



Nobel Biocare

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Dr. Graham Carmichael is director at the Brånemark Center in Perth, Australia,

An award-winning clinician, researcher and director, Dr. Graham Carmichael is a Consultant Prosthodontist and senior clinical lecturer at the University of Western Australia.

Why has he chosen to use the TiUltra™ and Xeal™ surfaces?

<https://lnkd.in/g8dvYUe>



"Science, stability, success": Dr. Graham Carmichael discusses Xeal and TiUltra surfaces | Nobel Biocare Blog



Gerald Niznick DMD, MSD • You
Dental Implant Pioneer

"Why has he chosen to use the TiUltra™ and Xeal™ surfaces?"

Probably because Nobel gave him some implants for free and promised him lecture opportunities and big discounts going forward. Nobel has always been successful at recruiting the best opinion leaders money can buy.

Let's analyze the reasons Dr. Carmichael gives for preferring the Zeal and TiUltra surfaces on NobelBiocare's implants and abutments.

When did you first find out about Xeal and TiUltra surfaces? What was it about them that interested you?

With any new product, I always want to assess the scientific evidence before starting non-research-based treatment with my patients. Some publications and preliminary data on Xeal and TiUltra surfaces were published back in early 2019¹ and these were really interesting to me. I started using them shortly after, in April 2019.

"I'm confident in the science behind this development, and early clinical results are promising"

Below is a synopsis of the research results referenced by NobelBiocare to support its claims of faster osseointegration and mucointegration. [Pages 5-7 of my analysis of the TiUltra/Xeal research](#)

Review of Studies cited by Nobel:

"No significant differences in biofilm formation were observed between test and control abutments..."

"No significant histological differences in inflammation scores, epithelium length, bone-to-implant contact or bone density were observed between groups for any healing time."

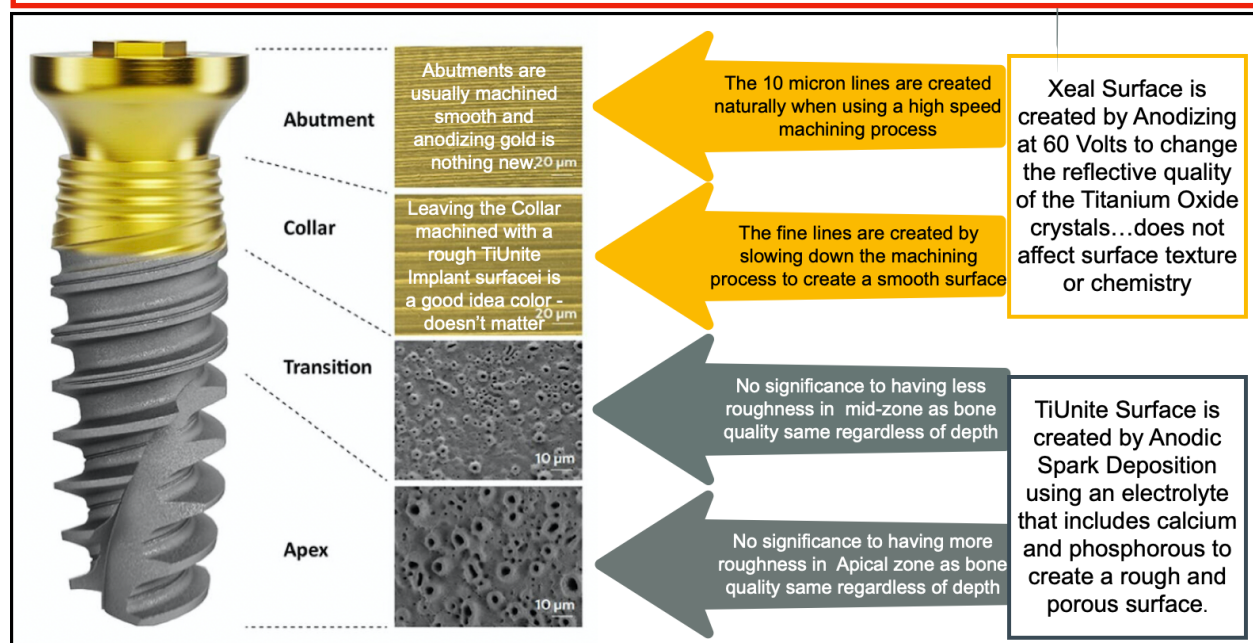
"No significant differences in radiographic bone volume, bone-to-implant contact, trabecular thickness, and crestal bone levels were observed, irrespective of healing time."

Dr. Carmichael has apparently bought into NobelBiocare's marketing story regarding the 4 different surfaces on the implant-abutment assembly. He "likes the fact that they have been designed together for integration at all levels, so not just osseointegration but also for soft tissue integration.....The Protective Layer also keeps the surfaces pristine." ANODIZATION IS NOT A PROTECTIVE LAYER?

What characteristics of these surfaces most interested you?

I also like the fact that they have been designed together for integration at all levels, so not just osseointegration but also for soft tissue integration. Having read the research, I appreciate how characteristics have been designed to benefit my patients in this respect: it gives me confidence in achieving tissue integration, as well as maintaining soft tissue height.

The Protective Layer also keeps the surfaces pristine, which is certainly something that I appreciate and that I believe can benefit my patients.



Dr. Carmichael sees the gold color of the abutments as a benefit in patients “with thin biotypes who might be more susceptible to dark shadows.” Coloring the abutments gold is nothing new in implant manufacturing but Dr. Carmichael cites this as justification for “exclusively using abutments with the Xeal surface for all [my] full-arch reconstructions, which include the All-on-4 treatment concept.” Perhaps he has not noticed that the multi-unit abutments are not even visible under a fixed-detachable prosthesis.

What do you think of the golden hue of Xeal and of the TiUltra collar?

I definitely see the benefits of this, particularly for patients with thin tissue biotypes who might be more susceptible to dark shadows associated with grey machined implant and abutment surfaces. The golden hue seems to help the implant appearance in these areas, to make it more natural looking.

...now I'm exclusively using abutments with the Xeal surface for all my full-arch reconstructions, which include the All-on-4® treatment concept....I have a lot of confidence in the system to the point that I'm only using the Xeal Multi-unit Abutments.

If you want to take away the mystique of anodizing, watch this YouTube video showing how locksmiths color titanium keys to differentiate one set from another. Anodizing merely manipulates the oxide layer on the surface to give it the perception of color.

How Does Titanium Color Anodizing Work?

“Anodizing machines manipulate the oxide layer on the surface of titanium to produce an “illusion of color.” The titanium oxide layer gives the perception of color due to an interference phenomenon, similar to a prism. Light reflects from both the oxide layer and the underlying titanium at different angles and those reflections interfere with each other. Certain wavelengths of light cancel each other out or combine, so that the remaining light is perceived as color.”



Video showing how a locksmith anodizes keys different colors

NobelBiocare claims that anodizing the neck of the implant gold spears osseointegration and anodizing the abutment gold is the KEY to Mucointegration!

NobelBiocare claims that soft tissue will attach better to the gold anodized surfaces of its “Xeal” abutments and bone will attach faster to the gold anodized necks of its “TiUltra” implants. An anodized titanium key cost \$0.55 while Nobel adds \$21 for anodizing the neck of its Implants.

