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metal-free restorations . . . almost

I said goodbye to this patient almost a year ago. Terry had moved to Dallas, so I could not understand why she was on my schedule for an exam. I had done a fair amount of cosmetic dentistry for her when she lived in the Chicago area, including four anterior veneers, which she had received with much excitement. When she moved to Dallas, I gave her the name of a wonderful dentist who I respected greatly. I was confident of his ability to care for Terry.

During her examination, she asked me to do a porcelain crown for her on a lower first premolar. I asked if she had moved back to Chicago, and she said no; she had flown in only for this appointment. I asked if she had seen my doctor friend. Her answer was yes, but he wanted to do a gold crown. He told Terry that gold was the absolute best material he could use, and anything else would be a compromise. She felt he was old-fashioned and possibly not familiar with the latest materials. Terry wanted me to do a porcelain crown. The doctor I referred her to is a nationally recognized speaker, educator, and a dear friend. I know him to be a cutting-edge dentist, and, above all, ethical when making clinical decisions.

As a lecturer and teacher, I frequently am asked by other dentists to provide their dental care. In doing this, I have noticed that many of the dentists over 50 want gold work because they know it lasts longer. I often ask if they do much gold work on their patients, and the usual answer is "Not that much; I wish I did more. It is hard to sell." These dentists have seen how forgiving gold can be occlusally and how long it lasts. That's why they want it in their own mouths.

The patient's point of view

Now let's get back to my patient, Terry, and her preferences for her restorations. She told me that she was not going back to my Dallas friend, even though she firmly believed that he had a kind heart, a terrific skill level, and her best interests in mind. The reason? He didn't listen and support her desire to have a natural-looking restoration. She didn't feel *heard*. From her point of view, longevity was not as important as aesthetics. "He patronized me," she commented, "because he thinks he knows more about me than I do. He was unwilling to give my priorities the same consideration he gave his own."

So, what is optimal dentistry anyway? Is it always the work that will last the longest? Is it the prettiest? Is it whatever the patient wants? Over the years, my practice has suffered because of my use of amalgam and gold. I have found myself struggling to balance between pleasing the patient and holding out for what I feel is best for my patient. I am now sure there is a meeting place somewhere in the middle. I have given up on trying to push gold and amalgam. My practice has focused more on tooth-colored restorations in the last eight years, and I have benefited from it with an easily observed change in my client base. The new patients who seek me out are very aesthetic-conscious and are sophisticated in their choice of clothing and grooming. These patients are very interested in elective dentistry, and they want to know about their options.

What I have learned from my former patient is that patients judge us by many things, including what treatment options we offer them. We dentists often make

recommendations based on our own values (such as longevity) and fail to truly listen to the priorities of our patrons. Patients may not be fully informed — or even close to factually accurate — with their expectations, but then emotions tend to skew reality for all of us. My Dallas friend and mentor failed to listen to his patient. Although his advice was not incorrect, it failed to address the patient's desires and concerns.

From my perspective, the marketing surge in designating your practice as metal-free is a result of two major concerns: potential metal toxicity and improved aesthetics. I have no expertise in cytotoxicity and will offer no comment on the possibility of metal poisoning, but I do have a great deal of knowledge on aesthetics. I know that it doesn't take a lot of talent on the lab's part to make a pressed ceramic look good. I also know that it takes a lot more talent to make a porcelain-on-gold crown to look as good!

A number of high-end labs can and do make porcelain-on-gold look every bit as good as an all-ceramic crown. Unfortunately, these labs cost much more and have more exclusive client lists. It is easier and cheaper to achieve a great result without the presence of metal in the restoration, thus the trend for all-porcelain.

Another lesson learned

I learned another valuable lesson from a patient I will call Susan. Susan had been referred to my practice by an orthodontist with whom I really wanted to develop a better relationship. So, in this case, I had two clients — my patient and the orthodontist. Susan had been a challenging patient for him, pressing for the highest levels of clinical excellence. She now needed to have more than half of her teeth restored with veneers, crowns, or crowns on implants. When we first sat down to plan her treatment, I was excited about having such an engaged patient who wanted to take an active role in planning her treatment.

With her orthodontic treatment now complete, I listened in dismay as she laid out her plans and expectations for the restorative part of her journey. She explained that she wanted "very lifelike restorations, with that little extra." I asked what that meant to her. Looking down at her too nice to be a believable natural body, she replied, "I don't mind pushing the envelope of natural beauty!" She had very specific shapes in mind for her anterior veneers (a chicklet-shaped version), and she wanted them white — very white — as in toilet bowl white! She had restored her teeth several times in the past, and she seemed incredibly knowledgeable about dental materials and smile-design possibilities. I felt my stomach twist, realizing the young orthodontist might have played a part in her unnatural vision.

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I thought to myself, have I been working to develop a practice that attracts this type of patient? I want to do dentistry that is invisible, believably natural, with natural tooth shapes and chroma gradients from gingiva to incisal and from midline to cuspids. I had before me a very sophisticated and enthusiastic buyer of cosmetic dentistry, but she didn't have my vision and my values. What was worse, she didn't want any metal in her mouth! This was bad because she was an aggressive bruxer with shallow condylar and anterior guidances. I looked at those bulging masseters and pulsating temporal muscles with horror.

Now, remember my story about Terry from Texas? Had I *really* learned anything from her? Could I please Susan and remain true to my values? I rationalized that the brightness issues could be overcome, but what about the tooth shapes and lack of metallic support for her posterior porcelains? Her cuspids were in an Angle Class I relationship, and she wanted to fill the incisal embrasures between the maxillary laterals and cuspids with porcelain, thus squaring out her teeth. I could see the already sharpened ridge blades of her lower cuspids which had spent a great deal of time within those very embrasures in lateral movements. Susan's porcelains would break out within months of delivery. I also remembered her history of fracturing several posterior teeth, and thus the reason for her implants. Would porcelain implant abutments hold up?

One of the dentist's jobs is to be a consultant to our patients. Not only do we need to make patients aware of treatment options, but we also need to explain the risks associated with each option. If we don't share these risks with the patient, then they become o*ur risks*. That said, there still are unspoken expectations of at least some longevity with the work we do. We accept these risks whenever we agree to create dentistry in a patient's mouth. A patient who bruxes or who has unusual oral habits will challenge the strength of any tooth, real or artificial. Routinely placing full-coverage restorations in high-function locations — without the reinforcing

strength of metal — requires profound confidence in your restorations. Because metal-free dentistry is here to stay, I have been developing skills to deal with risk reduction.

Finding the middle ground

If tooth-colored restorations are the future in dentistry, then what does the restorative dentist need to do to prepare for this trend? Does tooth-colored mean metal-free? Does metal-free mean that no metal shows ... or does it mean no metal of any kind? For me, the middle ground calls for using gold under the majority of my posterior crowns, and frequently encouraging the use of full gold on the second molars of heavy bruxers. You see, I want to please my patients, but I still have the need to build long-lasting restorations.

Pascal Magne has published several studies in recent literature which provide convincing arguments that feldspathic porcelain veneers, bonded onto enamel, actually strengthen anterior teeth. This means well-done veneers on cuspids are a viable and excellent restoration. As his prep design and protocols become better known in mainstream dentistry, porcelain fracture and debonding may drop significantly. I also feel I need to know and respect the rules of occlusion, including how the edges of the lower teeth function against the edges of maxillary teeth. It also is important to develop an occlusal scheme which limits the forces placed on posterior restorations, thereby providing for immediate disclusion of the molars in excursive movements and clearing out the excursive pathways.

Dentists on the lecture circuit frequently suggest night guards as the answer to fracture prevention of recently-placed porcelain. I think this is a cop-out! Sure, there are patients who need to wear an appliance to prevent destruction of their dentition due to bruxism, to limit mobility due to bone loss, for occlusal-muscle pain, and for diagnostic purposes. I would challenge dentists to ask themselves, “Would this patient have to wear an appliance if I didn’t do this dentistry? Am I prescribing night guards to cover my lack of understanding of occlusion?”

The use of metal-free restorations is growing rapidly in dentistry. It has helped the growth and image of my practice. With the increase in aesthetic treatment options comes an increased need to learn ideal prep designs, to understand aesthetic dental materials and their limitations, and to take a significant responsibility in learning the occlusal concepts necessary to build restorations that blend into the mouth comfortably and naturally. I believe dentists are responsible for assisting patients in making informed decisions about treatment. Functionally protecting aesthetic restorations for longevity should be a priority in advanced continuing education, treatment-planning and patient education.

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