



**BIOART**  
Creative Dental Technicians



## **Bio Art Dental Professional Series - Zirconia**

The recent development of polycrystalline ceramic frameworks, such as Zirconia, is proving extremely successful for prosthetic dental restorations.

While traditional Porcelain Fused to Metal (PFM) crowns were a great technical improvement when first introduced, one of their disadvantages has been the development of unsightly black lines at the margin edge as gums recede over time. Zirconia's tooth-coloured core eliminates the risk of black lines.

More stable in posterior applications than glass and infiltrated ceramics, Zirconia also has outstanding stability and biocompatibility, and is significantly stronger than conventional ceramic materials.

Zirconia is suitable for a wide range of crown and bridge applications for anterior and most posterior prosthetic requirements.

Zirconia's core framework is manufactured by leading suppliers such as:

- Lava (3M ESPE)  
[http://solutions.3m.com/en\\_US/Products/](http://solutions.3m.com/en_US/Products/)

- Glacier (Stoneglass) [www.glaciersystem.com](http://www.glaciersystem.com)
- Cercon (Dentsply) [www.dentsply.com](http://www.dentsply.com)
- Everest (KaVo) [www.kavo.com](http://www.kavo.com)
- Procera Zirconia (Nobel Biocare)  
[www.nobelbiocare.com](http://www.nobelbiocare.com)

Sourcing frameworks from a variety of suppliers allows Bio Art Dental to advise its dentists about the very best product for a particular case. With the use of innovative CAD/CAM technology, Bio Art Dental supplements the framework with a specially designed veneer ceramic.

Zirconia's superior durability and aesthetics make it the optimum restoration material for all-ceramic systems, proven by the increasing demand for Zirconia crowns over the traditional PFM.

### **Zirconia's Advantages**

#### **Accuracy of Fit**

The excellent fit demanded for clinical success is achieved with CAD/CAM milling accuracy combined with precise computerised calculation of the sintering shrinkage so that the cement gap can be adjusted to individual requirements.

#### **Unparalleled Strength**

Zirconia's ability to withstand many times the large occlusal forces in both anterior and posterior areas makes it one of the few polycrystalline ceramics suitable for use in dental framework materials.

#### **Improved Aesthetics**

Zirconia's material properties allow a low wall thickness in order to deliver an ideal tooth-like translucency. The strength of the relatively thin framework allows optimal space for the layering of ceramic, even in difficult situations.

The Zirconia framework is available in a number of different shades and opacity, producing an optimum aesthetic end result with the addition of the specially designed veneer ceramic.

#### **Biocompatibility**

Zirconia has a very high level of biocompatibility and has already been in use for more than a decade as a material for surgical implants such as hip joints.

Clinical studies show that both the Zirconium oxide and the veneer ceramic produce no measurable



## Zirconia - metal free ceramics...

solubility of allergic potential and no irritation of the tissue.

Unlike metal supported units, Zirconia has low thermal conductivity, eliminating sensitivity to temperature variation, while plaque accumulation is similar to the natural tooth.

### Established Dental Technique

Bio Art Dental understands dentists want the advantages of new technologies and materials without wholesale change to established preparation or impressioning methods.

Using Zirconia allows conventional cementation yet produces unconventional results. For exceptional aesthetics, Bio Art Dental offers a composite luting system with many shades for an aesthetic result.

### Long Term Stability

Although pure polycrystalline oxide ceramics have only been in clinical use for about 10 years, Zirconia will perform as well as conventional PFM crowns and bridges.

No measurable solubility or water absorption means the strength of Zirconia, even after a long time in the mouth, is expected to be excellent.

Warranties from Bio Art Dental suppliers confirm their confidence in the product. 3M ESPE warrants for five years from the date of placement that the Zirconia core and layering ceramic made of Lava Frame Zirconium Oxide will not break if fabricated by an authorised Lava laboratory such as Bio Art Dental. Other suppliers offer the same five year warranty period on the Zirconia core only.

Clinical trials are being conducted to monitor the success of posterior bridges and most clinical work has resulted in very satisfactory results.

The aesthetics, precision fit, and suitability for simple conventional cementation are particularly impressive.

Zirconia frameworks have achieved excellent results for Bio Art Dental clients. It delivers an extremely natural appearance where the crown emerges from the gums and, if the root is later exposed by receding gums, the Zirconia continues to transmit light to the root, enhancing its natural effect.

Bio Art Dental technicians are available to discuss cases that could benefit from a Zirconia restoration for anterior or posterior applications. The Bio Art Dental Professional Series also includes a collection of images housed at the laboratory.

For further information or a confidential conversation regarding your unique needs please contact us on 9499 4445 or email [smile@bioartdental.com.au](mailto:smile@bioartdental.com.au)