

Interview

ZURICH, SWITZERLAND – 01. SEPTEMBER 2011

NobelReplace[®] Conical Connection completes the NobelReplace[®] implant system

The NobelReplace Tapered implant system from Nobel Biocare is a remarkable success story. Since the original tapered implant design was launched on the market in 1997, NobelReplace has become the most widely used implant system in the world. The new NobelReplace Conical Connection with its conical connection further completes this success story. Steve Hurson, Chief Scientist at Nobel Biocare, presents the new implant and considers likely reasons for the phenomenal success of NobelReplace Tapered.

You are expanding the NobelReplace implant system with the new NobelReplace Conical Connection, an implant with a conical connection. What advantages does the conical connection offer?

Steve Hurson: Experience from the NobelActive implant system demonstrates that while the conical connection implants can be used for all indications, they are best suited for single-tooth and partially edentulous applications. The Nobel Biocare conical connection implants have a tight seal, narrower emergence profile and platform shifting. This type of design has been shown to result in outstanding soft tissue volume and esthetics.

As one of the world's leading producers of implants, your company sees developments in implantology from a global perspective. There appears to be a trend towards conical connections in Europe/Germany – is this a global development?

Steve Hurson: Globally there is a definite trend toward the conical connection implants for the treatment of the partially edentulous patient as we have seen with the success of the NobelActive implant system.

For edentulous applications, the Replace Select Tapered implant placed with the smooth collar in the soft tissue, combined with a NobelProcera Implant Bridge or Implant Bar Overdenture, is the most cost-effective treatment and is hard to beat. This treatment plan results in soft tissue adhesion to the collar of the implant which remains undisturbed during prosthetic manipulation.

You developed NobelReplace about 15 years ago together with the dentist Dr. Jack Hahn, one of the pioneers of implantology. Which scientific research outcomes and clinical experience did you implement when you were designing the original system?

Steve Hurson: Self-tapping parallel-walled implants were the predominant modality at the time of the Replace development. Dr. Hahn identified a need for an implant with a narrower apex, which would achieve higher primary stability in soft bone. The concept was to have an implant design that would have the tapered shape of a tooth root, to be used in difficult-to-treat sites such as type 4 bone, extraction sockets, areas with converging roots and areas with labial undercuts, while also performing well in hard bone qualities resulting in a system with outstanding predictability.

NobelReplace has been developed continuously based on the latest scientific research in implantology. What important developments have had a lasting influence on the system?

Steve Hurson: Two aspects of the design stand out. The tapered shape of the implant combined with TiUnite (porous, moderately rough titanium oxide implant surface) provides excellent primary stability and rapid osseointegration, allowing the clinician the flexibility to treatment plan for one- and two-stage healing and immediate loading. The NobelReplace tri-channel connection is the easiest to use in the industry and was specifically designed to provide long-term trouble-free prosthetic solutions.

NobelReplace is now the most widely used implant system in the world. Why do you think this implant system is the first choice for so many clinicians?

Steve Hurson: It all revolves around predictability and ease of use. The surgical system is state-of-the-art, setting the standard for kit design, color coding and drill design. The predictability of the straight-forward surgical protocol makes this the day-to-day system of choice for experienced surgeons and for teaching new clinicians. Restorative dentists demand the system because the prosthetics are easy-to-use and have a proven track record of high strength and long-term trouble-free restorations.

The flexibility of the implant system is frequently referred to as one of its major assets. What does that mean exactly from a clinical and prosthetic point of view?

Steve Hurson: There is literally a product for every application ranging from single-tooth restorations to graftless solutions such as All-on-4. In demanding esthetic situations NobelReplace Tapered and now NobelReplace Conical Connection are placed at bone level and can be restored with standard or customized abutments and NobelProcera Crowns. For posterior and edentulous applications Replace Select and Replace Select TC implants may be placed in a one-stage application leaving the smooth collar to remain undisturbed in the soft tissue during prosthetic reconstruction.

We see a revival of screw-retained restorations in the industry. NobelProcera products range from full-contoured single crowns to full-arch frameworks in titanium and zirconia. These products set the standard for fit, strength and soft tissue health.

Finally, a look at the future: implant bodies, surfaces and prosthetics have now reached a very high standard. Are we likely to see further revolutionary innovation in the coming years? What direction is oral implantology going to take?

Steve Hurson: Regeneration techniques will play an important role in grafting and developing the implant site. The future focus will be on the soft tissue. Here there is a lot of research and innovation ahead of us to understand the best materials and surface technologies to be used in the soft tissue. Development of sustainable anti-microbial surfaces on the implants and abutments will be the next major change.

Steve Hurson is the Chief Scientist for Nobel Biocare located in Yorba Linda, USA. As part of the Research and Development group he has been responsible for new implant system development. His accomplishments include the development of NobelReplace Tapered implant system and the Steri-Oss implant system since its inception in 1984. He is a member of the Society for Biomaterials, the International Association for Dental Research and the American Society of Mechanical Engineers and is lecturing internationally on implant design, prosthetics and implant surfaces.

The questions have been asked by Dr. Svenja Rogge, Product Manager Implant Systems & Guided Surgery, Nobel Biocare Germany.

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Figures:

Fig. 1:

Steve Hurson
Chief Scientist Nobel Biocare
Located in Yorba Linda, USA



Nobel Biocare (NOBN, SIX Swiss Exchange) is a world leader in innovative restorative and esthetic dental solutions. As a complete solutions provider, Nobel Biocare offers the most comprehensive range of solutions from tooth to root, for single tooth to fully edentulous indications. The solutions portfolio covers dental implants (including the key brands NobelActive™, Brånemark System® and NobelReplace®, individualized prosthetics and equipment (NobelProcera™), guided surgery solutions and biomaterials. Nobel Biocare has around 2,500 employees and recorded revenue of EUR 576.6 million in 2010. The company is headquartered in Zurich, Switzerland. Production takes place at seven sites located in Canada, Israel, Japan, Sweden, and the US. Nobel Biocare has 34 direct sales organizations.
