

Choosing a Bio-Compatible Dental Restoration

Over the years as dentistry has evolved there have been a growing number of options available for repairing teeth. The goal of dentistry has been to develop materials that would simulate natural tooth structure as closely as possible, in appearance and physical properties. Though materials will continue to evolve, materials technology now provides us with a broad range of excellent options which we will explore in brief below.

In the past few years there has been a growing concern for the potential health hazards imposed by use of dental materials that include toxic compounds. The most common source of concern has been the mercury found in silver fillings. Mercury is one of the most toxic metals found in nature and is a major component of silver fillings (up to 50 %).

Organized dentistry has been reluctant to acknowledge the potential problems of toxic materials used in the mouth. The truth is there are many variables. Each of us is different in the capacity of our body to eliminate toxins from our system. Because each of us presents a unique situation it is important that materials to be used in our mouths be screened to insure bio-compatibility for us.

This is readily done with different types of bio-energetic response testing. One form of this is muscle response testing (Applied Kinesiology, CRA). Another form would be use of one of a number of instruments designed to measure changes in the electro galvanic skin response. This technology is called Electro-Dermal Screening (EDS).

There are also blood tests used that were originally developed by Hal Huggins, DDS and Jess Clifford, PhD. These blood tests are of value in screening broad classes of materials- though it is generally agreed amongst colleagues I speak to about this that bioenergetic response testing (either kinesiology or EDS) is more definitive.

In addition to concerns of bio-compatibility, when choosing a restoration we have to consider the size of the defect to be repaired, the function of the tooth and surface involved, and whether the strength of the tooth has been compromised by prior decay or fillings. The strength, durability, and cosmetic acceptability of the material to be used are also considered.

In our office we have not used mercury silver fillings since 1983. Instead we have used a tooth colored plastic filling which is called composite. These are called composites because they are actually a combination of 30% plastic and 70% microscopic particles of a glass-like material. The plastic enables us to bond the filling into the tooth and the glass-like particles help to make the material resistant to wear.

Composite Fillings

As wonderful as these materials are they do have their limitations. They are not as strong or resistant to wear as other materials discussed below. For this reason they are not the best choice for repairing large defects in the back teeth which get a heavy workout in chewing.

Another concern with composite fillings is that research has shown that the essential component of the plastic material of the filling, called Bis-GMA, can behave like estrogen in rats. After reading this, we started to do trials in our office using the testing modality of Applied Kinesiology.

We developed some applications of kinesiology testing, whereby we evaluate the energetic state of the body along the acupuncture meridians and in the auric field of the body overlying the chakras. We frequently find that people react to the presence of composite filling materials with a shift energetically showing stimulation of the triple warmer meridian (associated with the regulation of energy flow; equivalent to the endocrine system of western medicine) with an expansion of the energy radiating from the pelvic area and a contraction of the energy field over the heart.



This has led to us limiting use of conventional composites and using a material with a unique chemistry that does not contain Bis-GMA. This material is called Diamond-Lite. A biocompatible material invokes no response from the body - it must be totally inert!

Inlays

We often encounter situations where a significant part of the biting surface of a tooth has been damaged, often a portion of the outer wall of the tooth has been lost as well. To prevent shifting of adjacent teeth or gradual deterioration of the bite we want a material that will provide a stable and long lasting result.

Here we would use a restoration which is made either of gold or ceramics and is formed on a model of your teeth by our dental technician. This restoration is then fitted to your tooth and cemented or bonded in place. Here the materials to choose from would be either a high quality gold alloy or a ceramic casting. Again testing must be performed utilizing muscle testing to determine the most ideal material

Onlays Crowns

When the defect to be repaired grows to a significant size, the strength of the tooth will be compromised. We often see teeth with old mercury fillings that are developing cracks in the enamel and underlying structure because the filling has acted as a wedge in the tooth over time. These teeth are best restored by a means that reinforces the strength of the tooth by covering a portion of the tooth in the case of an onlay or all of the tooth in the case of a crown.

Wherever possible we prefer to conserve the enamel of the tooth and use an onlay. Today we are able to do this in either gold or ceramic materials. Gold has traditionally been the material of choice, though with advances in ceramic and bonding technology, the cosmetically superior ceramic onlay has become preferable by the majority of our patients.