Hahn Tapered Implant: 45 years in the making

Since placing his first implant nearly 45 years ago, Dr. Jack Hahn has spent much of his career as an implantologist thinking of ways to make treatment more accessible to the practitioner as well as the patient.

Implant design has improved dramatically during that time, with Hahn spearheading key innovations that have helped make implant therapy the essential mode of dental treatment it is today. From the endosseous blade-form implant he helped Miter Inc. develop in 1978 to the newly released Hahn™ Tapered Implant, Hahn’s efforts have been driven by the desire to continually improve in order to make treatment simpler and more predictable.

“The easier we make it to position the implant for a restoration that looks like a natural tooth, the better results we’ll have,” Hahn said.

It was this line of thinking that inspired Hahn’s idea for the first tapered implant. After a long day that included several cases in which he had difficulty placing parallel-walled implants in the anatomically restricted space of the anterior maxilla, Hahn had an epiphany: “The tooth I was replacing was taper-shaped, so why was I putting in a square peg?” That very night, he sketched out the concept.

Steve Hurson, former chief scientist for Nobel Biocare, has said: “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 … resulting in a system with outstanding predictability.”

In essence, this was an extension of the philosophy that inspired the design of the machined collar Hahn helped Steri-Oss develop. “By designing a 4 mm machined collar that was more like the neck of a natural tooth root, we were able to prevent crestal bone loss and improve outcomes,” Hahn said.

This drive to constantly improve, however, has not always been met with open arms. In fact, his role with Steri-Oss was borne of a disagreement with Miter Inc. “The Titanodont implant had some problems, including an abutment attachment that lost its retention after a few years and fins that would become exposed if there was any crestal bone loss. So I proposed a machined collar with a new prosthetic connection,” he said. “They couldn’t do it because it would be too expensive to change the machinery. I didn’t want to have my name associated with the implant any longer if they weren’t going to correct the problems.”

This led Hahn to other endeavors, including his role with Steri-Oss and, eventually, Nobel Biocare.

After the NobelReplace® tapered implant system launched in 1997, Hahn continued placing and restoring implants, completing thousands of cases. This experience afforded clinical observations that would serve as the basis for a new implant design that Hahn considers his best.

“I came to Nobel with my idea for a new implant in 2012, conceptual engineering drawings in hand, and they said, ‘Replace is so successful; why change now?’” Hahn replied: “Apple has become one of the most successful companies in history by constantly innovating. Why shouldn’t we do the same in implants?”

Wanting to take his design concept to the next level, Hahn began pursuing alternatives, which eventually led him to Glidewell Laboratories. The resulting partnership culminated in the recent launch of the Hahn Tapered Implant System, and Hahn couldn’t be happier with the results.

“When I first visited their facilities, it was immediately apparent that their manufacturing capabilities are state-of-the-art,” he said. “Their engineering team has the technology and know-how to bring design concepts to life with astonishing speed and precision, and their expertise on the prosthetic side of implant dentistry has been invaluable in creating an implant that is as simple to restore as it is to place.”

With a career that speaks volumes on the importance of continual innovation, Hahn is proud to have his name on an implant that contributes to the forward progression of implant dentistry while reducing the cost of treatment. “The better we make implant design, the more accessible we can make implant dentistry to doctors so they can improve their practices and the quality of life of their patients,” he said.

Note: The Hahn Tapered Implant is a registered trademark of Glidewell Laboratories. NobelReplace is a registered trademark of Nobel Biocare.
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Piezomed: Minimally invasive, maximally effective

Author: W&H Staff

Current developments focus on minimally invasive procedures with less postoperative pain for the patient and a faster healing time. Piezo technology has increasingly been finding its way into oral and maxillofacial surgery (OMFS) and implantology for more than a decade.

Maximum precision in surgical use and gentler treatment for the patient are just some of the advantages of this cutting-edge drive technology. With the new Piezomed, W&H can use state-of-the-art ultrasound technology for even the most demanding tasks in bone surgery, providing surgeons with optimal support in their daily work.

“Our product development has a clear aim: to consistently fulfill the many different needs of the patients and also to satisfy the users’ requirements. The new Piezomed minimizes the invasiveness of surgical treatments. Safe working thanks to automatic instrument detection and unique instrument design takes on a completely new meaning for the user,” said Andreas Lette, strategic W&H product manager and head of product innovation.

New dimension in bone surgery

The new surgical instrument from W&H employs state-of-the-art ultrasound technology. High-frequency micro-vibrations enable high-precision incisions while the so-called cavitation effect ensures an almost blood-free surgical site and an excellent view of the treatment area.

In addition to these benefits, W&H offers maximum safety during operation with its patented automatic instrument tip detection. Piezomed detects the instrument during tip insertion and sets the correct power class automatically. This significantly lowers the risk of harming a patient and overloading the instruments, according to the company.

Equipped for any task

W&H offers a selected range of 24 intelligently created working instruments to provide optimum cover for the wide variety of tasks dealt with by surgeons.

“For example, the bone saws have a specially developed tooth design that enables bone block harvesting with low bone loss. We also offer a special saw that boasts extremely high-cutting performance,” Lette said.

“Many of the surgical instruments developed by W&H are an absolute world first in the global dental sector. Our developments are patented to protect our unique expertise,” he continued.

The instruments have another advantage with their efficient cooling concept. The spray exits near the instrument’s work area, thus protecting the instrument from thermo-mechanical material stress. The user benefits from even safer and cooler processing of the operating field, according to W&H.

Piezomed supports the surgeon’s individual way of working with three different operating modes: “Power,” “Basic” and “Smooth.”

The operating modes store a variety of performance characteristics. Equipped with a multi-functional foot control, the surgical device offers freedom for the users’ hands.

Please contact www.wh.com/na or call (800) 265-6277 for additional information on any W&H surgical product.