

# A new splash of life

Numerous innovative restorative and aesthetic dental solutions, which are considered an industry standard today, have been brought to market by Nobel Biocare. Recently, the company expanded its product portfolio of dental implants and is now offering a complete metal-free, two-piece screw-connected option with NobelPearl. The new ceramic implant system was first introduced at EuroPerio9 in Amsterdam, the Netherlands. In this interview with *ceramic implants* Prof. Stefan Holst, Vice President Global Research, Products & Marketing at Nobel Biocare (Fig. 1), discusses the new product line and what makes it stand out from other systems available on the market.

**With NobelPearl, Nobel Biocare is now at the forefront of modern ceramic implant systems. What has been the response so far to this new product line?**

We have been pleased with the very positive response to this new product in our implant range. The market launch was announced at the end of last year and we recently presented NobelPearl to the public in the German-speaking regions in June and to international markets at the EuroPerio9 congress in Amsterdam. We are currently midway through the market launch. The interest in our innovative two-piece metal-free screw-connected ceramic implant is continuously growing, and we are sure that it will further increase with approval in new markets.

**In your opinion, what should be the key features of a modern ceramic dental implant system?**

Aesthetics and material compatibility are very important features for ceramic implants, but they should not come at the expense of primary stability. Modern ceramic implant systems such as NobelPearl are now capable of meeting our quality requirements in terms of strength, rigidity, and fracture toughness. For these reasons, among others, we decided to permanently add it to our product portfolio.

**What are the main indications for your system?**

NobelPearl was designed to support a natural soft-tissue appearance (Fig. 2). Its zirconia material is especially beneficial for patients with a very thin mucosa, as studies have shown that microcirculatory dynamics in peri-implant mucosa around zirconia are comparable with those around natural teeth. The material has further demonstrated low affinity to plaque.

“We are seeing growing demand for metal-free implant solutions.”

**Is it possible to achieve multi-piece restorations and even fixed total prostheses with NobelPearl?**

The two-piece, reversible screw-connected concept allows us to cover many indications. Therefore, the NobelPearl implant can also be used for bridges and even in edentulous jaws.

**What role does the “metal-free” feature play in this?**

Nowadays, patients are much more conscious about their health and therefore carefully choose products and treatments. That is why we are seeing growing demand for metal-free implant solutions, among other developments.

While ceramic implants can still be considered a niche, their market share is expected to increase in the coming years. The movement and innovation that can be seen in this area at the moment is a clear indication for this trend.

**A special feature of the new system is the metal-free carbon-based VICARBO screw. Experts still seem to argue about the biocompatibility and long-term stability of this type of material in the moist environment of the mouth. What would you tell them?**



Fig. 1

**Fig. 1:** Prof. Stefan Holst, Vice President Global Research, Products & Marketing at Nobel Biocare.



Fig. 2

Fig. 2: The NobelPearl two-piece ceramic implant solution. Photos © Nobel Biocare

Carbon fibre-reinforced PEEK (Polyether ether ketone) has been used in orthopaedics for some time, and therefore has been tried and tested in clinical use. The same holds true for dental applications such as temporary restorations. The material exhibits very good biocompatibility and is also highly resistant to corrosion.

**There are still not many long-term studies available on modern ceramic implant systems. Do you see a problem there and how well has your own system been scientifically validated?**

We decided to base NobelPearl on an implant body design that our partner Dentalpoint from Switzerland has had successfully on the market for five years, so there is relevant experience and data available in a clinical setting. In addition to five-year follow-up studies by Prof. Andrea Mombelli from Geneva, Switzerland, there have already been meaningful mechanical studies conducted and statistics compiled from over 15,000 implants. As usual, we are going to start our own clinical studies in the coming months.

**The claim that modern dental ceramics are biocompatible seems to be sufficiently proven, but what influence does the quality of the implant surface has on successful tissue and bone integration?**

Similar to titanium implants, the hydrophilic surface of the NobelPearl implant is acid-etched and sand-blasted. The resulting micro- and macroroughness allows good osseointegration, which was confirmed by two recently published studies from the universities in Innsbruck in Austria and Bern in Switzerland.

**Is there something we still do not know about ceramic implants, e.g. looking at inflammation-free but failed osseointegration?**

As with all innovations, of course, there is still little long-term experience. In other words, there are not many studies available with 5, 7 or even 10 years of follow-up. However, there is no “big unknown”. We based NobelPearl on the latest available knowledge, and the current products have been extensively tested and scrutinised.

The “aseptic loosening” you mentioned, is an observation from the field of orthopaedics, which is now being used to explain individual cases involving ceramic implants, but this is certainly not something we are unaware of.

**Nowadays, an implant system must be “modern”, meaning that it can be integrated into the digital workflow. How much progress have you made in that regard? After all, Nobel Biocare only recently presented a dynamically guided navigation system.**

From digital diagnostics to implant planning with the DTX Studio suite or CAD/CAM work processes, NobelPearl, like our titanium implants, is fully integrated into the Nobel Biocare digital workflow. Therefore, clinicians who want to offer that treatment option should not have any difficulties with the transition. The X-Guide system, you mentioned, which will soon be available in all key markets, will be supported as well.

**Prof. Holst, thank you very much for the interview.**

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