NobelPearl™: metal-free two-piece implant solution

Strong ceramic. Hydrophilic surface.

– Made of alumina-toughened zirconia (ATZ), a more durable hybrid ceramic with improved hardness, bending strength, and toughness compared to tetragonal zirconia polycrystal (TZP) which most ceramic implants are made of.[1-3]

– Hydrophilic ZERAFIL™ surface modified with sandblasting and acid etching.[4]

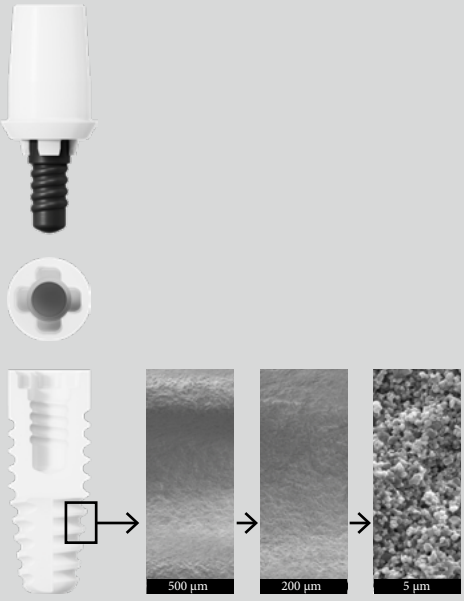
Engineered for primary stability and restorative flexibility

– Two-piece, screw-retained.

– The implant and the tapered drill protocol are designed to achieve high primary stability.

Truly metal-free, including the screw

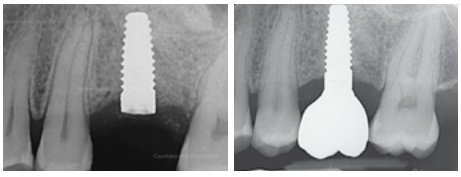
– Every component is 100% metal free, including the implant, restorative abutment and screw.



How well do ceramic implants osseointegrate?

– Osseointegration of zirconia is comparable to titanium implants (meta-analysis of animal studies).[5]

– Zirconia accelerates and promotes the adhesion and proliferation of osteoblast-like cells (in vitro).[6]



Radiographs, 3 months after insertion of NobelPearl in position 26 (FDI) (left) and 4.5 years post-loading (right). Image courtesy of Dr. Jens Tartsch

Are ceramic implants soft tissue friendly?

– Compared to titanium, zirconia shows a lower bacterial adhesion (in vivo)[7,8], biofilm affinity (in vitro)[9] and low plaque accumulation[10].

Thick keratinized peri-implant mucosa at removal of the NobelPearl healing abutment Inter-X.
Image courtesy of Dr. Jens Tartsch

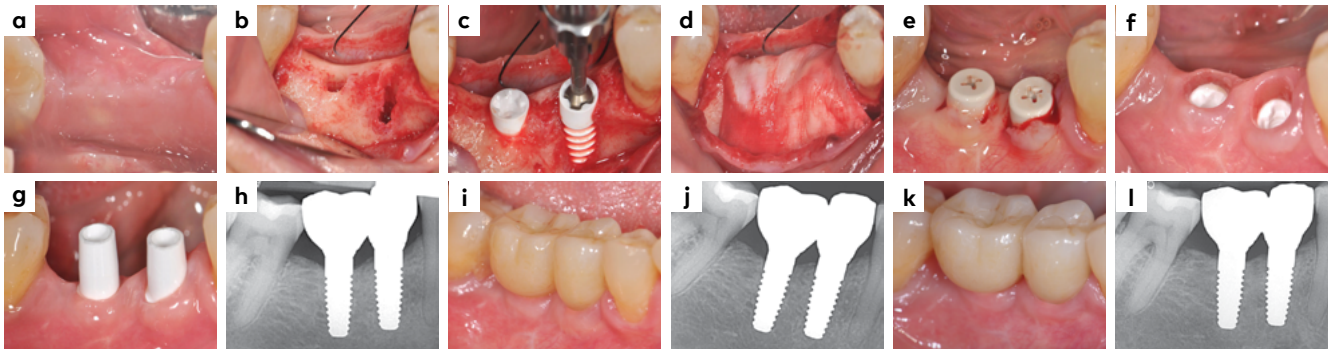
What about complication rates?

– With the internal connection design of NobelPearl, the associated risks with intraoral cementation[11] are eliminated.

– NobelPearl is not sintered or processed after milling, in order to minimize the risk of shrinkage or micro-cracks.

– The threads of VICARBO® screw are round on their flanks, in order to distribute forces evenly within the implant body and avoid stress concenteration.[12]

Clinical case



Images courtesy of Dr. Jens Tartsch

A 57-year-old female patient was treated for missing molar and premolar in the mandible. (a) Initial situation, (b) osteotomies and implant insertion at positions 45 and 46; note the dehiscence at position 45, (c,d) NobelPearl implants were inserted 0.6 mm supracrestally and GBR performed to treat the horizontal defect, (e) re-entry with a small roll flap after 3 months to place healing abutments Inter-X, (f) healthy and thick keratinized soft tissue after removal of the healing abutment, (g) try-in of the NobelPearl abutments, (h) X-ray at final restoration delivery. Healthy soft tissue and stable bone level after 1 year (i,j) and 4.5 years (k,l).

Prof. Markus Blatz
US

"From a material and engineering standpoint, we have learned a lot over the years. NobelPearl sets entirely new standards when it comes to physical strength, biologic integration, and clinical applications of ceramic implants, providing a true and reliable alternative."

Dr. Jens Tartsch
Switzerland

"The osseointegration and survival rate, as well as the surgical and prosthetic procedures of NobelPearl implants are comparable to titanium. However, zirconia implants show significantly healthier peri-implant soft tissues. That is why I believe in NobelPearl"

Dr. Alfred Lau
Hong Kong

"When patients ask for a metal-free solution, NobelPearl is a perfect option. Evidence and clinical experiences show less inflammatory response and thus more stable soft and hard tissue around ceramic implants, while the two-piece design is the other well-known benefit."

More to explore

Patient's story

FOR - Interested in ceramic implants?

Ceramic vs titanium implants - when to choose which?

nobelbiocare.com/nobelpearl

1. Nobel Biocare-Data on file • 2. Spies BC, et al. Dent Mater 2015;31(3):262-72 • 3. Spies BC, et al. Dent Mater 2018;34(10):1585-95 • 4. Chappuis V, et al. Clin Implant Dent Relat Res 2016;18(4):686-98 • 5. Pieralli S, et al. Dent Mater 2018;34(2):171-82 • 6. Hempel U, et al. Clin Oral Implants Res 2010:21(2):174-81 • 7. Scarano A, et al. J Periodontol 2004;75(2):292-96 • 8. Rimondini L, et al. Int J Oral Maxillofac Implants 2002;17(6):793-8 • 9. Roehling S, et al. J Periodontol 2017;88(3):298-307 • 10. Cionca N, et al. Clin Oral Investig 2016;20(8):2285-91 • 11. Wilson TG Jr. J Periodontol 2009;80(9):1388-92 • 12. TartschJ. ZMK 2018;11(34):750-60.

Nobel Biocare™