

The Canal System of a Lower First Molar

A thirty-three year old female was referred for having pain ever since the crown was placed on #19. Diagnosis was a symptomatic irreversible pulpitis with symptomatic apical periodontitis. RCT was routine in the office and it took probably an hour to treat. I was more amazed with the anatomy of the canal system! Lower first molars generally have 2 roots with 2 canals in the mesial root and usually one large single or 2 canals in the distal root. With the microscope, I was able to detect the isthmus between the two canals in the mesial root. This space is known as the isthmus. This space may never be completely cleaned out and can lead to failure needing retreatment or surgical retreatment. Sometimes, it is a distinct canal space and noted as the middle mesial canal. Treatment of the isthmus or MB2 canal require delicate cleaning and shaping skills or too much dentin will be removed and lead to possible cracking of the roots. I tend to clean the isthmus or the MB2 canal in upper molars up to size 25 to be conservative. Even note the size of my access. It is much smaller than it used to be too! 15 years ago, I was more aggressive in locating these “extra” canals and enlarged them to what I was trained to do. I have seen these cases crack in the long term so I have become more conservative in the cleaning and shaping process.





One tooth at a time,

Dr. Phan