

Cosmetic Tooth Restorations: The Future Has Arrived

By Dr. Kelvin Mah



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It's arguable that our world has undergone more technological growth in the last 10 years than in the last 100 years combined. It seems that on a daily basis, we're introduced to a fantastic new tool, platform, system or method that has been designed to make our lives better, faster, easier, more affordable and more comfortable.

And while this kind of transformative change has made its way to the world of modern dentistry (a topic near and dear to my heart that I've previously

written about in these pages), there was always one area that lagged a bit behind: cosmetic tooth restoration. Fortunately, that's all changed thanks to an amazing new technology and procedure called "ceramic reconstruction" or CEREC. I'll discuss CEREC more in a moment, but first, let's recap where we've come from.

The (Not So) Good Old Days

In the past, patients who wanted to restore a chipped, broken, worn, or misshaped tooth were obliged to choose a traditional inlay, onlay or crown. For any of these, at least two trips to the dentist was required – but usually more, because the "temporary" that was installed while the "permanent" was being custom-made invariably fell off, or needed to be adjusted because it was so uncomfortable.

Additionally the new dental restoration product didn't perfectly match up with the older tooth, so there was often a subtle difference in shading – which made patients feel awkward and self-conscious. While patients were generally happy with the strength and shape of their new teeth, they weren't happy with the process, the time commitment, the discomfort, and the aesthetics. But that was before CEREC arrived on the scene and changed everything!

Transformative, Fast and Patient-Friendly CEREC

CEREC uses cutting-edge computer technology, software and 3D cameras to take a stunningly accurate digital picture of a patient's tooth. A skilled dentist then uses CEREC's specialized CAD/CAM software to design the restoration, and sends it to an on-site milling machine that crafts a perfectly shaped ceramic partial tooth. This new restoration is then polished and inserted into the patient's existing tooth. The result is a perfect match both in colour and in shape.



And that's not even the best part: the entire process from taking the digital picture to milling a perfect restoration takes about 15 minutes and requires just one visit, as opposed to hours and multiple visits with traditional restorations. Of course, that's just the high-level overview. What truly makes CEREC special is the wonderful benefits that it offers today's patients. To explore these, let me introduce you to my patient, Leona.

Leona's Smile Transformation

Leona, a Vancouver resident and busy career woman, was born with

what she calls "infamous Scottish teeth." Growing up, she had endured spacers, braces, and retainers for years. And while these procedures reshaped her palette, made room for both of her eye teeth and straightened the rest, a number of teeth were filled with mercury – which gave her (again, in her words) "a mouth full of unsightly metal." She was also very self-conscious of her smile, especially when she laughed, and was worried about the lingering health effects of all of that mercury. She wanted to replace failing old mercury fillings, but she wasn't sure that a traditional crown or partial crown was the right solution. On top of that, her fillings were deteriorating and, therefore, dangerous; something had to be done sooner rather than later.

The Consultation

As with all of my patients, I listened carefully to Leona's concerns, and developed an understanding of her specific goals. In particular, I noticed and appreciated that Leona really didn't like the idea of "going to the dentist" – a phenomenon that many people who aren't familiar with modern dentistry experience. In fact, she had put off solving her problem for almost a year because her fear of dentistry was so powerful.

However, it didn't take long for Leona to realize that modern dentistry is an entirely new experience, and that huge progress has been made in patient comfort and convenience. With the help of a 40-inch TV, I walked her through the cosmetic dental solutions that were available to

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her and could help achieve her vision. As I expected, the moment she learned about CEREC she just knew that it was the solution for her – and here's why:

- **One visit:** As mentioned above, unlike traditional crowns, CEREC adds the new dental restoration in a single visit instead of multiple visits with traditional methods.
- **Permanent:** There's no temporary crown that can pop off, and no emergency visits to the dentist to deal with awkward fittings or replacements.
- **More comfort:** No uncomfortable (and gooey!) dental mold is used – everything is done with the 3D camera.
- **No mercury:** CEREC isn't the same as "filling" a tooth, so there's no mercury involved and, thus, no oral health risk.
- **Less invasive:** CEREC materials are chemically bonded to the tooth, which means that compared to traditional crowns, more healthy tooth tissue is preserved.
- **Strong:** The new CEREC-reconstructed tooth is created by milling from a single ceramic block as opposed to being built up by hand at a dental lab. This is similar to how a Rolex watch is milled out of a single block of metal. The result is strength and durability.
- **Appearance:** The "chameleon like" nature of the special ceramic takes on the colour of the tooth, which results in a very precise match.
- **Natural:** When hot or cold drinks are consumed, the restoration and tooth expand and contract at about equal rates. This eliminates hot and cold sensitivity.

The Process

I carefully prepared and contoured Leona's teeth to maximize the strength of her new restorations –without removing any extra natural tooth structure from her existing teeth. I then performed a video survey of her sculpted teeth surfaces, and created her customized restorations with the help of CEREC's powerful CAD/CAM software. I then milled with my on-site crown manufacturing system, and installed the restorations on top of her existing teeth. The process was rapid, quality-assured, and just as important, comfortable and painless for Leona.

The Results

You can see from Leona's pictures that she now has the brilliant "metal free" smile she's always longed for. It only took a single visit to complete a quadrant of her mouth (we were moving ahead in stages), the colour match was perfect, and she couldn't tell the difference between the new crowns and her natural teeth.

Leona reflects on her smile transformation:

"The completed results have been incredible; I have no residual sensitivity, my bite is comfortable, and the product is very durable. I have not had one single issue with my 'new' teeth. The entire process was pain free and relaxing. I found myself snoozing away in his chair as Dr. Mah diligently worked! CEREC technology is amazing and not many dentists have this process available, or have Dr. Mah's incredible skill and ability to put patients at ease. I cannot say enough great things about Dr. Mah. He alleviated my fears of the dentist and gave me a new-found confidence in my smile, and has really boosted my self-esteem, which has helped me in many ways both professionally and personally. Frankly, I had no idea that modern dentistry had come such a long way – this is very different than what I remember dentistry being like as a kid. I'm happier with my smile than I ever imagined, and encourage anyone and everyone to explore and experience just how magical Dr. Mah is. I can't get over how easy, and fast, it all was. I'm smiling all of the time now. My only regret is that I waited so long to see Dr. Mah and get it done!"

Leona's smile transformation story illuminates the wonderful possibilities that today's modern dentistry has offer, and illustrates how a skilled artisan dentist can use today's leading-edge technologies, tools and methods to exceed patient expectations – and "convert" patients who used to be afraid of going to the dentist!

Indeed, we're living in a time of remarkable technological change in the field of modern dentistry. And while we don't know exactly what's on the horizon for tomorrow, we can expect it to be something exciting and transformative. As a dentist who views my craft as both an art and a science, it's truly an exhilarating time. Not just for me, but for my patients – because, ultimately, all of this wonderful transformative change in modern dentistry is about one vital thing: enriching patient lives, one smile at a time.



After

Dr. Kelvin Mah's relaxing, stylish and ultra-modern practice, Smile City Square Dental, is located inside Vancouver's City Square Shopping Centre. Dr. Mah and his warm and inviting team provide a variety of patient-first dental solutions, including general dentistry, smile makeovers, restorative dentistry, and oral heal procedures. Dr. Mah is a graduate of UBC's prestigious Dental School, and is a member of the exclusive, invitation-only California Center for Advanced Dental Studies – a post graduate education program that creates today's and tomorrow's elite-level dental professionals. www.smilecitysquare.com