

# come up

Twin Cities, MN, cosmetic dentist **Steve Gorman DDS** utilizes both dental software and 3-D technology for his comprehensive tooth and smile design protocol. Lise Taylor and Sally Robertson report.

A smile is a way of conveying the warmth of your personality. It helps you to look and feel attractive as well as giving a good first impression when you meet people. Think Julia Roberts. You immediately recall her all-encompassing smile filled with great teeth. It's safe to say that everyone who walks the red carpet these days has had smile enhancement. But have you ever considered visiting a cosmetic dentist to improve your own smile? Here's what is involved.

A smile enhancement is a cosmetic procedure with the capacity to make a positive change. Twin Cities, MN, cosmetic dentist Steven Gorman DDS says cosmetic dentistry is about working with the patient to establish exactly what their hopes and desires are. He says this initially involves a comprehensive assessment, and he utilizes both dental software and 3-D technology to achieve this. The computer software he uses is the new Dentrix technology, a multifaceted program that benefits both dentist and patient.

'It is a useful machine because not only does it enhance the dental practice by making it high-tech and paperless, it also stores all patient information and charting, and allows us to do our X-rays digitally and to transport the X-rays to other specialists if need be. The patients can also become

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more involved in the whole process and are often educated about their teeth.' He adds, 'We can manipulate images such as the patient's lip lines, tooth color, tooth alignment and tooth inclination, as well as creating before and after photos of what we can accomplish, or at least close to it.'

Three-dimensional technology is another tool used in Dr. Gorman's comprehensive consultation process. 'We make 3-D models of the teeth in the laboratory using actual models of the patient's teeth. We then mount them in an articulator in their proper jaw position so we can evaluate if there are any bite problems. Once we know what is going on, if there are any changes that need to be made with the bite, we can plan this as part of the restoration of the case.'

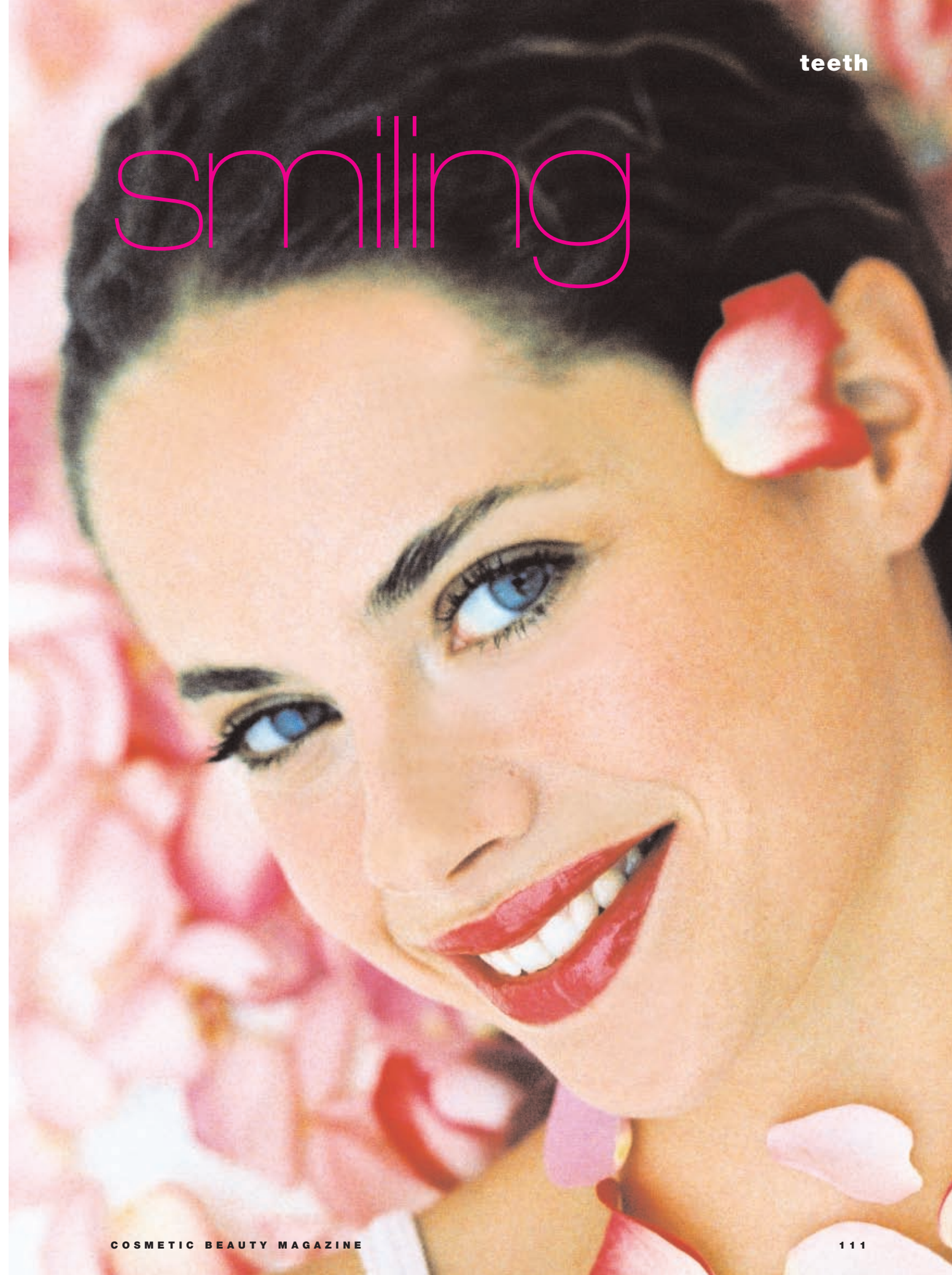
'Then we mock-up all the changes, so we get shapes, tooth alignment and tooth inclination the way we want them. We also build up some surface texture on the teeth so they are not too smooth. We use a whitish wax for lighter teeth and then a pink stone so you can see the white of the teeth and the pink of the gum, and this adds some contrast. We make a "before model" of the teeth and a "second model" that shows what we have done to them in the mock-up.'

'Using 3-D technology means there are no surprises in the end. The patient knows exactly what they are going to get, and if the color is right, then we're in business,' he says.

Dr. Gorman adds that one of the key advantages of using imaging software as well as 3-D models relates to the way many people feel more comfortable with visual tools. This visual input helps them visualize how the end result will look. 'Some people really need this to feel comfortable that they won't get a bad result,' he says. 'It is an excellent communication tool.'

Dr. Gorman explains smile enhancement is crucial for complementing the facial aesthetics. 'Cosmetic dentistry begins with a comprehensive base for patients. This includes health, bite and functional issues. It then involves building up a cosmetic case that will help the patient to look and feel good, and will last for a long time. Using computer software and 3-D imaging helps us to be comprehensive and is a process by which we work out exactly what the patient wants. Patients say when they go through with the procedure, they have a lot of confidence in the result because they have envisioned it and know what to expect,' he says. **cbm**

# smiling



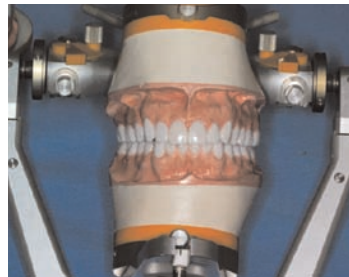
# Case study 1



BEFORE



AFTER smile enhancement treatment by Dr. Gorman



3-D mock-up model used by Dr. Gorman



AFTER smile enhancement treatment by Dr. Gorman

Greg was 50 before he decided to get his teeth fixed. As a physician he realized the importance of research and visited four different dentists before choosing Dr. Gorman to work on his teeth. A major factor in this decision was that Dr. Gorman was willing to spend the time making mock-ups and providing projected images of his teeth. 'Dr. Gorman spent a lot of time educating me on my teeth. He also showed me my bite to give me a better understanding of the whole process. This was really important,' he said.

Dr. Gorman performed some basic dentistry, before advising Greg to visit an orthodontist. Greg then returned to Dr. Gorman, who combined function restoration on worn teeth with cosmetic dentistry to achieve a good aesthetic result. The work was not merely superficial, as tooth function was also improved. Greg visited Dr. Gorman over a three-month period and said he didn't find the experience uncomfortable. His medical colleagues were interested in the process and were impressed with the result. He is very pleased with the final result, and now finds that people spontaneously comment on his teeth and smile.

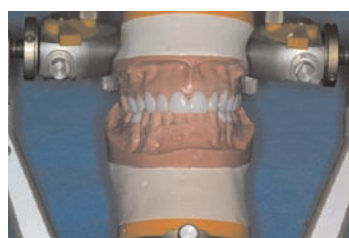
# Case study 2



BEFORE



AFTER smile enhancement treatment by Dr. Gorman



3-D mock-up model used by Dr. Gorman



AFTER smile enhancement treatment by Dr. Gorman

Dianna was in the second trimester of pregnancy when she visited Dr. Gorman about her teeth. Dr. Gorman performed intensive work using veneers and crowns, as well as cosmetic whitening. She says that the computer imaging and 3-D technology helped motivate her to go through with the treatment. 'Visualizing what results Dr. Gorman could obtain really helped me decide that I wanted to proceed with the entire treatment program that he suggested. It was wonderful to see what the end result would turn out to be before making the decision,' she says.

Dianna was a bit nervous about the dental treatment but says that Dr. Gorman and his staff alleviated any anxiety. She was comfortable throughout the treatment, experienced no side effects and her recovery time was quick. 'I was a little tired and sore in the evening, but by the next day or so I was fine,' she says. 'My smile is very important to me. It is one of the first things people notice about anyone, and now I have the confidence to smile naturally. I couldn't be happier with the final result,' she concluded.

# Dr. Gorman's CORNER



Cosmetic dentist **Steve Gorman DDS** answers your questions about dental concerns.

**Q** I've been told that the only way to improve my stained and worn front teeth would be with crowns and porcelain veneers. I'm somewhat reluctant to do that because I see so many people with bad looking crowns and veneers. My neighbor had hers done and they look awful. They are so thick and unnatural looking and I wouldn't want that in my mouth. How can they be done to look like real teeth?

**A** I can assure you that what you have expressed here is a very common feeling. In fact, I have discussions about this concern daily in our comprehensive aesthetic dental practice. Some of the things you see that you don't like are simply old dentistry that was state-of-the-art and very acceptable at one time. Because the early porcelains used in dentistry were very brittle and not very strong alone, they were combined with a metal understructure for strength. If not handled well, these restorations could look quite bulky and opaque in color. It was very easy to pick them out as 'fake'. Many of them also had a metal finish line at the gum line and they block the normal reflection of light. This is what makes the gum line look dark around them.

With the advent of adhesive dentistry in the early 1980s, the potential to improve all of that was realized. Since that time, many porcelain systems to bond directly to tooth structure without the use of metal have been developed. As these have come and gone and improved over the years, the art and science of aesthetic dentistry has blossomed. We now have magnificent materials available to create natural aesthetic smiles. However, there is a huge learning curve for practitioners who want to provide the very best services for patients in this area. Like all

professions and vocations, not everyone is interested in going through this process. So even though these systems are available today, not all dentists avail themselves of their benefits and older techniques are still prevalent.

The best way to ensure you get the result you are looking for is to work with an aesthetic dentist who focuses on these techniques. You mentioned wear on your teeth, so there may be an important issue with function that needs to be considered. Dentistry that is attractive is like all things of beauty in life. The adage 'form follows function' is so true in an attractive smile. Teeth set up to function properly will take you a long way toward a result that looks natural.

To visualize what your end result can be, make sure that you work with an aesthetic dentist who can show you photographs of situations similar to yours, and make sure that you like the results. Look at alignment and inclinations of teeth, and answer the following questions: Do they look good in the frame of the lips? Do they look bulky, or do they look like the thickness of real teeth? Does the color have some character or is it monochromatic?

Many software programs can show you an imaged picture of yourself with a proposed smile enhancement. Make sure it is what you had in mind.

When we provide these services we actually create a 3-D mock-up of the end result on a model of your teeth. An index of this is taken to the mouth when treatment is performed to fabricate prototype restorations for trial prior to making the final porcelain restorations. The beauty of this is you can have input, from the imaging to the mock-up to the prototypes to the final restorations, and changes can be made so there are no surprises and you get the beautiful, natural result you asked about.