VUV activator increases dental implant osseointegration

1-minute activation accelerates bone-to-implant contact capability by 98%.

VUV Activator and VUV implant

COSTA MESA, CA, UNITED STATES, July 3, 2023 /EINPresswire.com/ -- DIO Implant USA, home of the DIOnavi digitally-guided dental implant workflow and continuing education learning center, the DIO Digital Academy is proud to introduce the next generation of UV technology — the VUV Activator.

"When it comes to dental implants, there's no way to prevent biological aging," said Dr. Takahiro Ogawa, Professor in the Division of Regenerative and Reconstructive Sciences and Weintraub Center for Reconstructive Biotechnology at UCLA School of Dentistry. "Over time, surfaces become carbonized and covered with a pellicle, like teeth. Just like dental pellicle prevents tooth re-mineralization and provides the foundation for oral bacterial biofilm, the implant pellicle significantly compromises osseointegration and increases the attraction of oral bacteria." Ogawa continued.

> One-minute VUV treatment maximizes osteoblast attachment and minimizes biofilm development; it enables 3 times faster osseointegration in the early healing stage."
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> *Dr. Takahiro Ogawa- UCLA School of Dentistry*

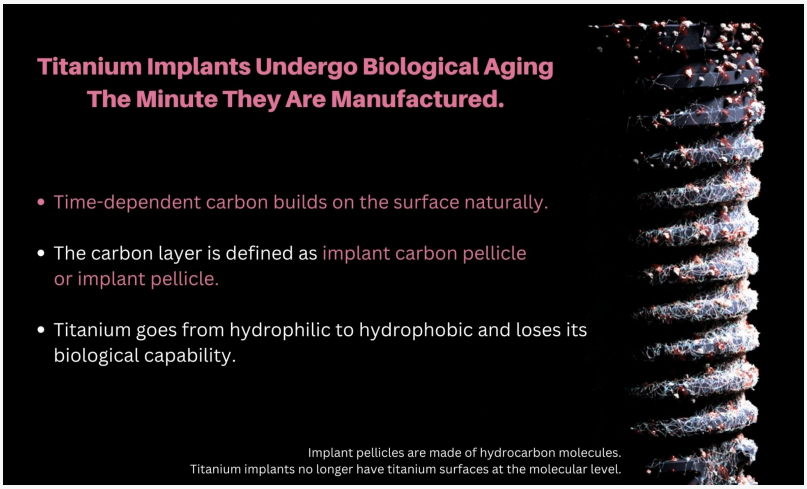
Both factors compromise the osseointegration capability by 55%. Bone-to-implant contact is compromised by 60%. And the number of osteogenic cells attached to the implant is compromised by 65%. However, DIO has discovered a way to reverse all of it. By placing an implant into a VUV (vacuum UV) Activator, the photofunctionalization decarbonizes the titanium and effectively removes the pellicle. Osseointegration increases to 98% bone-to-contact capability compared to 53% with the untreated implant.

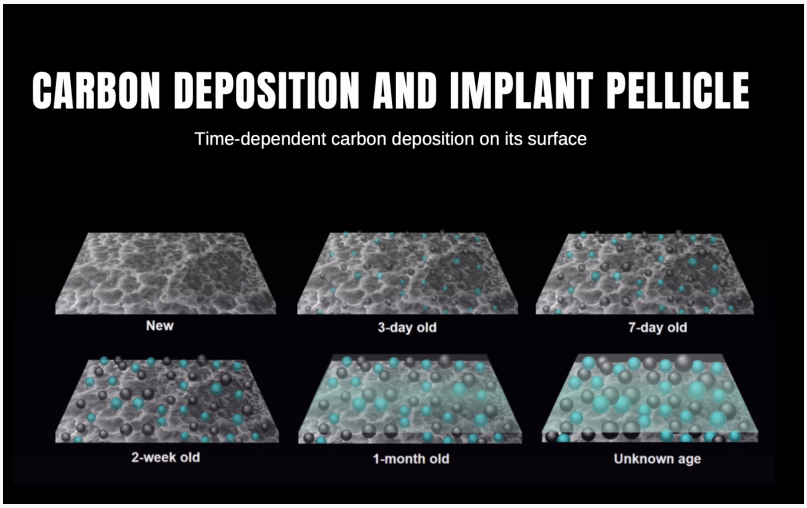
“One-minute VUV treatment maximizes osteoblast attachment and minimizes biofilm development,” Ogawa added. “It enables 3 times faster osseointegration in the early healing stage.”

After just one minute of exposure, the new surface hydrophilicity drastically improves blood flow, and there’s 5 times greater protein absorption to the implant surface. It provides implants with near-perfect bone-implant contact, and the VUV treatment also increases interfacial adhesion between various materials. Crowns, bridges, and implant access holes become clean for a bacteria-free delivery while cementing strength escalates by nearly 30 times.

“DIO created this next-generation UV technology,” said Matt Hendrickson, Senior Vice President at DIO USA. “With this process, you get better than a brand-new implant every time. One minute is all it takes,” Hendrickson concluded.

About DIO USA.
When it comes to the latest in oral reconstructive surgery and innovative implantology, you can depend on DIO. From highly educational training through their DIO Digital Academy (DDA), the breakthrough technology of the DIOnavi system, to the practice-changing DIOnavi Full Arch — DIO is your partner in success. If you’re ready to perform minimally invasive surgeries that maximize individual smiles, please visit





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About Dr. Takahiro Ogawa, DMD, Ph.D.
Dr. Ogawa is a Professor in the Division of Regenerative and Reconstructive Sciences and Weintraub Center for Reconstructive Biotechnology at UCLA School of Dentistry. With over 200 published papers, 10,000 total citations, and nearly 150 lectures given — to say Dr. Ogawa is well-known is an understatement. He's also a pioneer of photo energy-mediated activation of implant materials known as UV-activation.

Doctor Takahiro Ogawa's Reseach
Journal of Prosthodontic Research- https://bit.ly/3pD0pOF
International Journal of Molecular Sciences- https://bit.ly/3CWDEbu
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