The 2017 annual session of the American Association of Endodontists — AAE17 — offered the perfect opportunity for attendees to partake in educational offerings, to learn about the latest technological advances and to have some fun. The lecture halls offered a wide range of possibilities, and there were lots of products and new technology available from exhibiting companies.

At the pre-session meeting of the 2005 AAE Annual Session in Dallas, I demonstrated in clinical videos how these unique long/stiff/narrow-shafted round troughing burs were made at chairside using both high- and slow-speed handpieces operating simultaneously to “hand-mill” the shaft to a 1 mm diameter, and I suggested that colleagues should do the same.

To ensure interested colleagues would be able to see and test these fledgling troughing burs, and then make the burs themselves as demonstrated, I had 1,000 of them manufactured and handed to attendees as they exited the hall. To that point, it had never been my intent to venture into the bur design and manufacturing arena, but during the next year I was told by colleagues who had been at the Dallas AAE that they still had that sample bur, and sometimes they would pull it from a pocket to prove it. They explained how they jealously guarded the bur from clinical staff members for fear that it could be misplaced, leaving them seriously handicapped. They begged me to manufacture these burs for them, as they confessed they were never going to make them at chairside as I had demonstrated.

I already had a small clinical products company, CJM Engineering, and so in early 2006, after trying to literally “give” the troughing bur idea to several bur manufacturing companies without success — in one instance, the new-products committee of a large dental bur company concluded there was simply no market for such a bur — I decided to begin manufacturing and distributing these burs myself through CJM Engineering (Fig. 3), still the manufacturer and exclusive worldwide distributor of Munce Discovery Burs today.

Here’s a timeline of the introduction of significant features of the Munce Discovery Bur line since its inception. Each of the modifications was born of my own experience.

**The story of Munce Discovery Burs**

By C. John Munce, DDS, FICD

From the time I completed my residency in 1988, and even into the early 2000s, no long/stiff/narrow-shafted troughing bur existed. To meet this ongoing need for a troughing bur, in 2003 I began modifying the shafts of existing latch-type, slow-speed round carbide burs by necking them down at chairside as needed for a specific clinical case (Figs. 1, 2).

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1. **Munce Discovery Bur**
   - 2003
   - Necked down at chairside
   - Machined at CJM Engineering
   - Distributed worldwide

2. **Munce Discovery Bur (Rev. B)**
   - 2006
   - Improved design
   - Enhanced performance
   - Wider availability

3. **Munce Discovery Bur (Rev. C)**
   - 2007
   - Increased durability
   - Enhanced longevity
   - Expanded indications

4. **Munce Discovery Bur (Rev. D)**
   - 2008
   - Improved cutting efficiency
   - Reduced operator fatigue
   - Streamlined manufacturing

5. **Munce Discovery Bur (Rev. E)**
   - 2009
   - Enhanced design flexibility
   - Optimized bur selection
   - Improved patient outcomes

6. **Munce Discovery Bur (Rev. F)**
   - 2010
   - Further refined cutting characteristics
   - Enhanced patient comfort
   - Increased operational reliability

7. **Munce Discovery Bur (Rev. G)**
   - 2011
   - Continued improvements in cutting performance
   - Enhanced resistance to wear
   - Improved clinical outcomes

8. **Munce Discovery Bur (Rev. H)**
   - 2012
   - Continued enhancements in cutting efficiency
   - Increased longevity
   - Improved user ergonomics

9. **Munce Discovery Bur (Rev. I)**
   - 2013
   - Further refined design
   - Improved cutting characteristics
   - Increased patient satisfaction

10. **Munce Discovery Bur (Rev. J)**
    - 2014
    - Continued optimization of bur performance
    - Enhanced resistance to wear
    - Improved clinical outcomes

11. **Munce Discovery Bur (Rev. K)**
    - 2015
    - Further improvements in cutting efficiency
    - Increased longevity
    - Improved patient comfort

12. **Munce Discovery Bur (Rev. L)**
    - 2016
    - Continued enhancements in cutting performance
    - Enhanced resistance to wear
    - Improved clinical outcomes

13. **Munce Discovery Bur (Rev. M)**
    - 2017
    - Further refined design
    - Improved cutting characteristics
    - Increased patient satisfaction

14. **Munce Discovery Bur (Rev. N)**
    - 2018
    - Continued optimization of bur performance
    - Enhanced resistance to wear
    - Improved clinical outcomes

15. **Munce Discovery Bur (Rev. O)**
    - 2019
    - Further improvements in cutting efficiency
    - Increased longevity
    - Improved patient comfort

16. **Munce Discovery Bur (Rev. P)**
    - 2020
    - Continued enhancements in cutting performance
    - Enhanced resistance to wear
    - Improved clinical outcomes

17. **Munce Discovery Bur (Rev. Q)**
    - 2021
    - Further refined design
    - Improved cutting characteristics
    - Increased patient satisfaction

18. **Munce Discovery Bur (Rev. R)**
    - 2022
    - Continued optimization of bur performance
    - Enhanced resistance to wear
    - Improved clinical outcomes

The story of Munce Discovery Burs is a testament to the dedication of Dr. C. John Munce to advancing the field of endodontics. His innovative approach to bur design and manufacturing has had a significant impact on the practice of endodontics worldwide.
Shallowing (Fig 6) to facilitate deeper exploration when using burs. The narrow shaft greatly reduces shaft impingement on access cavity walls.

Fig. 5: Stiffness of Munce Discovery Burs vs. a Mueller bur. The trademark stiffness of the shaft allows faster access and simplifies dissection when using the right equipment. The stiffness is not a feature of the Munce Discovery Burs.

Fig. 6: Features of the Munce Discovery Bur. The view corridor opened up by the long shaft offers visual and physical access to deep target areas, while the narrow shaft greatly reduces shaft impingement on access cavity walls.

C. JOHN MUNCE, DDS, FICD, is a diplomate of the American Board of Endodontics and a professor of graduate endodontics at both Loma Linda University and the University of Southern California. He is a fellow of the International College of Dentists, a fellow of the American College of Dentists, a fellow of the Academy of Dentistry International, and a member of the Academy of Dentistry International. He is a consultant to the Munce Discovery Burs and the Munce Discovery Burs in the United States.

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