



## **Benefits of Ceramic Dental Implants (Metal free Implantology)**

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### **Biocompatibility and Optimal Osseointegration**

Ceramic implant is made from Zirconia which is biocompatible material that allows for direct integration of the implant to jaw bones without the need for coatings on the implant itself.

Ceramic implants show optimal osseointegration, research has repeatedly proven that zirconia is a bio-inert and truly biocompatible material as it does not affect the health of the tissue in which it's placed.



### **Aesthetics**

One of the common negative aspects of using titanium implants is its poor aesthetics and its vulnerability to corrosion attack. Patients who have thin and translucent gums or who are susceptible to gum recession (which is common among aging people) can have gray gums or will have titanium line being visible on the margin of the crown. Gums will also darken over time as a result of the corrosion and release of metal ions from the implant into the bone and gum tissue. As zirconia is nonmetallic and white-colored, it is more natural looking compared to titanium. It provides a perfect base color which is very close in appearance to the natural color of teeth in the first place.

### **Allergies & Sensitivities:**

The implants made of ceramics are hypoallergenic, unlike in the case of titanium implants. There are increasing reports of cases where titanium implant sensitivity arise shortly or even years after implant surgery. People often complain of itchiness, rashes, inflammation developing around the implant location, fatigue and even brain fog. This is perfect scenario for causing bone loss, peri-implantitis, possible failure of the implant and other systemic health issues.

In the present age, increasing number of people are affected by allergies, compromised immunity and skin sensitivities and hence the implants made of metal devices should be carefully scrutinized beforehand, mainly because it is not a simple procedure to remove a titanium implant from the jaw bone.

Hence, MELISA testing should be considered before selecting implant system especially in patient with a history of metal allergy and sensitivity. Women are known to have a greater predisposition to such occurrences. MELISA is an innovative diagnostic tool for identifying metal allergies and sensitivities.

#### **Non-conductivity of ceramic:**

One of the main benefit of zirconia arises from the fact that zirconia is not a good conductor of electric charge. Because of its non-conductivity, bacterial growth is less likely to take hold on the surface of zirconia implant; this contributes to building of oral environment promoting healthier gums.

#### **Corrosion Resistant:**

Ceramic is a biocompatible material being resistant to chemical corrosion and will not conduct electricity or heat. Being a bio-inert material, it will not trigger any chemical reaction or migrate to any other location in the body or affect the maintenance of the optimal oral health.

But it is quite different in case of titanium. It is scientifically demonstrated that a titanium implant corrodes in moist environment of a mouth, more so in case where there is a metal in vicinity such as amalgam fillings, bridges or gold onlays or inlays or alloy metal crowns which trigger chemical reactions.

Metal corrosion occurs more aggressively in presence of fluoride found in tooth pastes, water supplies and mouthwashes. It attacks titanium implant surfaces. Numerous studies have shown that titanium will migrate into surrounding tissues including even lymph nodes in vicinity.

#### **Strength and Durability:**

One among the most important features of success of this innovative system is the long term success of the Ceramic implants. Built to withstand huge masticatory forces, the Ceramic implants compare with the best in nature along with their bioinert characteristics and tooth-like contours. Zirconia is famed for its durability along with inflexibility under pressure, both being key traits for dental devices. Additionally, they offer stability without help of messy adhesives.

**Comfortable:**

With the ceramic implants patients undergo shorter implant processes and find considerable increase in functions and comforts because of the biocompatibility and strength of zirconia. Overall, for the patient, ability to chew and bite is exactly similar to natural teeth.

**Holistic-friendly:**

Ceramic implants do not affect movement energy through the meridians of the body and as these are bioinert, they offer perfect tooth replacement for patients who follow principles of holistic health. Acupuncturists routinely report significant improvement in their treatment protocols once metal implants are removed.

**One-piece design:**

Conventional titanium implant system consists of two metal parts: a part lodged into jawbones and the abutment visible on the gum-line, which are joined with fixing screw together. There could be micro-movements at the meeting surfaces of these pieces under extreme pressure applied during chewing which create warm and moist areas providing an opportunity for anaerobic bacteria to colonize. This creates a perfect environment that can lead to events such as: bacteria releasing toxins, causing inflammation around the implant, which leads finally to bone loss and potentially implant failure.

During the past decades, because of their proven strength and aesthetic superiority, more ceramic components are incorporated in dentistry. There is a trend to use all-ceramic implant abutments and crowns in dental treatments, but now the implant is available in one-piece design made of biocompatible zirconia. These have set stage for final tools in optimal function and aesthetic beauty.

**One-stage surgery**

Ceramic implants are built for immediate replacement after tooth extraction. Such one-stage surgical approach minimizes time for implantation while maximizing comfort and faster healing time.

Additionally, it could be less invasive surgery as there is little chance of infection and sufficient bone mass is present at implant site.

### **Maintenance**

The ceramic implants are quite easy to maintain as they don't attract bacteria-loving plaque.