

Dentistry Is Challenging: Cosmetic Dentistry Even More!



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INTRODUCTION

Dentistry can be very difficult, even frustrating. Cosmetic dentistry, because it's so subjective, is even more so. Why? Because very few healthcare and/or cosmetic treatments have so many visual and tactile variables—color, shape, length, texture, gum line, occlusion, and maybe most important—the final outcome must be in proper harmony and function. Biting can, and should, generate tremendous force, so the final result must be strong and able to endure years of mastication. And considering what people have gone through and what they paid, they expect it to last a lifetime. The end result will always be under our patients' direct visual, tactile, and functional scrutiny. Simply put, cosmetic dentistry must look good and feel good.

The treatments can be long, arduous, and uncomfortable. The dentist is working directly on the patient and in the mouth. There are no physical barriers. And, it is emotional. It's not just dentistry and it's not just cosmetics. It is personalized, artistic, and hopefully permanent. It becomes a bond, literally and figuratively, between the patient and the dentist.

CASE PRESENTATION

The patient that I will discuss in this article drove almost 4 hours to see me. She told me that she had a lot of trouble with her past dentistry. This time, and after doing her research, she stated that she wanted everything done right and by one of the best. I told her that I would do everything I could do to give her a positive experience as well as positive results.

She had an unusually large space between her 2 maxillary central incisors. Almost 25 years ago, direct bonding had been used to mask the space. Since then, she had it redone many times. Approximately 5 years ago, in another state, she had decided to get 12 veneers. Unfortunately, she wasn't completely satisfied with the appearance, and to make matters worse, the porcelain began breaking and her dentist had to replace them. Since then, she moved to Texas and some of these porcelain restorations had also begun to deteriorate.

Upon further questioning, she expressed dissatisfaction with her upper gum line as well as the color and alignment of her lower



Before



a



b

Before Image and Figures 1a and 1b. Preoperative photos showing failing porcelain veneers that the patient had already replaced at least once before.



After

After Image. Postoperative full-face view. The patient was finally happy with her aesthetics!

front teeth (Before Image, Figures 1a and 1b). I explained that rather than veneering her lower teeth, she should consider whitening and straightening them through orthodontic treatment. With respect to the challenges of her gum line, I brought in my partner Dr. Mark Margolin, a periodontist, to get his opinion. He recommended a cosmetic gum lift on 12 maxillary teeth, first molar to first molar

(teeth Nos. 3 to 14). At this time working with the Smile Style Guide, she chose a Smile Design P-2 and length between L-1 and L-2—slightly longer square centrals, square round laterals and round canines (digident.com). Once she saw the cosmetic image with the gum lift and her new whiter smile design (smilepix.com), she could not wait to get started.

Treatment Begins:

Gingival and Osseous Considerations

Treatment began with the cosmetic gum lift. Aesthetic crown lengthening is a procedure which is performed to correct a gummy smile. An omission dentists often make is that they consider the aesthetic outcome of the procedure to be based only on recontouring of the gingival tissue. Reshaping of the gingival margins is just part of the equation, because it is the reshaping of the osseous structures that sometimes can really improve the final aesthetic outcome. The short appearance of the clinical teeth and excess gingival display are often the result of an altered passive eruption, wherein the bone around the teeth approximates the cemento-enamel junction, not leaving adequate space for biologic width. This results in the gingiva being “bunched up” over the enamel, thus hiding a portion

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of the clinical crown. If the procedure is performed by simply doing a gingivectomy (whether by scalpel, electrosurgery, or diode laser), the biologic width will not be established and significant gingival rebound is to be expected. This will compromise the final cosmetic result.

Another important aspect of osseous recontouring is removing excess bulk, which can give a thick and un-aesthetic gingival appearance from the buccal maxillary bone. This bone can be sculpted (similar to festooning a denture) to create a more desirable knife edge and high-scalloped profile. This requires a full-flap reflection for proper access to evaluate and correct the bony anatomy (Figure 2).

At that same appointment, direct composite bonding was used to repair some of her porcelain veneers, particularly teeth Nos. 9, 12, and 13. She also began to whiten her lower teeth with AcquaBrite 9% In-Office gel and AcquaBrite 16% At-Home whitening gel (AcquaMedTech.com).

The First Set of Veneers

Approximately 6 weeks later, when the gingival healing was complete and the gum line was stable (Figure 3), it was time to remove the 12 old veneers and to start fresh. We began by offering the patient 800 mg of Ibuprofen. She declined oral or intravenous sedation, but accepted nitrous oxide sedation.

Following the administration of local anesthetic (Septocaine [Septodont]), using a combination of coarse and fine diamonds (NTI [Axis]), all the porcelain was removed. A new explorer is helpful in differentiating tooth from restorative materials. Restorative materials, such as cut porcelain or composite cement, will darken and produce a different feel than tooth structure when scratched by the explorer. I started on the left, then the right, switching the isolation and lighting system (Isolite) from side to side. In this way, I find the Isolite system useful for big anterior cases as well as posteriors.

A preliminary alginate impression (Identic [Dux]) was taken to fabricate the transitionals in the dental laboratory. B-1 Temphase (Kerr) was used in a scalloped putty/wash matrix on Mach Slo (Parkell) and Blu Mousse (Parkell) model work. In the meantime, a hemostatic gel ViscoStat Clear (Ultradent Products) was swiped around the margins. An air syringe was used to simultaneously dry and drive the hemostatic



Figure 2. Immediate postoperative photo. Gingival recontouring, including osseotomy and contouring of buccal bone to establish proper 3.0 mm biologic width, was done.



Figure 3. Gingival appearance at 6 weeks post-op. Note the development of the gingival profile. Removal of the excess thickness created an undulating appearance which would help frame the final aesthetic dentistry.



Figures 4a and 4b. Retraction and tissue control paste (Expasyl [Kerr]) in place, Take 1 Advanced final impression (Kerr).

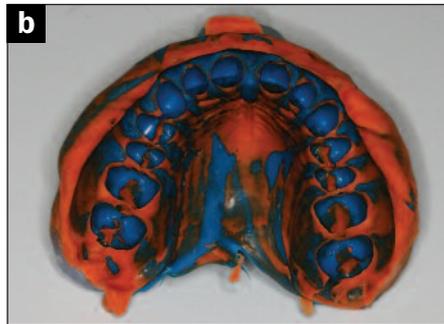


Figure 5. Veneer preparations and shade photos.



Figure 6. The completed laboratory work.



Figures 7a and 7b. Directly after veneer seat.

gel in the sulcus. Expasyl (Kerr) was then injected and packed further into the sulcus for tissue retraction (Figure 4a). Using vinyl polysiloxane (Take 1

ing, we took a shade to be slightly whiter than the 020 lowers. She chose a shade whiter than 0M1. We took shade photos of the incisal edges of the bleached lower front teeth. It is usually acceptable, and in this case essential, to make the upper teeth whiter (Figure 5). The next day, when my assistant placed a follow-up call, our patient had too many questions for my assistant to handle, so I called her back as soon as I could. A few days later, emails began to arrive from the patient. Based on the temporaries, she had very specific issues she wanted to clarify. In fact, she wanted me to email her laboratory photos of the feldspathic veneers before she drove back (Figure 6).

At the seating appointment, she was very nervous. She told me that her upper lip had been swollen for almost a week. I asked her why she didn't tell me, especially considering all of our conversations and emails. She told me she just didn't think it was that important. She was "way more worried about getting the teeth just right." I explained that in more than 25 years of practice, I've only seen this happen maybe 10 times. Angioneurotic edema is very rare, and the swelling is a result of trauma and stress-related histamine release. In most cases, it goes away untreated. Over-the-counter Benadryl can be effective in treating the condition. In severe cases, methylprednisolone (Medrol Dose Pack) or prednisone is recommended. As it turned out, I think due to her high anxiety level, we found it necessary to prescribe methylprednisolone after every subsequent prep and seat visit.

When we removed the provisionals, we tried on the veneers with various shades of cement. Because the central veneers were thinner, and the entire mesial walls were porcelain, we chose DaVinci Ludicrous Bright (Cosmedent) for the centrals and Insure Yellow Red Universal (Cosmedent) for the rest. She liked the color, but she had a lot of questions regarding the length and the triangular interproximal gingival space between teeth Nos. 7 and 8. I assured her that in a few days the space would close (Figures 7a and 7b).

From the beginning, it was a very stressful appointment. Something wasn't right. Finally, after looking at them from different angles, including photographs instantly downloaded, she signed the informed consent accepting the veneers before cementation.

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When we were done, I was physically and mentally exhausted, but I thought the results were superb (Figure 8).

Post Cementation Depression

Still, I had a nagging feeling that something wasn't right. "Post cementation depression," as I refer to it, was common early in my career. As I focused more on understanding the patient's expectations through Smile Design, Cosmetic Imaging, and Trial Smiles, I've certainly experienced this less. However, post cementation depression still occasionally rears its ugly head, and this was one of those times. By the time I got home I put it behind me. Hard as it may be, you have to know when to turn it off.

The next day I checked on her. I left a phone message but by now I knew she preferred email. She emailed me back almost instantly that she did again suffer from angioneurotic edema but the swelling was less and going down faster with the steroids. Two days later she emailed me again, at 5 AM. The swelling had gone down completely but she was not happy with her teeth!

A week later, at her follow up and complimentary cleaning, she made me very aware of her disappointment. I really felt for her. I knew I had let her down, but I didn't know exactly how. We took digital photos to help her explain in detail what she did not like. She felt that the teeth flared out too far and that the interproximal line angles were too prominent. She demonstrated these points by running her fingers across her teeth. She did "not want to feel any ridges or bumps." The biggest problem of course—they were not the "boom white" she had expected. She even asked me if a more opaque white cement than the one I had used was available. Obviously, this was not her first rodeo.

I agreed to redo the work, informed consent be darned. Thanks to improved pretreatment communication and a lot of luck, it had been at least 7 years since I had failed to deliver, or even over deliver, what the patient wanted and expected. I was really long overdue for a redo. This is not just about teeth; it's a whole lot more to both the patient and to me. I was determined to not let any feelings of pride or ego stand in our way; I simply wanted her to be happy. As a good will gesture, while she was at this



Figure 9. Taking shade for second set of veneers.



Figure 11. Veneer try-in.



Figure 13. Retraction paste in place; the transitionals were removed and the third set of veneers were tried-in.

post-treatment follow up here, we did a third AcquaBrite 9% In-Office whitening for her lower front teeth and made sure she left with ample whitening gel.

As is so often the case, when there are unresolved issues, whether financial or patient dissatisfaction, the patient may have additional problems. In this case, a week later she emailed me about hot and cold sensitivity with these veneered teeth.

The Second Set of Veneers

At the reprep appointment, we once again went over her concerns, of which there were many. She did not want any flare and she wanted symmetry, or at least as much as possible, among the 6 front teeth. I explained this would be a challenge considering the asymmetric alignment of her anterior teeth, but I would try again. She wanted a fuller, wider arch form to fill the buccal corridor completely. The transition between adjacent teeth should be smooth and have no ridges. But most important, she wanted white opaque teeth, no translucency, no texture, and (this time) very even incisal edges. She did not care if I agreed or approved or not. I explained and documented that to achieve these goals, more preparation—which sounds better to patients than more



Figure 10. The completed second set of veneers on the laboratory model.



Figure 12. The completed (second set) veneers.



Figures 14. The completed (third set) porcelain veneers.



Figure 15. At the scheduled follow-up appointment, minor adjustments were accomplished.

"drilling" or "reduction"—would be necessary. She readily agreed. The veneers were removed, the abutments impressed, and shades taken (Figure 9). This time we used the whiter PERFECTemp BL2 (Discus Dental) for the provisional restorations.

I worked very closely with David Block, CDT, of Aesthetic Porcelain Studios (aestheticporcelain.com). He emailed me pictures of this case before shipping. Unfortunately, we missed one—the crucial palatal view (Figure 10). Had I seen it, I might have made some modifications that might have eliminated further aggravation, but then again, maybe not.

At her next visit, we tried the veneers on with various try-in pastes (Cosmedent). This time, because the veneers were thicker on the posterior teeth to taper in the anterior and to

better fill the buccal corridor, she chose Insure Opaque White (Cosmedent) for the anterior and Yellow Red Light (Cosmedent) for the posterior (Figure 11). Of course, she signed yet another informed consent before the final cementation began.

As always, we used the Etch Master (gromandental.com) to increase bond strength. Because she experienced temperature sensitivity with the first veneers, whether real or not, we used a different bonding system this time and told her so. After all, perception is reality. Toward the end of the bonding and finishing (Figure 12), she took a long bathroom break, and when she came back she felt that the centrals "were colored strangely." Typically, bonding a case like this would take me a maximum of 2 to 3 hours. Well, this one took 6 hours, but even after all the effort, they didn't look right to me either. I tried to explain that it might be due to the difference between the all-porcelain mesial halves to close the large diastema compared to the now dehydrated tooth and cement on the distal halves of the 2 centrals. I thought it would look better when the teeth rehydrate. At least I hoped so. Somehow, I knew it still wasn't over.

That night I received another email. That is why I rarely check my email on work nights. A dentist has to sleep. She really liked the new veneers

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Figures 16a to 16c. Adding composite to the mesiolingual aspects of teeth Nos. 8 and 9 to eliminate any hint of translucency, per patient's aesthetic wishes.

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but if the 2 front teeth didn't get better, we would have to redo them.

A few days later, I was out of town for a family celebration. I checked my email and sure enough, she had emailed me a lengthy note of desperation. She could live with the back 6, even the laterals and incisors, but not the front 2. And she needed "this fixed" before a special party at the end of the month. By e-mail, I arranged to see her as soon as I could.

Three days later we met again. She felt that the canines could still be more symmetrical. But her main complaint was leveled at the central incisors. She felt the mesial halves were grey and "pushed in." She also wanted them longer. I looked at her, looked at the teeth, and this time I didn't like them. If we were going to redo the central incisors, I would redo all of the anterior 6. So now I am redoing these veneers a third time; the first because she didn't like them, now because I didn't like them either. Keep in mind that she previously had 2 sets of veneers before she ever met me!

The Third Time Was the Charm

At this stage, I really didn't know if I could make her happy. But it was most important that I be happy. Because she came a long way, and I wanted to get it over with, I rescheduled the rest of the day to begin right then. I did reiterate, however, in no uncertain terms, no matter what, *this is the last time*. We placed Expasyl before prepping to dry and retract the gingiva, then the 6 anterior veneers were removed, impressed, and temporized.

At the next visit we showed her the veneers on the model. She thought they looked great. David Block and Aesthetic Porcelain Studios did an outstanding job. She was still concerned about any incisal translucency (she did not want any). I injected Expasyl into the sulcus of the transitionals (Figure 13) to retract and dry the tissue to help with cementation. Then, we removed the transitionals and examined the veneers for shape, length, width, and color. We tried Ludicrous Bright on one side and White Opaque on the other. No surprise, she chose White Opaque for the final cement.

She left that day content (Figure 14). Honestly, I think we both felt like Rocky Balboa and Apollo Creed: "Ain't gonna be no rematch"—"Don't want one."

Two days later (at 5 AM), I received

an e-mail, and this one made my day. We did it! She really liked them. At her request and for her convenience, I arranged to see her for a follow-up visit on a Saturday. Bonita, my dental assistant with whom she felt most comfortable, and I met with her. She was smiling when she arrived at the office. The occlusion was perfect, the gingiva healthy, and the veneers smooth and white, just as she had requested. However, she did have a few issues, albeit minor. She wanted me to soften the incisal point on a cuspid. No problem! I took care of that with a couple of polishing discs and paste (Cosmedent) (Figure 15). She also wondered if there was there anything I could do about the slight incisal translucency on the centrals. Because her teeth were flared naturally, we brought the incisal porcelain over them in a slightly palatal incline to compensate. That made the incisal edges thin and contributed to the "see through." Checking her occlusion in centric and all excursions, there was sufficient room to add a layer of an opaque Nano Renamel BO (Cosmedent) composite on the lingual incisors where we added length, thereby blocking out the translucency (Figures 16a to 16c). The composite was polished to a smooth imperceptible finish. Now, finally, with the third set of veneers she was not just satisfied, she was happy (After Image)!

The following Monday, Bonita checked on her and sent her before and after photos. Of course, the patient immediately e-mailed her thanks to us.

CLOSING COMMENTS

This was a very difficult case for me, not just technically but conceptually. I knew that I could improve the patient's smile, but would I be able to meet her expectations? I sincerely believed that I could once I understood them. However, it did take 3 attempts. I have to say that treating this patient did take its toll on me and my dental team, but we certainly did learn from the experience. When it comes to cosmetic dentistry, *one can never listen enough, and never be too experienced to learn*.

Even though this patient signed the informed consent accepting each set of veneers, she was not a patient who initially loved the results and then months later, changed her mind. Each time I felt she was signing it because she wanted it to work. But it didn't, not until the third set. And ultimately she was right. This last smile worked for her. Just like I had a big

impact on her life, she had a big impact on me.

This was a case that I will always remember. ♦

Dr. Berland, a fellow of the American Academy of Cosmetic Dentistry, is the founder of Dallas Dental Arts, a multidisciplinary specialty practice in the Dallas Arts District that pioneered the concept of spa dentistry. He has been featured nationally in *Time*, *US News and World Report*, *In Style*, *Reader's Digest*, *GQ*, *Woman's World*, *D Magazine*, *The Wall Street Journal*, and *Town and Country*, as well as on *20/20*, *Good Morning Texas*, and more. He is the co-creator of the "Lorin Library Smile Style Guide," the developer of denturewearers.com, and the creator of "Biomimetic Same Day Inlay/Onlays," an 8 AGD credit CD-ROM. He currently serves as the editor of the *Cosmetic Dental Tribune*. He can be reached at (214) 999-0110 or at drberland@dallasdentalspa.com.

Disclosure: Dr. Berland is a consultant for Digident.

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