



# Clinical Guidelines: **FROM THE BENCH**

by Robert Marbach, BA, CDT • President, Authentic Dental Lab



## How to Prevent Problems When Cementing Zirconia Crowns and Emax Crowns *The formula for effective cementation*

### **Preparing Zirconia:**

1. Roughen Internal Walls - Use a fine diamond bur with water or sandblast with alumina oxide (Figure 1).
2. Clean - After try-in, use isopropyl alcohol or Ivoclean from Ivoclar on internal surface.
3. Primer - If using a resin cement, a primer will enhance the bond strength. i.e. Monobond Plus (Ivoclar), Z-Prime Plus (Bisco) and Scotch-bond Universal with DCA (3M) (Figure 2).

**Do not use primers if using RMGI (resin modified glass ionomer).**

### **Prepare the tooth:**

1. Clean - Use flour of pumice.
2. Desensitize and Disinfect - Use glutaraldehyde/HEMA. Two 1-minute applications. Suction off, Do Not Rinse.

### **Cementation:**

1. Most popular resin cements are Rely X Unicem (3M), MultiLink Automix (Ivoclar) and Maxcem Elite (Kerr).
2. Most popular RMGI is Rely X Luting Plus(3M) and FujiCEM(GC).
3. If using self-adhesive resin cement, place bonding agent inside crown and on tooth. Air thin. Do not light cure.

**RMGI are highly recommended.**



Figure 1

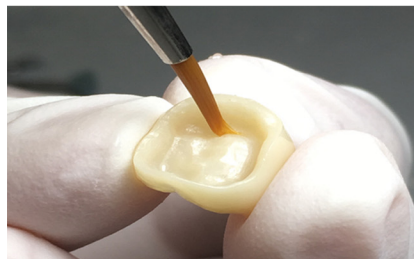


Figure 2

### **Preparing Emax:**

1. Use Hydrofluoric acid to etch inside crown.
2. Place silane inside crown and try-in.
3. After try-in clean inside crown with alcohol.
4. Re-apply silane and lightly airdry.

### **Prepare the tooth:**

1. Clean- Use flour of pumice.
  2. Desensitize and Disinfect- apply two 1-minute applications of Glutaraldehyde/HEMA. Suction off Do Not Rinse.
  3. Seat with RMGI.
- If using a self-adhesive resin cement, place bonding agent inside crown and on the tooth. Air thin. Do Not Light Cure,

### **Adjust and Polish Zirconia/Emax:**

1. Adjust - With a fine diamond bur, green stone, or a blue diamond impregnated wheel or point. If using a diamond, always use water to prevent microfractures from occurring.
2. Polish - For high polish, use a gray wheel or point or diamond paste with a felt wheel.
3. Products - You can purchase these products from Brasseler, Komet, Dental Ventures of America and VH Tehnologies.

**Important:** Laboratories should polish the occlusion and contact areas. If clinical adjustment is necessary, remember to repolish to protect the opposing dentition from abrasion. Especially with zirconia.