



# DENTAL BONDING RESTORATIVES: THE FUTURE OF DENTISTRY?



By: William Vuillemot, DDS

**M**uch has changed in the practice of Dentistry since we graduated from University of Michigan Dental School in 1985. It is hard to believe, but it was not until our Senior year in clinic that we began to use latex gloves on a routine basis! Prior to gloves, we would just wash up and go to work—hence the term: wet-finger dentistry. Subsequent changes mandated by OSHA have made the use of gloves, masks, and eyewear routine, and have improved infection control and safety for staff and patients alike.

Another aspect of dental practice which has seen vast change is the use of composite bonding restorative materials (for the purpose of this article, we will refer to them as "dental bonding"). Let me share a story with you about what it was like to place a "tooth-colored" (or "white") filling in the mid-'80s.

While in dental school, we noticed an increase in demand for an alternative to "those ugly silver fillings", and dental manufacturing companies were responding by making bonding composites available on a limited basis. We would numb the patient as usual, prepare the cavity as usual, but instead of the silver or gold, we would place the "revolutionary new" white filling. They were available in limited color choices, such as: yellow, medium yellow, dark yellow, and light grey! They were a putty-like consistency, and we would dispense equal parts base and accelerator on a mixing pad, and mix (think of how you would mix a two-part glue or epoxy). We would then place a clear plastic matrix around the cavity, and syringe the composite mix into the space using a small tip and plunger. Now, here is the amazing part: the dentist would then have to sit and hold the clear matrix with his/her fingers, for

2-3 minutes, while waiting for the mixture to harden or set! Talk about watching a pot and waiting for water to boil... Those minutes would seem like forever; and if one's fingers got tired, or attention flagged, the matrix would move or distort, and the resultant shape would be somewhat different from what was intended.

By the mid '90s, vast improvements in bonding composites were made, the most important being the addition of a "photo-initiator". These are components which will cause the composite mass to harden or set immediately when exposed to a certain wave length of ultraviolet light. This meant that bonding composites no longer had to come in 2 parts requiring mixing; it could be produced in one homogeneous mass, and when placed in the cavity, it could be shaped into the desired form, and hardened (or "cured") immediately when desired, using a special UV curing light.

Color choices also expanded, and the use of bonding exploded in the 1990s. By the late '90s, data from the American Dental Association showed that the number of bonded fillings surpassed the number of silver amalgam fillings placed in the US for the first time ever, and it has continued ever since.

Fast-forward to the present, and dental bonding is better than ever! Dozens of manufacturers offer an array of bonding composites, each suited for a particular task. There are many bleach shades available, to satisfy the increasing demands for cosmetic whitening of teeth. One of the most important developments is the improvement in durability of the bonding materials. The stronger and more durable that bonding



**Before**



**After**



becomes, the more options we have available for their use.

Increasingly, we are seeing more uses for bonding as an alternative to more costly and "invasive" dental porcelain restorations. In the past 10 years in our practice, we have seen patients choose bonding over porcelain for 2 main reasons: First, the cost can be significantly lower, while achieving all or most of the benefits of the more expensive option; and secondly, bonding is "additive", which means it can be placed on or over natural tooth structure without much of the destructive grinding away of tooth necessary with porcelain.

Special techniques have recently been

developed which allow the dentist to accurately and quickly place dental bonding on multiple teeth, which is extremely useful for solving complex functional and cosmetic dental problems.

To be a Dental Patient-In-Charge, ask your dental provider to explain the pros and cons of Dental Bonding compared to other dental restoratives. You may be surprised to learn what options may now be available due to improvements in materials and techniques. Look at photos, and before-and-after tooth models, and ask about patient stories or testimonials. By carefully considering all options, you can make an informed choice as an Empowered Patient.

**Here's to a bright future with Bonding,**

**About William Vuillemot, DDS**

*Dr. William Vuillemot is a 1985 graduate of University of Michigan Dental School. He and his wife Barbara, also a dentist and 1985 U of M graduate, have practiced in Lansing since 1985 and co-founded Trillium Dental PC in 1993.*

*Dr. Bill was a clinical instructor at U of M Dental School, and has acquired extensive post-graduate training in cosmetic and functional restorative dentistry, as well as orthodontics. Dr. Bill invented SmileBond Systems, and acquired a patent for his process in 2007. For more information visit [www.smilebond.com](http://www.smilebond.com)*