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VARIABILITY OF CANAL CONFIGURATION

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ACCESS DESIGN AND CREATION

PROTOCOL

1. Great White™ Ultra Bur, round, coarse grit Revelation diamond—(initial access) for penetration through PFM's

2. Tapered diamond, football diamond (access extension)

3. Pulp shaping bur/safe-ended bur (pulpal floor extension, dentin shelf removal) - by Brasseler

4. Pear composite finishing bur (orifice identification, and peripheral wall extension at the orifice level)

5. Cone composite finishing bur (initial orifice penetration)

Factor in the use of ultrasonic tips

6. Routine endo sequence follows.....

WHERE TO OBTAIN MATERIALS

Great White™Ultra Bur—www.sswhiteburs.com

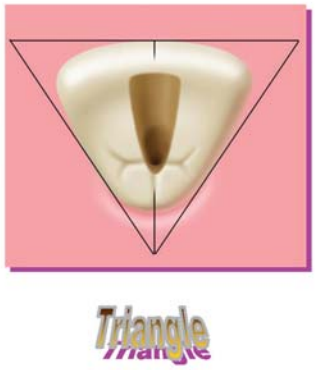
Revelation diamond—www.sswhiteburs.com

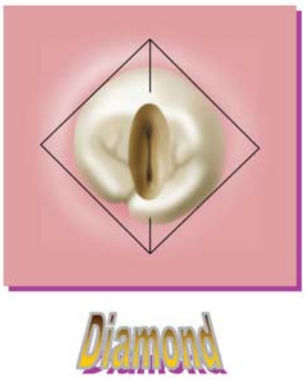
Tapered, football, safe ended diamonds

http://www.brasselerusa.com/brasseler_flash_intro_1024.html

Composite Finishing Burs

www.ultradent.com—under Finish Products icon

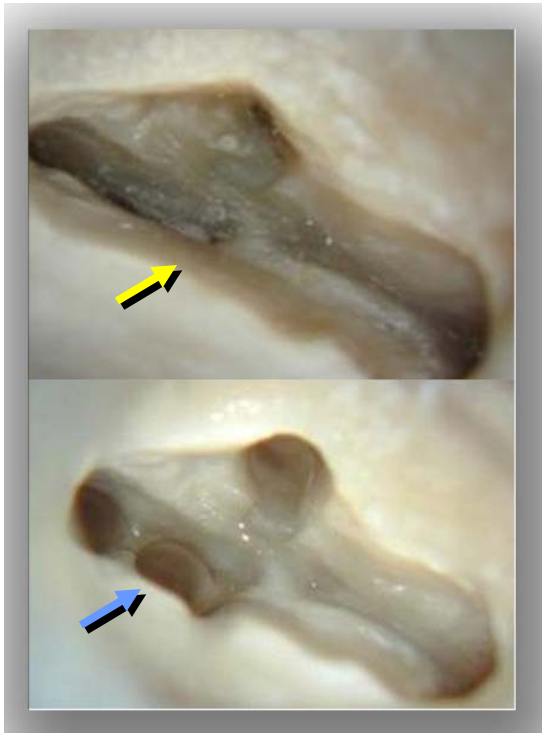


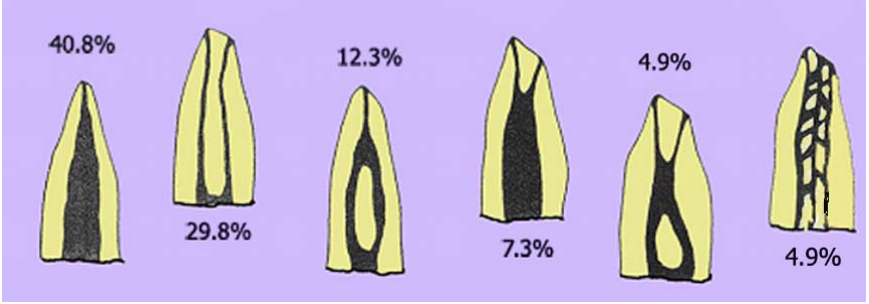


FINDING THE MB2

It is generally accepted that all maxillary first molars have a second canal in the MB root and in a small percentage of cases there may be three. In almost 15% of the mesial roots of mandibular first molars an “isthmus canal” can be detected. In neither case, can all these canals be routinely negotiated. As the maxillary molar is far more prevalent, let’s examine the means by which predictable instrumentation can be achieved.

The MB2 is very curved at the coronal limit of the canal. The shelf of dentin that grows over and obscures the minute orifice has the effect of moving the canal entrance distal to the true path (yellow arrow). When the exploratory file (.06/.08) is inserted, it immediately runs into a wall of dentin on the mesial aspect of the canal. The extremely narrow confines of these typically small canals will not allow the file to negotiate the typically abrupt curvature. Excessive vertical work merely crumples the file tip and risks ledging the orifice. In order to create access, the file tip is worked to the point where resistance is met, pulling the file to the mesial to remove the overhanging dentin. When the file first engages, only 2 or 3 flutes of the file may engage. As these few flutes are worked, movement of the MB2 orifice to the mesial becomes evident. Once the operator gains experience, this mesial shift can done with ultrasonic troughing tips to provide a more developed mesial incline into the canal . Ultrasonics can be alternated with a small round burs (eg, LN-205 burs from Caulk—these tend to provide a more burnished appearance to the dentin); This makes the orifice more visible with magnification and illumination. It should be noted that a thin film of water or alcohol enhances visibility at this point. When the initial access glide path is sufficient, the file begins to increase its penetration of the canal space. This will coincide with an increasingly vertical file orientation. A significant number of small files will be utilized for this procedure as they will tend to buckle. You want to avoid a lot of work with the file tip early on, following the safer watch winding approach to prevent ledging within the canal. Slow and incremental removal of the cervical ledge (blue arrow) obscuring the true path of the MB2 canal will enable accurate negotiation of the full canal length with time and patience.





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