Putting TiUnite to the test
An interview with Prof. Tomas Albrektsson, Sweden

Having been involved in dental implantology from the very begin-
ing, Prof. Tomas Albrektsson was a keen observer when Nobel Biocare launched its moderately rough TiUnite surface in 2000. Seventeen years later, he co-authored a landmark meta-analysis of all prospective studies published on the surface, which included 106 papers and over 12,000 TiUnite implants in total. In this interview, he explains the significance of the findings. Prof. Albrektsson, the meta-analysis of TiUnite implants that you co-authored with Prof. Matthias Karl from Saarland University in Germany is perhaps the most extensive assessment of a single dental implant brand. What was the relevance of looking at research on the TiUnite surface in such detail?

It is always relevant to conduct proper clinical studies, but it was the sheer wealth of evidence on TiUnite implants that made this meta-analysis possible. There are not many systematic reviews of a single implant surface or brand. Nobel Biocare is definitely leading the way in that regard. The more we know about an implant, of course, the better it is for dental professionals and for patients.

Research of this nature highlights the stark contrast between high-quality implants and the copycat versions that are not backed by any documentation. Even if they seemingly look like the implant that they are trying to imitate, it does not mean they work the same way. The most important thing is that a dental implant really functions as planned and that there is high-quality evidence to prove it.

What were the key findings of this TiUnite meta-analysis, and why are they important?

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Unsurprisingly, a very high implant survival rate for implants with the TiUnite surface was reported. We know now that TiUnite has a very good clinical record of maintained bone levels in the vast majority of cases. There are actually five different ten-year studies on TiUnite that demonstrated well-maintained bone levels.

What does the meta-analysis tell us about rates of peri-implantitis with TiUnite implants?

The publications that assessed biological complications revealed a low prevalence of peri-implantitis with TiUnite implants. This was not a big surprise either. The figures we have seen widely reported in the literature are exaggerated. They say that any bone loss after the first year is disease, which is, to put it mildly, incorrect. We see maintained bone levels in this study and in other ten-year follow-up studies with TiUnite. If peri-implantitis is a disease—which is still under debate—it may affect 1 per cent of implants after ten years. If by “disease” we mean bone loss that threatens the survival of the implant, it is in the order of 1 per cent.

Nobel Biocare’s implant systems are not the only ones that have shown good results with respect to peri-implantitis, but if I were to choose an implant today I would look at the documented research, which is so much better with Nobel Biocare. The TiUnite implant surface is backed by more five- and ten-year studies than any other implant surfaces from its competitors. When it comes to supporting evidence, Nobel Biocare implants have the advantage.

How can the findings of this meta-analysis be used to optimise clinical outcomes?

I think that we have to strive for continuous improvement. If one had 19 per cent mortality with appendicitis cases in the 1840s, one was better than the average doctor. Nowadays, such a high mortality rate would lead to one losing one’s licence. We have new techniques. It is a similar story with dental implants. We have to constantly challenge what we think of now as the ultimate implant solution in order to have even better solutions for patients in future.

It is a continuing mission and I know that Nobel Biocare is involved in a number of studies with the goal of making further improvements. I think this is exactly the right approach because the ideal situation is that we have 100 per cent survival and success rates after ten years. We are not there yet, but that is the goal.

You have been involved with research evaluating Nobel Biocare implants for many years. Have the findings of your analysis changed your perception of the TiUnite surface?

While the meta-analysis is another validation of TiUnite’s efficacy, its high performance has been confirmed in other types of clinical studies. Meta-analysis offers high-quality insight, but one needs a wide range of supporting evidence. TiUnite is backed not just by prospective studies, as we examined, but by retrospective research and other study types as well. The statements we make about TiUnite implants today can therefore be made with great confidence.

I saw TiUnite being launched in 2000. I believed in it then and now. I know that my beliefs were correct. I think this is exactly the right approach because the ideal situation is that we have 100 per cent survival and success rates after ten years. We are not there yet, but that is the goal.

Thank you very much for this interview.

References:
Reliable Experience Original Forever
In my lecture at this year’s EAO meeting, attendees received an overview of over 50 years of working with implants and why we did it in certain ways back then and why we do it differently today. When I started placing implants, they were only for specialists in oral surgery and prosthodontics. Periodontists were not even allowed to listen to our lectures. One also had to be thoroughly trained if one wanted to purchase implants. Companies kept records of the clinician’s success rates and if he or she had a higher than normal failure rate, they showed him or her the door to figure out alone what had gone wrong. In some instances, the warranty did not even apply if the dentist was not very skilled peers.

Later, everyone was allowed to take a course and to place implants. Often, these were just weekend courses after which the dentist was supposed to be a fully qualified surgeon and prosthodontist and knew everything, including single-tooth restoration, full-arch rehabilitation of severely resorbed jaws with bone grafts and immediate loading concepts. It was totally absurd. To place implants, one needs to be well trained—learn to walk before one starts to run.

To my delight, I see that more and more implant companies are abandoning weekend courses and instead offering high-quality courses over a longer period. Attendees have to treat patients under supervision and companies even offer mentor support, which means clinicians are receiving guidance in conducting their treatments. The best courses are of a general nature, where the sole purpose is to train dentists to place implants and do this well and not have to do it with a specific implant system.

One thing that worries me a great deal is all the copy-cat versions of implants that are being marketed to less experienced dentists who cannot determine what a good product is. I always tell my audience to never treat patients differently to how they would treat their own family. The unfortunate thing is that I often see members of the audience looking down because they feel ashamed. They do not understand that they get what they pay for and that failures are very costly and can hurt both their reputation and patients.

Another topic that gets me going is the marketing of new teeth in an hour. Patients that for decades have not taken care of their natural dentition are now being treated in accordance with concepts like immediate loading. Within an hour, any remaining decayed teeth are removed and replaced with implant-supported crowns and bridges in the belief that the patients will start taking care of their new teeth. Unfortunately, this is not realistic. In my opinion, this is a ticking time bomb. It is just a matter of time before patients will come back with problems like peri-implantitis and failing implants. Who is going to sort that out? In the good old days, patients had to cooperate first and then we placed the implants. Maybe this was a bit harsh, but success rates were higher then and fewer patients ended up with problems. One does not have to be a rocket scientist to understand that, with a mouth full of pathogens, the success rates will go down.

I have been heavily involved in developing concepts like “Tooth Now”, according to which a tooth is extracted and immediately replaced with an implant and loaded with the final abutment and a temporary crown, with extremely high success rates when it comes to both implant survival and even more so the aesthetic outcome. Therefore, I am not against immediate loading at all, but case selection is very important. That is why good training courses conducted over longer periods are so important.

Guided surgery is both good and bad. The saying of “garbage in, garbage out” is apt in this regard: if one has the wrong information or interprets the digital information incorrectly, one might get into trouble if a fully guided surgical template is based on that. I do not agree with fully guided surgical protocols as implant dentistry as part of this year’s EAO 2017 scientific programmes.

Dr Göran Urde is the director of the Futurum Clinic at the Malmö University’s Faculty of Odontology. On Thursday, he presented a paper titled “Evolution of surgical protocols in implant dentistry” as part of this year’s EAO 2017 scientific programmes.