Composite has worked well in my hands allowing me to deliver invisible restorations to my patients that cause no post-operative sensitivity. The following images are of two different cases that will hopefully show doctors that posterior composites are not only predictable but can be done with ease as long as certain criteria are followed. These photographs are typical examples of the way I place posterior composites in my practice. It is also the reason I need photographs from two separate cases to show the technique. The daily rigors of practice make documenting a complete case from start to finish difficult unless you plan well in advance.

Two of the biggest problems dentists have with posterior composites are post-operative sensitivity and predictable proximal contacts. The major cause of posterior composite sensitivity is a failure by doctors to keep the dentin moist. If you excessively dry the dentin when you are rinsing the etch or other debris from the tooth and then are overly aggressive in drying out the tooth with either a high speed suction or your three-way syringe, you can be virtually guaranteed a sensitive patient.

For proximal contacts, different techniques need to be used depending on the size of your preparation. For minimal preps, a sectional matrix gives excellent contour and contacts. For preps that are larger, a traditional type matrix will also give you a nice tight contact as the tines from a sectional matrix will collapse into the box form.

Following, you will see examples of how to predictably restore posterior teeth using direct composite as the restorative material. Posterior composites are no problem and a great practice builder. Not a day goes by when a patient doesn’t look at their new “white” filling and says “Wow!” How many patients have commented on the last silver amalgam with such enthusiasm?

Although there is a slight amount of gingival tissue visible, this does not affect the restoration. Not only does the dam eliminate the moisture in the operative field, but it also removes obstacles such as the tongue and cheeks and allows for a more stress free preparation and placement of the restoration. You can see we have only isolated the intended and adjacent tooth. Remember, this is not dental school and there is no need to go to the contra lateral canine with your isolation! Believe me when I say that any time you spend placing the rubber dam will be more than saved during the course of the procedure as well as delivering a superior restoration.

The decay was removed using a high-speed hand piece under water irrigation. We recently started using the NSK in our office and found it to be a spectacular handpiece. It is relatively quiet, has plenty of torque and has performed flawlessly during its time in the office.

Caries detecting solution (Sable Seek from Ultradent) was used to clean out the remainder of the decay. I routinely use caries detecting solution during the preparation phase. It prevents me from leaving decay where I don’t want to and from removing unnecessary tooth structure. You can also see the clean enamel on the gingival box form that is supragingival. If the margin goes subgingival and you cannot isolate it, i.e. no bleeding, clean dry field, a bonded
restoration is contraindicated. Moisture control is key in not only getting a good bond but also preventing microleakage, recurrent decay and post operative sensitivity. If you cannot isolate, consider an indirect cast restoration.

The decay is cleaned out and because of the minimal extension of the prep; a sectional matrix has been placed (Fig. 3). There are several manufacturers that make these systems which all work similarly—Danville Contact Matrix, Garrison (GDS) Compositite and Palodent. I prefer Palodent.

The Technique
Place the matrix in the box form. Be sure that you are able to see all of your margins and that there is no fluid leaking from the gingival margin.

Place a wedge. This is not so much for the separation but to create a seal in your box form at the gingival margin. This will prevent over etching beyond your box form and help to reduce sensitivity. If etch leaks out on the unprepared root, this may be a cause for postoperative discomfort.

Place the tines of the ring between the teeth. You can place the tines behind the wedge if it is a bigger box. If it is a smaller box, the tines can go in front of the wedge. If the box form is too large and causes the tines to collapse into the box, then consider a traditional matrix band. Preloaded matrix bands also available from Ultradent (Fig. 4). They are available with either the metal matrix or a clear matrix. I prefer metal as my matrix material as it is easier to adapt around the prepared tooth.

Ultracid from Ultradent is another great product (Fig. 7). This step will help reduce sensitivity by rehydrating the dentinal tubules.

Place your bonding agent in the prep. I currently use Optibond Solo Plus. I usually take a Microbrush tip and scrub the dentin a few times and let the bonding agent sit for about 10 seconds. Then lightly air dry. Do not force air directly on the tooth, as you will remove all of your bonding agent. Hold the tip a few inches away and use an indirect stream of moisture free air. Clearfil SE Bond (a self etching bonding agent) from Kuraray America has also worked very well in our office. The advantages of self-etching bonding agents is that the etch step is completely eliminated from the sequence of events thereby eliminating the possibility of drying out the dentin because rinsing the bonding agent is not necessary. Light cure with light of choice. Make sure your bulb is not weak from over use. Get a light meter if you are unsure.

I now take flowable composite (Tetric Flow, Fig. 8) and line the box form and floor of the prep. Once I get good coverage, I light cure. I like Tetric Flow because it is radiopaque. If you use a radiolucent flowable, on your recall x-rays, it will appear as though you have recurrent decay in your restoration.
Use a dark shade (A-3.5 or A-4) hybrid composite (Tetric Ceram, Fig. 9) and build up individual cusps one at a time about .5 to .75 mm short of the margin, light curing each as you go. Most of your anatomy should be finished by now.

For the final increment, use a translucent shade of composite. (Tetric Ceram, Fig. 10). Again, building each cusp close as possible to the final anatomy and height. No matter what the shade of the teeth are, you can make a virtually invisible restoration by using a dark hybrid composite as your first layer and layering it with a translucent shade of composite. Not only does this reduce the inventory you need for the posterior composites, it also gives you a virtually undetectable restoration each and every time.

We finish placing the composite and most of the anatomy is done (Fig 11). Polishing and placing anatomy is done using a Brassler bur and Shofu polishing points.

The rubber dam is removed and occlusion is checked and adjusted (Fig. 12). The final result is a durable, esthetic restoration that will please you and your patients.

Dr. Sameer Puri, graduated from the University of Southern California School of Dentistry, and completed advanced graduate training at the University of Tennessee as well as several cosmetic dentistry residencies in esthetic dentistry from the leading cosmetic dentistry education centers. In addition to his formal training, he has completed over 300 hours of continuing education within the past three years. He is a member of the American Academy of Cosmetic Dentistry, the American Dental Association and the Academy of General Dentistry.

Dr. Puri can be reached at 18399 Ventura Blvd. #251, Tarzana, CA 91356. You can phone his office at 818-345-5286 or reach him via email at: spuri@socal.rr.com. He is a daily visitor to the DentalTown message boards at dentaltown.com. Visit his website at: www.socialsmiles.com.

For all the adhesive dentists out there—my question is this: What products are you using for your posterior composite resins? I'm not talking about adhesives, I am talking about the flowable and the condensable composite brands you are using (like Heliomolar or Prodigy) I am evaluating my previous composite restorations from about 3 years ago and I need a product with greater wear resistance. Also, are any of you seeing much recurrent decay? What about those fillings that are larger than Class IIs, like MODs are you using amalgam or composite or crowning or placing inlays?

Jabber, Official Townie

I currently switched to Dyract Flow as per Reality's recommendation for flowable and Esthet-X dentin then translucent enamel. Unfortunately have not been able to evaluate much on recalls. I have been using Flow-It and Z-100 in the past and recalls look great.

Augustdds, Official Townie

I use Tetric Flow, TPH, LuxaCore

JASONI, Official Townie

Tetric Flow, Esthet-X

Mike Barr, Official Townie

Flow-It (Jeneric/Pentron), Amelogen or Charisma micro-hybrid, Durafill VS Microfil.

Smile4u, Official Townie

All bond one-step, Revolution 2 flowable, Kerr's Prodigy, Heliomolar at the occlusal for durability

Spleen, Official Townie

The key to successful posterior composites is the rubber dam. I also use Palodent matrices, a selection of bitine style rings and selection of wedges.

Stas, Official Townie