

EDITORS

John W. Farah, D.D.S., Ph.D.
John M. Powers, Ph.D.

EXECUTIVE TEAM

Mary E. Yakas, B.A., CMC
Annette M. Frederick
Jackie Farah, M.A.Ed.
Jennifer Kalasz
Pari Karani

Jennifer Lill, M.A.Ed.
Tony Malmsten
John A. Molinari, Ph.D.
Tricia G. Price
Nelson Williams

DIRECTOR OF RESEARCH

Ron Yapp, M.S.

THE DENTAL ADVISOR

3110 West Liberty
Ann Arbor, MI 48103
Toll free: 800.347.1330
E-mail: info@dentaladvisor.com
www.dentaladvisor.com

TRANSLATING THE SCIENCE

RESIN CEMENTS 101

William Stevenson, D.D.S., Brent Kolb, D.D.S.,
John M. Powers, Ph.D., John W. Farah, D.D.S., Ph.D.
Dental Consultants, Inc., Ann Arbor, Michigan

Q: What are the benefits of using self-adhesive resin cement instead of resin cements that require separate bonding agent and primer?

A: Self-adhesive resin cements contain an acid and adhesive in the cement. Therefore, there is no need to etch or use a separate bonding agent and primer in order to obtain a bond. The lack of a separate etching gel and bonding agent often allows for metal-based and ceramic restorations to be bonded without the use of anesthetic. Self-adhesive cements (*RelyX Unicem*, *3M ESPE*) have also been shown to have a lower incidence of sensitivity versus adhesive resin or total-etch esthetic resin cements.

Q: If self-adhesive resin cements are easier and faster to place and have less postoperative sensitivity, can I get rid of other resin cements?

A: No, there are still some circumstances when total-etch resin cements are favored over self-adhesive resin cements. In preparations where there is little retention form, a total-etch resin cement, used with a separate etch, bonding agent and primer, will result in a better bond.

Q: What cements should I use for veneers? Can I use self-adhesive cements on veneer restorations?

A: As a general rule, it is better to cement veneers with total-etch, light-cured esthetic resin cements rather than self-adhesive resin cements. Many self-adhesive resin cements can have a slight color shift over time that may affect the esthetics of a veneer. Since veneer preparations often have little retention form, the extra bond strength that total-etch resin cements provide is important for veneer longevity. In addition, working time is limited with self-adhesive resin cements.

Q: When using dual-cured resin cement, is it better to let it set by itself over time or to cure the resin cement with a curing light?

A: Use light activation whenever possible – dual-cured cements typically have increased strength properties and bond strength when light activated. Excess cement is easiest to remove after brief exposure to a curing light, but hard to clean up if you light cure too long. Cure for 2 to 4 seconds, clean up the gross excess and the contacts, and then post cure the restoration some more.

TRANSLATING THE SCIENCE

Q: I have been doing a lot of zirconia copings (*Lava Crowns and Bridges*, 3M ESPE; *Crystal*, Dental Laboratory Milling Supplies). Which type of cement should I use?

A: For a zirconia coping with good retention, the simplicity of self-adhesive resin cement (*CLEARFIL SA CEMENT*, Kuraray America) makes it the cement of choice because of the convenience and time savings.

Q: When using resin cements, do you need to etch the ceramic restoration or use silane primer?

A: Most laboratories will etch the intaglio surface of porcelain crowns and therefore it is unnecessary to etch a second time unless the crown is exposed to saliva during try-in. A silane primer is not necessary for crowns with zirconia cores (*Lava Crowns and Bridges*, 3M ESPE; *Crystal*, Dental Laboratory Milling Supplies) but is necessary with silica-based ceramic restorations (*3G All Ceramic System*, Pentron Ceramics; *IPS Empress CAD*, Ivoclar Vivadent; *IPS e.max CAD*, Ivoclar Vivadent).

Q: If I do not clean up resin cement before it sets, it can be very difficult to remove from the interproximal areas. Do you have any advice for dealing with this problem?

A: Diamond finishing strips (*NTI Serrated Diamond Finishing Strips*, AXIS Dental) and *CeriSaw* (Den-Mat Holdings) can be used to remove set excess cement from interproximal contacts. Use a dead soft *Tofflemire* to wrap around certain crown, inlay, and onlay preparations while cementing a restoration to keep the cement from getting into the interproximal areas. In addition, a firm pointed rubber tip stimulator works well for cleaning unset resin cement from interproximal areas prior to curing.

Q: Does a zirconia primer help in improving the bond of resin cement to the zirconia-based restoration?

A: Yes, zirconia primer (*Clearfil Ceramic Primer*, Kuraray America; *Monobond Plus*, Ivoclar Vivadent; *Z-Prime Plus*, Bisco Dental Products) applied to the sandblasted intaglio surface of a zirconia-based restoration provides better bond strength. Use a zirconia primer in cases with short crown preparations.