

STUDY COMPARING STRAUMANN'S SLACTIVE TO NOBELBIOCARE'S TIULTRA SURFACE
["In a recently published pre-clinical study*, SLActive® outperformed TiUltra™** in 5 out of 6 parameters of osseointegration and direct bone apposition after 8 weeks of healing."](#)

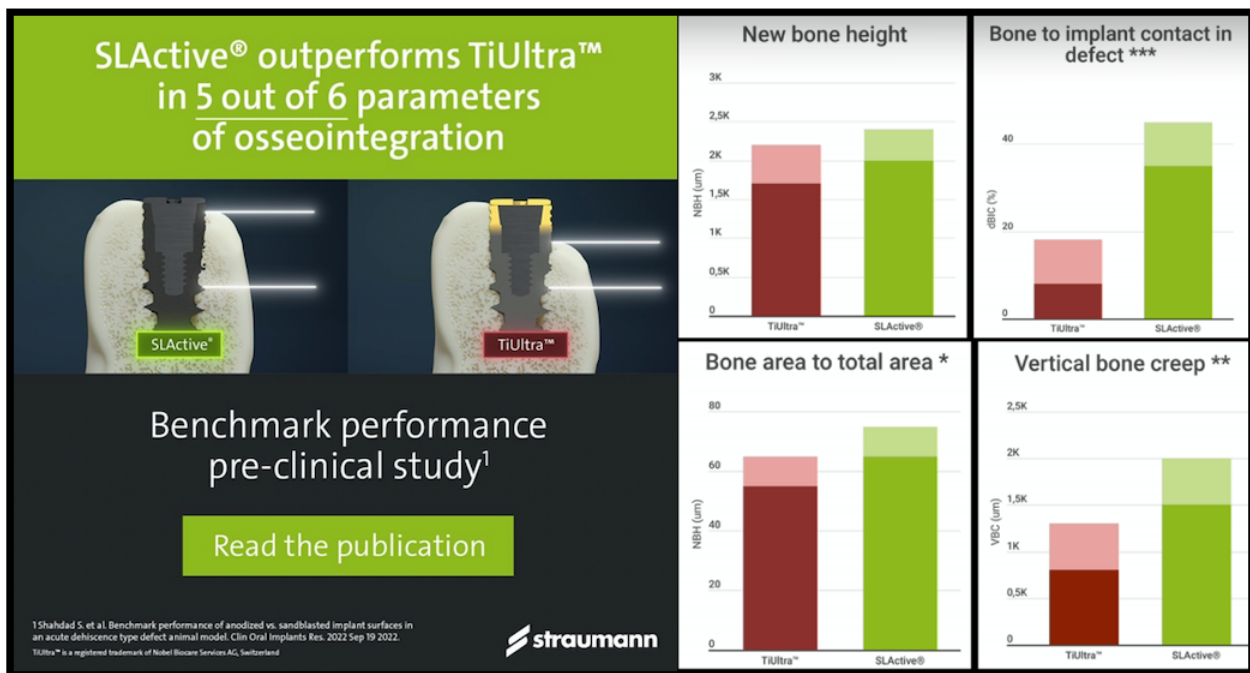
*Shahdad S. et al. Benchmark performance of anodized vs. sandblasted implant surfaces in an acute dehiscence type defect animal model. Clin Oral Implants Res. 2022 Sep 19.

Dr. Niznick's Response: Two highly questionable premises are raised by this study and the author's endorsement of Straumann's SLActive "hydrophilic" surface. Firstly, It is well established that bone will attach better to a blasted, rough surface than a machined, relatively smooth surface, whether anodized or not. The question is not whether a blasted surface will encourage more bone growth in a dehiscence area, whether associated with tooth removal or artificially created in an animal model. The question is whether the surface on the implant that remains exposed above the bone is more likely to lead to peri-implantitis and subsequent bone loss if it is smooth or rough. I think the answer to that question is quite apparent to any dentist that has had to lay a flap to clean and smooth the surface of an implant with excessive bone loss and pocketing.

As for the claims of superior results with hydrophilic surfaces, [a study by Yohei Jinno et al.](#) concluded "The effect of hydrophilic properties on moderately roughened surfaces has no impact in terms of biomechanical outcomes after a healing period of 2-8 weeks in rabbit tibia/femur". Straumann's claims of faster healing with its SLActive surface are also based on company sponsored research that is of little practical value. [Contrary to NobelBiocare's claims of "muco-integration" to the anodized surface on the neck of its implants](#), anodizing just changes the reflective color of the machined surface and does not add to surface roughness or any change that would make the surface more receptive to tissue attachment.

Straumann posted this 2-8 week study in mini-pigs characterizing the results as "Brand new data on osseointegration potential." The study documents bone apposition on the blasted and etched neck of Straumann bone level implants compared to the relatively smooth, anodized neck of NobelBiocare's implants. [Shahdad states in a video interview](#), "It has always been known that surface roughness has a role to play with regard to the bone apposition." Given that acknowledgment, there is nothing "brand new" about the results of Shahdad's study. Straumann overlooks the real issue which is, if the neck of either bone-level implants become exposed to the soft tissue, whether at the time of implant placement or due to subsequent bone remodeling, which implant surface will be more likely to contribute to further bone loss and peri-implantitis? [The Derks 10 Year Swedish Study](#) compared the results of Straumann's Tissue Level implants with its smooth neck to those of NobelBiocare's and Astra's bone level implants with a rough surface to the top. [As Dr. Buser stated in an interview](#), "since the mid-1990's part of the smooth neck was being placed subcrestal". Derks reported 3X less peri-implantitis with Straumann's TL implant.





Straumann has a conflicted marketing message. On one hand, it claims that Dr. Shahdad's study is "Brand new data on osseointegration potential," proving superiority with the blasted neck of its Bone-Level implants. On the other hand, [Straumann's Tissue Level implants have a smooth neck, that according to Dr. Buser, are placed partially sub-crestal](#) to assure when bone remodeling occurs, the smooth neck would still be in the soft tissue. Buser attributes the reduced incidence of peri-implantitis with Straumann implants vs NobelBiocare and Astra implants, reported in the Derks 10 year Swedish study, to positioning the implant-abutment junction of Straumann's Tissue Level implant supra-crestal.

Dr. Daniel Buser explains insertion of Straumann's "Tissue Level" implant with 1.8mm of its 2.8mm smooth neck sub-crestal, leaving 1mm and the implant-abutment junction, supra-crestal.

Buser Quote on Straumann's Website:
 "The Future of Implant Dentistry is with neck designs combining a smooth surface in the trans-mucosal area with a micro-rough surface inside the bone. As the Derks study showed, **moving the micro-gap away from the bone** and having a smooth surface in the peri-implant sulcus reduces the risk of peri-implant complications."

PARAGON'S GEN5 IMPLANT HAS A 2.5mm ANODIZED, SMOOTH NECK, CONFIGURED TO BE 1mm SUPRA-CRESTAL

\$505 4.0mm X 14mm
 \$100 4.2mm X 14mm
 \$505 4.5mm X 14mm

Immediate PO
1 Year PO

Paragon's new implant, GEN5 (Pat. Pend.), is set for launch Q4/2023. It is configured to have 1mm of its smooth, anodized neck supra-crestal with the remaining 1.5mm sub-crestal. This represents a paradigm shift in placement of bone level implants from being level with or below the crest of the ridge. This will simplify attachment of prosthetic components and eliminate the need to re-contour the crest of the ridge to allow seating of flared healing collars and abutments. In addition, while healing collars, transfers and abutments are being exchanged, the 1mm exposed neck will leave the soft tissue attachment undisturbed. It further offers vertical flexibility in determining the extent to which the implants' smooth neck is placed above the crest of the ridge. GEN5's \$100 price represents approximately an 80% savings compared to Straumann's, NobelBiocare's and ZimVie's premium priced implants.