Making a single veneer blend so naturally that it's undetectable

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Fig. 1a

Fig. 1b

_As patients get older, anterior teeth commonly show wear, chipping and discolouration. These changes are the result of a number of factors associated with ageing. There is increased awareness of these unattractive teeth and the desire to have a more youthful appearance. Because of the recent media attention on changing one's appearance with veneers, there is a much greater demand for cosmetic dentistry procedures.

Over the years in the practice of dentistry, I have developed products and techniques that have improved my practice significantly. However, it was not until I took on an associate, who had been in practice for 18 years that I became aware that these were new and innovative ideas to him, as well as to other dentists he knew.

I have been placing veneers for more than 25 years and developed a technique that can make a single veneer blend so naturally with the other teeth that it is undetectable. Various nuances in technique make preparing and bonding veneers quick and easy.

Fig. 2a

Fig. 2b

Fig. 3a

Fig. 3b

I have a CEREC machine that works especially well for a single veneer. Six or eight veneers can be done on the CEREC, but this is then rather time consuming. Two or three cases of the same number of teeth could have been prepared, impressions taken and sent to a laboratory in the same period. It is more cost effective to use a laboratory but you have to have the best laboratory available to you if you expect perfect results.

Feldspathic porcelain is the only material that will look natural. Pressed ceramics will look more opaque, somewhere between a porcelain-fused-to-metal restoration and a natural tooth. For patients requesting brilliant white, feldspathic porcelain can work well too and one can adjust the colour by the bonding composite used under the veneer.

Very little shade adjustment can be done under pressed ceramic porcelain. Flowable composites work the best and come in many shades, which makes shade adjustments easy. The flowable composite by Kerr has the right consistency for veneers and with OptiBond Solo the company offers the strongest bonding agent.

The preparation requires only a little more than 0.5 mm of reduction so that it does not go through the enamel, if possible. The bond is the best on enamel. There should be the same reduction over the total facial surface for the laboratory to make a perfect veneer. Cut three or four depth grooves of 0.5 mm then remove the enamel to the grooves.

If instant orthodontics is the treatment plan, some teeth may need to be reduced more and others less. Run the preparation interproximally from gingival to incisal to hide the margin visually, but do not break the contact point.

The gingival margin should be at the gingival crest or a little below. It should have a chamfer for ease of finishing, precluding any chipping at the margin. Some dentine will show through at the gingival margin because the enamel is less thick there. If there is room, insert a thin piece of gingival braid, which can be left there during the impression. Reduce the incisal by approximately 1 mm so the finish line is on the lingual, and round the incisal-facial junction so that there are no potential fracture lines in the veneer.

When the veneers come back from an excellent laboratory there should be little or no adjustments necessary before bonding them to the teeth. Etch them with hydrofluoric acid gel for at least three minutes. Rinse them thoroughly, neutralise them with a baking-soda slurry and

Fig. 4a

Fig. 4b

Fig. 5a

Fig. 5b

then rinse them thoroughly again. Dry them with a dry air source until a chalky appearance is visible on the interior of the veneer.

Ceramic primer is then applied for one minute. Dry until it is chalky again and apply another coat of ceramic primer. Leave the primer on while the teeth are etched with phosphoric acid gel for 30 seconds. Rinse thoroughly and dry the teeth and veneers until a chalky appearance shows on both.

Turn the operatory light off and then apply bonding to the teeth and the veneers. Place the flowable composite onto the veneers one at a time for placement. Place all of the veneers and ensure they are correctly situated.

With two hands, hold the distal two veneers (teeth #5 and 6) in place leaving a space only large enough for a curing light to shine in between. Shield the rest of the veneers with your hand so that the light will not set any of the other composite except the interproximal space between veneers #5 and 6. Cure for only two seconds. Now cure the distal of veneer #5 for two seconds.

Move your hands to veneers #6 and 7, shielding the rest of the veneers and holding veneer #5 and 6 in place, leave just enough room to cure the space between #5 and 6 for two seconds. Repeat the same process for the rest of the veneers, moving from #7 to 8 and so on, until all of the interproximal spaces have been cured for two seconds each, including the distal of the last veneer on the other side.

Now cure the centre of each veneer for two seconds and then the lingual incisal of each for two seconds too. If cured for longer than this, it is very difficult to remove the excess composite and much time is consumed in the process.

The first step in removing the excess composite is the use of a Bard-Parker #12 scalpel. With a palm grasp and your thumb resting on the incisal edge of a tooth, engage the flat side of the blade close to the incisal edge and push gingivally to loosen the interproximal composite.

Continue until most of the composite has been loosened and removed. Use a Wedelstadt chisel in the same fashion to loosen the gingival composite. To break the contact, a serrated interproximal strip is used in a cross-cut sawing fashion.

The Bard-Parker #12 scalpel is used again to remove more interproximal composite. Blue-tipped diamond strips are then used to remove any remaining composite and a yellow-tipped diamond strip is used to smooth. Adjust the bite, polish and you are done. Figures 1a to 5b demonstrate the good results of the technique described in this article._

_about the author

Dr L. Emery Karst, a graduate of Loma Linda University's School of Dentistry, has been practising the art of cosmetic dentistry for more than 20 years. Although he enjoys cosmetic dentistry the most, he also regularly undertakes work in endodontics, implants, crown and bridge and other techniques. Dr Karst's articles on endodontics and cosmetic techniques have been published in *Dentistry Today*.
He also lectured on endodontics at the Oregon State Dental Convention in 2010.

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