LORI TROST, DMD

Dr. Trost received her dental degree from Southern Illinois University, School of Medicine before creating a successful restorative and preventive-based practice in the greater St. Louis area. Dr. Trost is an accomplished dental educator, key opinion leader, and clinical evaluator for innovative dental products. She has authored a wide variety of professional articles focusing on contemporary techniques and materials.

MICROCOPY

Practical Bur Selection for **Successful Restorations**

More than ever, dentists are looking for predictable and efficient methods to deliver exceptional indirect restorations. A clinician's restoration checklist includes sealed margins, functional occlusion, and accurate interproximal contacts, while offering beautiful esthetics. By integrating contemporary adhesion methods, high-speed electric handpieces, specific burs, and intraoral scanning, clinical partners combine for a successful outcome. Ultimately, choosing the right materials and equipment results in a mutually beneficial workflow for the patient and clinician.

Central to every restoration is the bur that is selected to perform a specific role during the procedure. Whether removing decay, finishing a composite, establishing a margin, or adjusting a pristine ceramic surface, dental burs answer to a broad scope of restorative procedures. With judicious bur selection, dentists can benefit from their design along with cutting efficiency to promote more predictability, ergonomics, and patient safety.

This clinical case will illustrate specific bur selection and the accompanying benefits for a multifaceted comprehensive restorative case.

TRY THE **FREE SAMPLE KIT**

Bur selection plays a key role in the delivery of pristine restorations that provide sealed margins, functional occlusion, and excellent esthetics. Scan the QR code to find out about the burs Dr. Trost recommends, secure a free sample kit, and learn how high-speed handpieces, burs, and digital scanning can be a proven clinical partner for providing critical lab information.

Case in Point

Patients can often be motivated to improve their appearance in preparation for significant family events. A patient in her late 70s presented for a consultation, stating she wanted to smile with confidence at her granddaughter's upcoming wedding. Her dentition presented significant challenges due to decay, missing teeth, attrition, temporaries, and existing crowns. A comprehensive treatment plan was created to stabilize her occlusion and provide much-needed esthetics.

Treatment began on the maxillary arch by utilizing specific burs and an electric handpiece to remove existing porcelain-fused-to-metal (PFM) and zirconia crowns. Single-use burs are preferable due to cutting efficiency, control, and patient safety.

After decay removal, all preparations were idealized using current adhesion methods in combination with a flowable resin to lessen any undercuts. Appropriate ceramic margins for lithium disilicate crowns were created for the anterior teeth, and a zirconia bridge was planned for the left posteriors. To improve the digital scanning optics, crown design, and restoration longevity, all preparations were smoothed using a 12-blade carbide bur. Each prep was optically captured using an intraoral scanner. Crowns were fabricated per material selection and smile design with respect to occlusion.

Treatment Summary

All indirect restorations were tried-in, adjusted, and polished per their material. Final placement of the zirconia bridge was achieved using a self-adhesive resin cement. Anterior crowns were adhesively placed using a self-etch bonding system and resin cement. The patient was very pleased with the final result.

Figure 1—The patient presented with decay, missing teeth, attrition, temporaries, and existing crowns.

Figure 2—Porcelain-fused-to-metal (PFM) crown removal; initial slot was made through the porcelain using a NeoDiamond flame (1512.8F, Microcopy).

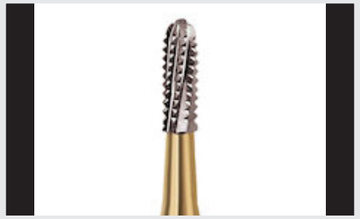

Figure 3—Controlled slot access through metal using a NeoBurr NeoMax MAX 2 Metal Cutter (Microcopy).

Figure 4—Margination using a NeoDiamond Round End Taper, coarse (1116.8 Microcopy).

Figure 5—Preparation smoothing using a NeoBurr 12-Blade Long Taper carbide (7642, Microcopy).

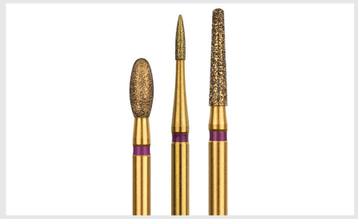

Figure 6—NeoDiamond Z-Class Adjusters for zirconia (Microcopy).

Figures 7—Occlusal adjustment utilizing a zirconia Z-Class Adjuster, Egg (1900ZA, Microcopy).

Figures 8—Final polish utilizing a ceramic polisher, NeoShine Point 2 (NS-Z High-Gloss, Microcopy).

Figure 9—Restorative treatment completed.

GO-TO PRODUCTS USED IN THIS CASE

NEODIAMOND

NeoDiamond single-patient-use diamonds provide a faster cut with less chair time. Although the burs can be sterilized and reused like expensive competitive brands, there are many advantages to disposing after one use: fresh, fast-cutting performance every time; freedom from maintenance and inefficiency of dull, used diamonds; and effective infection control.

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NEOBURR

NeoBurr carbides are engineered to cut effectively with greater blade contact on the tooth surface for a fast, smooth, vibration-free performance. Manufactured using state-of-the-art equipment, each bur is produced from quality materials of fine grain tungsten carbide and hardened stainless steel. The burs feature single-piece construction on most shapes for additional strength.

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