



The advancements and the utilization of new materials for dental restorations have made Zirconia implants a metal-free substance.

Some patients react allergically to metallic implants. Tensions caused by magnetic fields, may be prevented by using dental implants made of Zirconia. Until recently, patients only choices for dental implants were those made of titanium.

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# Zirconia Implants

## Metal Free Implants



No allergic reactions to be expected.

Extraordinary tensile strength and no danger of corrosion.

Very resilient to stress and strain that dental restorations undergo.

Resistant against any kinds of acid.



## The Science Behind Zirconium Implants

Some years ago, implantology was a highly acclaimed new dental procedure. But now this new material composed of zirconia has evolved to revolutionize the future of Dental Implant Technology. Recent state-of-the-art dental care only allowed patients choices for implants made of pure titanium. New scientific discoveries have allowed dentistry to circumvent the potential harmful titanium and now has progressed to the application of zirconium-based implants as a treatment solution. From a health care viewpoint, this new alternative clearly offers an additional number of exciting options.

Zirconium is a very poor chemical and electric conductor and easily withstands changes in temperature. Research discovered the beneficial neutrality of zirconia by only recently. While pure titanium potentially effectuated negative biochemical disturbances, research shows zirconia oxide does not produce these side effects. Implants composed of titanium have some negative esthetic effects. The gray color of titanium can actually be seen through the bone and gum tissue and make the gingival tissues in the restored areas have a noticable gray hue.

Zirconium is the 'White Gold' of dental implantology. Zirconium-based implants are an ideal option for patients suffering from a metal allergy. In the dental laboratory, skillful and highly professional lab technicians work on dentures, crowns, and bridges that are made of Zirconia. Many patients desire for metal-free, biocompatible, and esthetically superior dentures is now possible. The new material is composed of zirconia oxide.

In the crafting process of conventional bridges and crowns, models of the teeth are molded according to the precise specifications of the dentist; once done, gold and silver alloys are cast into these model molds. In using the new zirconia material, lab technicians to create wax models as well, but these wax forms serve as the patterns from which a computer-aided milling unit creates the crown or a bridge.



In a next step, the implant is milled out with micro-millimeter precision. Following the milling process, the solid zirconia oxide ceramic is put into a sintering furnace for 12 hours to be hardened with temperatures of over 3000 degrees. This material then becomes one of the hardest materials available on earth.



Even bridges can be produced this way. One of the major advantages of dentures and dental restorations made of Zirconia is its excellent biocompatibility. Consequently, metal allergy caused by dental implants should be a something of the past. Excellent hardness and comparable heat-conducting characteristics provide the patient with the best possible compatibility with the remaining teeth. Another fact is that crowns and bridges made of Zirconia are radio-opaque, which is crucial for future dental examinations.