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As CEO of CJM Engineering, Inc., I appreciate your interest in Munce Discovery Burs! If you are already a user of Munce Discovery Burs, then my comments below may simply provide some context to the applications you have already developed for these burs, but if you are a new user, then I offer the following information to assist you in determining how you might wish to use these burs in your endodontic cases.

The development of these unique endo-specific burs was born of the necessity for a longer-than-surgical-length slow speed round troughing bur with a small-diameter—yet stiff—shaft. In 25 years of my own clinical experience, I found that despite the need, no such bur existed. So I first began making them *prn* at the chairside, and later at the urging of colleagues who also needed them, I undertook to develop and make them available to dentists and endodontists worldwide via my small endodontic products company. You will find that, because these are carbide burs, they are very efficient cutters and exceptionally durable.

Here are just a few comments to orient you to the significant features of these burs:

- The extra length—Shallow Troughers and Cariesectomy Burs are 31mm long; Deep Troughers are 34mm long—has several purposes:
    1. Moves the head of the handpiece away from the coronal structure to open up a functional view corridor so that the target area is visible
    2. Provides adequate reach to deliver the flutes to the target area
- The 1mm-diameter shafts have several purposes:
    1. To prevent impingement on deep access cavity walls
    2. To maintain stiffness for positive troughing control
    3. To facilitate visualization of the "business end" of the tinier burs which would be visually obliterated by the 2.4mm-diameter shafts of standard slow speed burs

Since these are round burs, their basic applications are intuitive to all dentists. However, a few suggestions might be useful:

- For complex endodontic procedures such as seeking hidden canals, debriding isthmus areas or excavating to expose separated instruments, unaided vision is often inadequate. The use of surgical telescopes of greater than 2.5X magnification (ideally 4X or greater) and accompanying coaxial high-intensity illumination—or an operating microscope—is highly recommended.
- These are primarily troughing burs, not plunging burs. As such, they are generally intended to be used in a sweeping motion while chasing isthmus regions, searching for hidden canals or excavating to expose separated instruments. Of course, plunging operations *can* be performed with these burs and may be useful to accentuate an orifice or for other purposes.
- When troughing, start with larger-diameter burs, and work toward smaller-diameter burs while progressing deeper into root structure.
- Always trough into the bulk of root structure—essentially, always trough away from the furcal aspect of the root.

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- For example: When chasing the isthmus area between the MB1 & MB2 canals of maxillary molars, the sweeping motion will be from the MB1 toward the MB2 (or vice versa), but slight mesial pressure should be kept on the head of the bur such that structure is removed more on the mesial aspect of the white line of the isthmus than on the furcal aspect—i.e., the sweeping is from the buccal toward the palatal, but with a slight pressure toward the mesial. This ensures that you are working into the bulk of root structure and away from the vulnerable furcal wall.

The 3mm difference in length between the 31mm-long Shallow Troughers & Cariesectomy Burs and the 34mm-long Deep Troughers plays a significant role in their specific applications:

- The 31mm-long Shallow Troughers & Cariesectomy Burs are designed to be used on—or just beyond—the chamber floor to brush away necrotic isthmus tissue, to locate hidden canals, to accentuate orifices, or in the case of the Cariesectomy Bur, to excavate caries from deep within the chamber and around crown margins from within the access cavity. In select cases when limited inter-arch space prevents the use of the Deep Troughers, the Shallow Troughers may also be used as deeply as into the junction of the coronal and middle thirds of the root to clarify the nature of an ambiguous system or to expose a separated instrument.
- The 34mm-long Deep Troughers are designed for deep exploratory operations extending well past the chamber floor into the mid-root and beyond to expose separated instruments, to trough for calcified canals, etc.

Because CJM Engineering, Inc. is a small privately held company, I am always available either by email (cjohn.munce@verizon.net) or phone (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.