

Dental *focus*

Holistic dentistry for total health

In order for dental materials be toxic, they have to be able to release ions that will become bioavailable to chemically bind to tissues in the body. It would take many lifetimes for any ionization of my preferred dental materials, zirconia and porcelain.

Ceramics 101: Unraveling the “Mystery” of Ceramic Dental Restorations

When many of our patients learn about the toxic effects of mercury-amalgam fillings, metal crowns, and titanium implants, they come to our office to have them replaced with a more bio-compatible alternative: ceramics. In our office, we use porcelain and zirconia for our inlays, onlays, crowns, bridges, partials, and implants.

Ceramics are inorganic, non-metallic solids that are prepared by heating proc-

essed clays, powdered minerals, and other natural raw materials. Traditionally, their characteristics include hardness, strength, low electrical conductivity, and brittleness.

By applying new materials, new combinations of materials, and new formation techniques, scientists can create ceramics that possess properties that are superior to their metal counterparts, including toughness and chemical inertness.

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Tooth Tip: Gauze as a Tooth-Polishing Tool!



Use gauze to polish your teeth if you can't get plaque off. Rubbing your teeth with a little cloth or gauze, all the way to the gumline, will help you get rid of any remaining plaque. It's a great trick to use on infants, when helping kids brush their teeth (especially if they aren't using toothpaste), or if you forgot your toothbrush. Dr. Garcia actually recommends finishing all of your at-home tooth cleanings with a quick gauze polish. It really leaves your teeth shiny and smooth, in the front and back!

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Ceramics 101: Chemically inert, without metallic properties

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Most ceramics consist of one or more varieties of a metal oxide, a compound of a metal and oxygen. For example, zirconia contains zirconium dioxide, and porcelain often contains aluminum oxide.

Once the metal is chemically bonded to the oxygen (or “oxidized,”) its properties change dramatically.

Therefore, though zirconium and aluminum are metals, once they are oxidized, they become chemically inert, non-metallic ceramics. The metal is completely bound and is part of a crystalline lattice structure; it is no longer available to ionize or dissociate and bind chemically with our tissues when placed in the body.

The binding to our tissues is what creates

toxicity concerns. In order for dental materials to be toxic, they have to be able to release ions that will become bioavailable to chemically bind to tissues in the body. It would take many lifetimes for any ionization of zirconia and porcelain. For example, the time for one-half of the aluminum to exit a porcelain restoration and be available for toxic binding in the body is over one billion years.

An oxidized metal no longer acts like a metal – for example, it does not create electronic currents and oral galvanism concerns – which is why zirconia and porcelain are classified as ceramics (NOT metals). This makes them highly biocompatible materials, unlike titanium, mercury, nickel, and other dental metals. No local or systemic adverse reactions have been reported in relation to porcelain or zirconia restorations.

Oxidized Metals...and Table Salt

Zirconia, or zirconium dioxide (ZrO₂), contains only fully-oxidized, non-dissociable metals (i.e., they can no longer chemically separate and toxically bind to our body's tissues). Oxidization is a chemical process that completely changes the property of the zirconium, and it becomes a chemically inert material that no longer reacts like a metal.

Zirconia is as different from its components, zirconium (a metal) and oxygen, as table salt is from its components, sodium and chlorine. Sodium and chlorine are highly reactive and are potentially toxic in their natural states. But when they are combined to create sodium chloride – table salt – they change into a usable, edible compound (a new compound with new properties). The same is true for zirconia. When the metal zirconium is oxidized, it becomes a ceramic and no longer releases metal ions that are bioavailable to chemically bind with the tissues in your body. Thus, zirconia does not create the same health concerns as metallic materials.

Toxic Chemical Binding

In order for dental materials (zirconia and titanium implants, porcelain restorations, metal and porcelain-fused-to-metal crowns, mercury fillings) to be toxic, they must be able to release ions that will become bioavailable to chemically bind to tissues in the body. It would take many lifetimes for any ionization of my dental materials of choice, zirconia implants and porcelain restorations. For example, the time for one-half of the aluminum to exit a porcelain restoration and be available for toxic binding in the body is over one billion years.



Patient Spotlight

Ari Moisiades

Leadership and Personal Coach

If you're ready to begin a new chapter of your career; start, strengthen, or heal a relationship; or confidently step into leadership throughout your life; coaching might be right for you!

Since 2003, Ari has worked with numerous leaders, teams, individuals and couples to identify and overcome obstacles to their personal and professional fulfillment. She says that partnering with a coach can help you produce extraordinary results in your personal and professional life.

Ari explains that, working with your coach, you'll define your ideal vision for your life, uncover your core values, and chart the path from where you are today to where you want to be. Your coach will then travel that path with you, helping dismantle any roadblocks that get in the way. Ari says that, with the help of a coach, you'll achieve your goals more quickly and efficiently than you might imagine! *View Ari's monthly newsletter, Sound Living, at <http://bit.ly/keHrU3>, or contact Ari at (630) 922-2440 or amoisiades@soundstrategiescoaching.com to find out more. And if YOU have anything you'd like to share, email us and we'll post it in our next Patient Spotlight.*

From Our Kitchen to Yours...

Dr. Garcia's delicious raw spread gets its elegant richness from raw butter and is great on manna bread (*see the recipe in our April 2010 newsletter*).

Liver Pate

2 lbs. raw, organic chicken liver
3 T. raw butter
½ onion, chopped
Pinch of celtic sea salt

Saute onion until translucent. Add liver to pan and cook over low heat a few minutes, just until lightly colored. Liver should be rare on the inside. Turn off heat and let cool in the pan. Put onion, liver, butter, and sea salt into blender and blend until smooth.

The best compliment our patients can give us is a referral of their friends and family. ~ Dr. Garcia & Staff