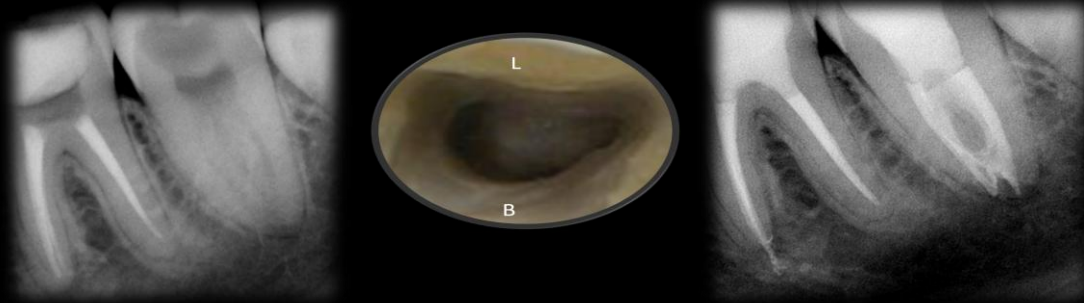


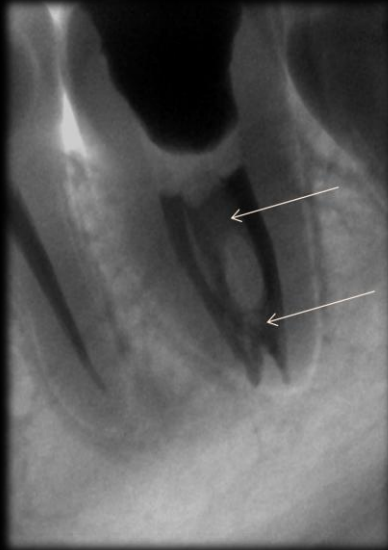
# Clinical Snapshot: C – shaped root canal systems

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- Variations in the anatomy of the root canal system can pose significant challenges in achieving the goal of successful endodontic therapy. The mandibular second molar usually has two roots and three root canals, with the possibility of variations, both with regard to the number of roots and root canals. As a result of partial or complete merging of roots a C-shaped canal may develop, which usually occurs in the area of the mandibular second molar, but can also occur in the maxilla. This anomaly can impede root canal treatment in all its phases, and can jeopardize the final outcome.
- The complexity of the C shaped root canal system requires modification of instrumentation techniques in order to respect its delicate anatomical features and ensure optimum disinfection. The “C” configuration presents a thin fin or web connecting the root canals which can risk perforation on the inner aspect of the “C”.
- The surgical operating microscope in addition to the utilization of ultrasonics allows controlled access to the root canal system.
- The above system has a high incidence of occurrence in Asian populations, but can also be found in patients of other ethnicities.



### Highlights:

- ❖ Mandibular second molars can demonstrate various configurations of C - shaped root canal systems at different levels of the root
- ❖ High risk of furcal perforation due to limited dentinal thickness requires caution during preparation of canals and restoration of tooth
- ❖ Complex intercommunication of canals requires modification of treatment protocol



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