Choosing the Right Cement

Choosing which cement to use when seating crowns depends on the type of preparation, the substrates and materials being bonded, the location in the mouth, the patient’s level of hypersensitivity and parafunctional habits, and the clinician’s preferences for technique and delivery. Dental cements fall into three categories: conventional (zinc phosphate, polycarboxylate, glass ionomer); hybrid (resin-modified glass ionomer and compomers); and composite resin (adhesive resin and self-adhesive resin). Some considerations when identifying which cements to use include whether the cement is light-, dual-, or self-cured, which is also determined by location in the mouth; whether it will be used with a self-, total-, or selective-etch technique; and if it releases fluoride. Most dentists have a favorite cement, but keep several in stock for their varying needs.

Polycarboxylates have been around since the 1960s, adhere well to tooth structure, and have been used for cementing long-term temporaries. Glass ionomers have low solubility, thermal expansion similar to natural teeth, and offer fluoride release. Resin cements have high compressive strength, low solubility, good color stability, and can be light-, chemical-, or dual-cured. Resin-modified glass ionomers, which contain resin filler particles and also release fluoride, are less soluble than glass...
ionomers. Generally speaking, water sorption, hydrophilic expansion, and film thickness should be as low as possible for the best long-term results. Handling characteristics, working/setting time, and radiopacity are also important considerations. Metal-based restorations should be bonded with cement that does not require light-curing, and all-ceramic restorations are often cemented with glass ionomer or composite resin cements.

Bonding procedures can be very technique sensitive. It is necessary to understand how to prepare the tooth and the inside of the final restoration, what etching protocol to use with a given product, and how moist or dry the preparation should be. These steps, in combination with appropriate curing, are important to ensure against failure and postoperative sensitivity for the patient. Clinicians should be familiar with manufacturer instructions so they can identify which cements are best for any given situation and to ensure appropriate technique steps are being followed.