

# THE ENDO FILES

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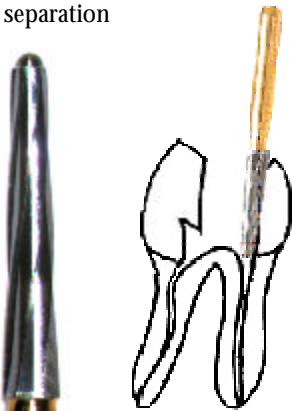
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Worry Free Straight-line  
Access

The Endo Z bur from  
Dentsply is a non-end cutting  
carbide bur for endodontic  
access that virtually elimi-  
nates perforations and allows  
for rapid achievement of  
divergent canal walls and  
straight-line access.

- Straight-line access in-  
creases the visual field
- Increases delivery of  
irrigants to the canals
- Increases the accuracy of  
electronic apex locaters
- Decreases instrument  
separation



## ACCESS FOR SUCCESS:

### PREVALENCE AND LOCATION OF THE ELUSIVE MB2

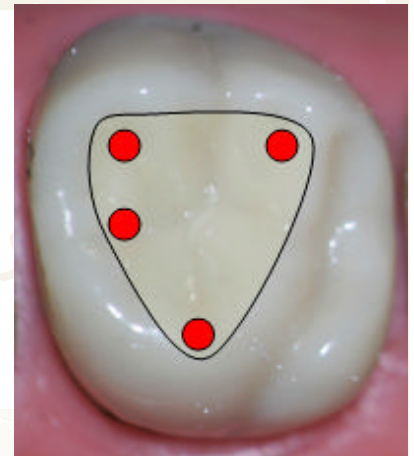
Historically the presence of MB2 has ranged between 36 and 54%<sup>(1,2)</sup>, but recent studies using enhanced magnification, illumination, and ultrasonic instruments suggest that the prevalence of MB2 in maxillary molars is as high as 95.2% with 46% of those being two separate canals from orifice to apex<sup>(3)</sup>. This canal is often the most difficult to find as it is hidden under a cornice of dentin, requiring removal of 2-3 millimeters of hard tissue to uncover the orifice.

The average location of the orifice to MB2 is located just mesial to a line drawn between the mesiobuccal and palatal canal, and is approximately 1.82 millimeters from the MB orifice<sup>(3)</sup>. It can be found directly next the MB orifice, or in some cases, located within the orifice of the palatal canal.

In attempting to locate MB2, the proper armamentarium is paramount. A minimum magnification of 4.5X loupes with attached headlamp is recommended with a microscope being ideal.

Special burs such as the LN bur from Dentsply and Mueller burs from Brasseler can be invaluable, but ultrasonic tips specifically designed for endodontic therapy bring in the big guns for locating the most difficult calcified canals.

If you are not finding MB2 in 90+% of your maxillary molars, consider implementing these tech-



niques or consulting with your local endodontist. We are more than willing to work with you to improve the predictability and success of your root canal therapy.

1. Green D. Double canals in single roots. Oral Surg Oral Med Oral Pathol 1973;35:689-96.
2. Pineda F. Roentgenographic investigation of the mesiobuccal root of the maxillary first molar. Oral Surg Oral Med Oral Pathol 1973;36:253-60.
3. Kulild JC, Peters DD. Incidence and configuration of canal systems in the mesiobuccal root of maxillary first and second molars. J Endod 1990;16: 311-17.

## SUB-PULPAL GROOVES: THE ROAD MAP OF THE PULPAL FLOOR

The sub-pulpal grooves are the darkly colored dentin that line the pulpal floor connecting the orifices of the canals. Use of a non-end cutting bur such as the Endo Z bur during access will preserve the natural state of these grooves. If you are having difficulty locating a particular canal, these grooves can serve as a road

map to their location. Additionally using small amounts of NaOCl and magnification can reveal the "champagne effect." Tiny bubbles of oxidation that reveal the location or direction of calcified canals.

Vigouroux SAA, Bosaans SAT. Anatomy of the pulp chamber floor of the permanent maxillary first molar. J Endod 1978;4:214-19.

