



CJM Engineering, Inc.

www.cjengineering.com

3463 State Street, Suite 367
Santa Barbara, CA 93105

E-mail: customerservice@cjengineering.com

World Wide: (805) 962-5532

Toll Free: (888) 256-0999

FAX: (805) 962-0527



ENDODONTIC
ACCESS BUR

Munce Discovery Burs[®]

Advantages

- Facilitate deep troughing for locating separated instruments and hidden canals
 - MB2 canals of maxillary molars
 - 2nd D canals of mandibular molars
 - 2nd & 3rd canals of maxillary premolars
 - Calcified canals
- Compared with ultrasonic tips:
 - Inexpensive
 - Generate no heat
 - Create no inconvenient fine dust
 - Not prone to spontaneous breakage
 - Will not further fracture a separated instrument
 - Create more readable surface
- Unique design features:
 - Added length facilitates a functional view corridor beyond the handpiece head (Fig. 1a, b)
 - 0.7mm shaft dia on #¼, #½ & #1 and 1mm dia on #2, #3, #4 & #6 prevents shaft impingement on deep access cavity walls (Fig. 1a, b)
 - 7 tip sizes in both 31mm & 34mm lengths provide for targeted mid-depth bulk structure removal and delicate deep troughing
 - Carbide tips maintain cutting efficiency for maximum number of uses
 - Stiff shaft provides positive control for deep troughing procedures, in contrast with flexible shafts of Mueller burs (Fig. 2)
 - 3mm depth markings on shafts provide continuous feedback
 - Color bands on each shaft for easy bur tip size identification

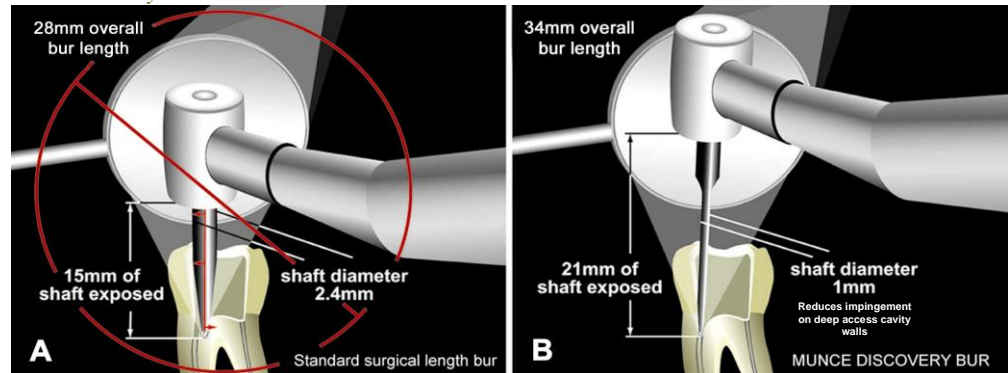


Figure 1. At only 28-30mm long, standard surgical length, slow-speed round burs provide an inadequate view corridor beyond the handpiece head. In addition, the 2.4mm shaft diameter leads to shaft impingement on deep access cavity walls, unfavorably driving the head of the bur toward ledging and perforation (1a). By contrast, the enhanced view corridor that results with the use of 34mm-long Munce Discovery Burs[™] is the result of the favorable geometry created by the increased distance between the handpiece head and coronal structure. The shaft diameter, as narrow as 0.7mm, eliminates impingement on the access cavity walls, significantly reducing ledging and perforation risk (1b) while preserving shaft stiffness for positive troughing control.

Technique

- High magnification and high-intensity illumination is absolutely essential for all deep exploratory procedures
- Create adequate coronal access (Figure 3a, b)
 - Exaggerate access beyond the convenience form generally applied to endodontic access cavities
 - Remove adequate structure to completely unencumber the view
 - Invasion of the MB cusp may be required (Figure 3b)
- Beyond the chamber floor, trough with Munce Discovery Burs[™], using decreasing bur sizes to progress apically
- Use burs generally in a sweeping motion—as opposed to plunging—while progressing apically
- Always work into the bulk of tooth structure—generally this will mean working away from the furcal aspect of canal walls
- Deep exploration must be accompanied by frequent multi-angled radiographs (Figure 4)
 - Three-dimensional structure of the root can be seen with a 3D scan, but during procedures, it is usually more practical to conceptualize the third dimension based on multi-angled radiographs
 - Paired radiographic angles—one straight-on and one sharply-angled from M or D—with a radio-opaque marker (i.e., cavit or a radio-opaque liquid deposited by micro-tip injection) at the deepest exploratory point will provide spatial information regarding deep exploration

Figure 2. Stiff shaft of Munce Discovery Bur compared to flexible shaft of the smallest Mueller bur (~ #2 round).

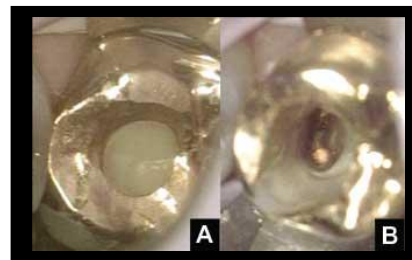


Figure 3. Inadequate extent of previous access (3a) compared to extended outline form (3b) required to visualize and gain access to the untreated MB2 canal.

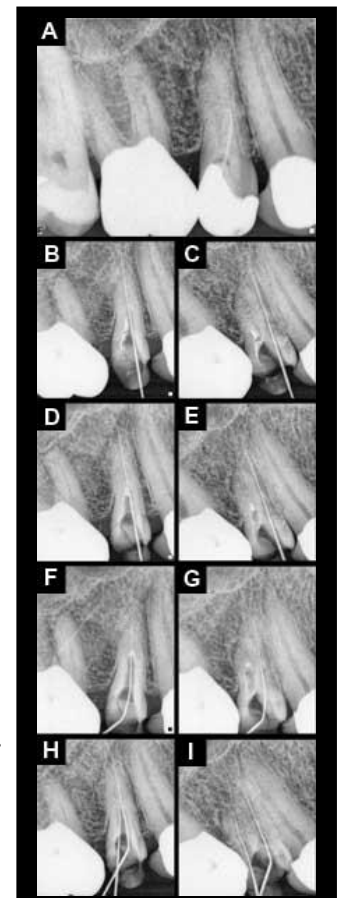


Figure 4. Apply the buccal object rule to paired, multi-angled radiographs—one straight-on and one angled sharply from M or D. Use a radio-opaque marker at incremental increases in exploratory depth (B to G). This technique provides discrete information about the spatial position of deep exploration within the root, reducing the risk of perforation while enhancing the chance of locating a hidden or calcified canal (h and i).

Over



www.cjmengineering.com

Munce Discovery Burs—Distinct Features

- Sixteen millimeters of the business end of the shafts of Munce Discovery Burs have a reduced diameter of 1mm, and now our three smallest head sizes have shaft diameters of 0.7mm, as compared to 2.35mm for standard latch-type shafts. In addition to preserving shaft stiffness for positive control during troughing, exploration and caries removal, this narrow diameter shaft reduces impingement on deep access cavity walls, preventing unfavorable “guidance” of the bur during operation.
- The overall length of Munce Discovery Bur Deep Troughers (34mm), Shallow Troughers (31mm) and Endodontic Cariesectomy Burs (31mm) is substantially longer than standard latch-type burs, and when combined with the narrow stiff shaft, provides a view corridor beyond the handpiece head and unimpeded exploration and troughing capacity for the modified round heads.
- The carbide heads are durable, maintaining cutting efficiency over many more uses than standard stainless heads.
- These burs have a number of significant advantages over ultrasonic tips and are an excellent alternative for deep troughing procedures. The advantages include: 1) No heat generation. This can be significant when working deep within a root, only a fraction of a millimeter from the heat-labile PDL. 2) They create a more granular dust which is more easily dissipated than the “magnetic” powdery dust of ultrasonics. 3) No spontaneous breakage, which is a significant distinction between Munce Discovery Burs and ultrasonic tips which can run as high as \$100+ for some tips.
- The Shallow Troughers (31mm) were specifically designed for procedures on the chamber floor such as troughing for the MB2 canal of maxillary molars, “brushing out” the isthmus between the MB & ML canals of mandibular molars or searching for the middle mesial canal of mandibular molars. They are also useful where limited inter-arch space precludes the use of the Deep Troughers.
- The Deep Troughers (34mm) were designed for deeper operations within the root such as exposure of separated instruments, removal of pulpal tissue from deep within C-shaped canals and chasing severely-calcified canals into the mid-root and beyond.
- The Endodontic Cariesectomy Bur (31mm) has a #6 round carbide head and was designed to facilitate the type of deep caries removal often required in endodontic cases, and for which there was previously no comparable instrument. Again, the extended length of the narrow stiff shaft provides visibility beyond the handpiece head while maintaining positive caries-removing control and preventing shaft impingement on deep access cavity walls. This bur—often in combination with the #4 Shallow Trougher—is ideal for caries removal from around crown margins from within the access cavity.

Of course, it goes without saying that when working with troughing burs anywhere beyond the floor, and even on the floor for that matter, high magnification and high-intensity illumination are essential requirements for safe operation—just as with any rotating instrument when operating deep within tooth structure.

Because CJM Engineering, Inc. is a small privately held company, I am always available either by email at customerservice@cjmengineering.com or by phone at (805) 962-5532 to discuss questions, suggestions or clinical applications of our unique product line with clinicians worldwide.

Sincerely,

C. John Munce, D.D.S., F.I.C.D.
CEO, CJM Engineering, Inc.