

NobelBiocare's LinkedIn postings promote the NobelActive with what it calls TiUltra, the top 2mm colored gold by anodizing. Nobel created a new marketing story claiming soft tissue attachment, which it trademarked the new name "Mucointegration". The posting asked the question 'What is your favorite color' Dr. Niznick responded "I don't think fibroblasts have a favorite color!"

Nobel Biocare™ Blog

News Products & solutions Science

What's your favorite color? A quick guide to surface anodization

Implant and abutment surface characteristics may be crucial, yet they can be difficult to see with the naked eye. However, the newly developed Xeal and TiUltra surfaces have a distinct appearance. Here's why.

Chris Kendall on August 8, 2019

Home » Science » **What's your favorite color? A quick guide to surface anodization**

Surface chemistry cells can't resist.

Welcome to the Mucointegration™ era.

Introducing Xeal™ and TiUltra™ >

Gerald Niznick DMD, MSD 2d ...
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My favorite color is blue but I don't think fibroblasts have a favorite color. Color coding the platforms of implants and the corresponding prosthetic components to simplify prosthetics has become a standard in the industry with high quality implant systems. In Nobel's effort to hide the real reason for changing to a smooth neck of the implant, keeping TiUnite 2mm away from the top, it now carries the anodizing of the platform down the neck but for esthetic reasons, only uses the yellow color thus abandoning the advantages of color coding. For example the blue WB cover screw is used with the gold colored WB TiUltra implants.

NobelActive

Platform	Implant Ø
	3.0 mm
	3.5 mm
	4.3 mm
	5.0 mm
	5.5 mm*



Gerald Niznick DMD, MSD 2m ...
 Dental Implant Pioneer
 Anodizing only changes the spectrum of reflected light off the titanium surface.

How Does Anodizing Titanium Work to Effect its Color?

“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.”



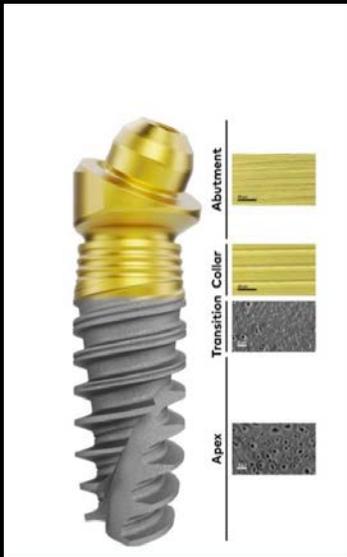
[Video showing how a locksmith anodizes keys different colors.](#)

Review of Studies cited by Nobel (See Pages 6 & 7):
 “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. “

In this close-up picture below by NobelBiocare, anodizing the titanium surface of an abutment or implant does not effect its topography - the score lines created from machining the titanium remained unchanged. Machining creates score lines about 10 nanometers deep while blasting creates a textured surface with about 25 nanometer pits.

Nobel raised the price of its NobelActive Implant by \$21 with the anodizing of the implant's neck

NobelActive and Nobel Parallel Implants with TiUltra - \$520
 Cover Screws- \$61; Multi-unit Abutment \$269 **TOTAL = \$850**



On1 Concept turns a conical connection into a butt joint.





Gerald Niznick DMD, MSD 15m ...
Chairman of the Board of Directors at Acromil Aer...

Anodizing a titanium surface to change the color is a process that has been widely used to color-code abutments and transfers to match the appropriate implant platform as shown in this picture of Implant Direct's InterActive System (NobelActive compatible platform. NobelActive, with gold colored TiUltra collars, abandons color-coding advantages so dentists will have to buy a blue WB cover screw to go with the yellow WB platform. NobelReplace Implants with a conical connection are offered in two versions, one with the TiUnite to the top and one with a 1mm machined collar to answer concerns of soft tissue complications from exposed rough, porous TiUnite surface. That is what Nobel should have done years ago with NobelActive. Rather than acknowledge this by making that change now, Nobel has anodized the machined collar a gold color, making it even smoother than a machined surface, to create a marketing story that coloring the neck gold will result in "Mucointegration". This is just an effort to create a "Unique Selling Proposition" to differentiate NobelActive, while masking the real reason for creating the smooth neck, all at the expense of adding prosthetic confusion without color-coded mating parts..



Gerald Niznick DMD, MSD now ...
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The blue cover screw(\$58) is now used with both the gold and blue Wide Platform NobelActive implants. "Stupidity is not a virtue!" Implant Direct's InterActive implants include a free cover screw, transfer and straight abutment (\$235) cost less than half of what Nobel charges for its NobelActive Implant alone (\$498). I would not be surprised that when Nobel starts selling the gold colored NobelActive in the US, they will use that to raise the price.



InterActive™ IMPLANT SYSTEM



Cover Screw Conical Connection WP
37812
\$61.00



Cover Screw Conical Connection RP
36650
\$61.00



Cover Screw Conical Connection NP
36649
\$61.00

Nobel Biocare
46,825 followers
3h

What's your favorite color? The distinctive golden color of TiUltra™ collars and Xeal™ abutments occurs naturally during the manufacturing process. This is because of anodization – it changes the thickness of the oxide layer, which changes the color of the surface.

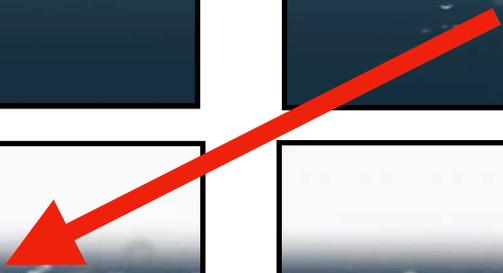
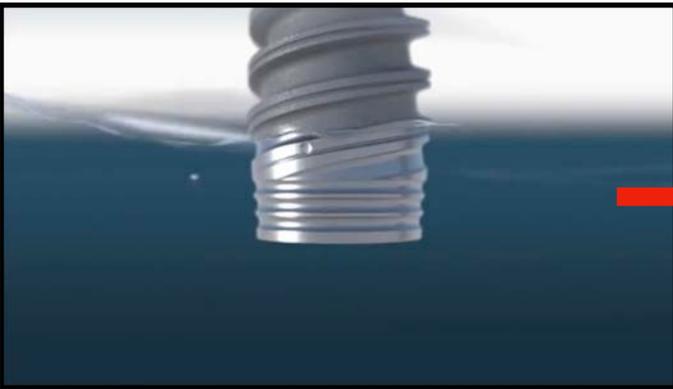
Discover more about implant and abutment anodization on the blog:
<https://lnkd.in/e452jE6>



What's your favorite color? A quick guide to surface anodization



The TiUltra implant with a hybrid surface is created by first applying prolonged anodizing to the body of the implant to produce the rough, porous TiUnite surface. The implant is then inverted and the top 2mm are anodized only long enough to create the gold color of the 4.3mmD and 5.0mmD Implant platforms.



Nobel Biocare
46,910 followers
10h

We're delighted to welcome Scot Muir - Scottish Centre for Excellence in Dentistry - to the Mucointegration™ era!

"Over the years I have placed several different implants with a variety of surfaces. As an implantologist I come across complex cases like immediate implants in extraction sites and implant placement in compromised bone like the posterior maxilla. If I could design an implant to address all these challenging situations it would have a more porous surface apically to promote implant to bone contact for faster osseointegration and a less porous surface coronally to facilitate maintenance protocols. This is precisely why I have switched to the new 'TiUltra™' implants from Nobel Biocare. TiUltra features a gradual change in topography, becoming moderately rough and porous towards the implant apex with excellent hydrophilicity. This is complemented by their special abutment surface 'Xeal™' that promotes dense soft tissue contact to create a barrier that protects the bone beneath. In addition, the new 'TiUltra' implants come with the promise of a pristine surface that prevents any hydrocarbon contamination and helps maintain the hydrophilic property of the implants."

Find out more about our new surfaces: <https://lnkd.in/eUX-KVZ>

Why I've switched to the new TiUltra™ implants from Nobel Biocare
Scot Muir



Gerald Niznick DMD, MSD now ...
Chairman of the Board of Directors at Acromil Aer...

This is pure nonsense: "In addition, the new 'TiUltra' implants come with the promise of a pristine surface that prevents any hydrocarbon contamination and helps maintain the hydrophilic property of the implants." A marketing story is not a "promise". There is no evidence that coloring the neck of the implant with a microscopic anodized layer like that used to color code platforms, reduces hydrocarbon contamination or helps maintain hydrophilic properties compared to a machined surface on the neck of one of its NobelReplace designs. The anodizing process just colors the oxide layer on the surface without effecting even the machining grooves still visible in this picture of the anodized surface of the micro-groove area of the implant's neck. One promise TiUltra delivers on is that color coded cover screws and prosthetic components will not match the color of the WB platform implants.

The Age of Mucointegration™.
New implant surfaces designed with a chemical and topography that promote adherence to soft tissues. Find out: <http://bit.ly/2TVYSgL>

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Nobel Biocare™

Breakthrough surfaces
for tissue integration at
every level

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ORIGINAL ARTICLE

WILEY

A randomized, controlled, clinical study on a new titanium oxide abutment surface for improved healing and soft tissue health

Jan Hall MSc¹ | Jessica Neillands PhD² | Julia R. Davies PhD² | Annika Ekestubbe DDS, PhD² | Bertil Friberg DDS, MDS, PhD¹

Results: No significant differences in biofilm formation were observed between test and control abutments, but soft tissue bleeding upon abutment removal was significantly lower for test abutments compared with control abutments ($P = 0.006$) at 6 weeks. Keratinized mucosa height was significantly greater at test abutments compared with control abutments at the 6-week, 6-month, and 2-year follow-ups. Significant gene expression differences indicated differences in healing and tissue remodeling.

Conclusions: Abutments with an anodized and nanostructured surface compared with a conventional, machined titanium surface had no significant effect on bacterial colonization and proteolytic activity but were associated with better soft tissue outcomes such as a lower bleeding index at abutment removal and consistently greater height of keratinized mucosa throughout the 2-year follow-up, suggesting improved surface-dependent peri-implant healing and soft tissue health.

Gerald Niznick DMD, MSD now ...
Chairman of the Board of Directors at Acromil Aer...

Study #7 cited by Nobel reports compares a machine surface abutment to an anodized one. Anodizing the abutment surface makes it smoother than a machined surface which could account for observation of less bleeding on abutment removal. The study should have compared the anodized abutment surface to an electro polished surface to prove whether the observed results were due merely to smoothness or some other factor related to the anodization of the surface. The study did show no significance in biofilm formation between a machined and anodized surface. As for less bleeding on abutment removal with the anodized surface that could indicate less soft tissue attachment to the anodized surface which would not be beneficial. Remember, Nobel use to extend the TiUnite up the neck of its NobelDirect 1-piece implant claiming it created soft tissue integration. That implant was removed from the market, in part because of reports of soft tissue complications. This was a decade before it now trademarked "mucointegration".

Nobel Biocare posted link to 7 scientific papers that it claims documents “breakthrough results” with its TiUltra Implant surface and its Zeal anodized abutment surface that confirms “Mucointegration that “aim to improve bone and soft tissue healthy adjacent to dental implants. <https://www.nobelbiocare.com/international/en/>

A review of the studies show that there is no significant difference in animals or in humans.

7 scientific papers, breakthrough results

Find the latest scientific papers about surface technology, pristine surface and the Mucointegration™ solution in this CIDRR supplement. It discusses implant and abutment surface innovations that aim to improve bone and soft-tissue health adjacent to dental implants.

[Read more >](#)



CLINICAL IMPLANT DENTISTRY and Related Research

ORIGINAL ARTICLE | [Free Access](#)

A randomized, controlled, clinical study on a new titanium oxide abutment surface for improved healing and soft tissue health

Jan Hall MSc, Jessica Nellands PhD, Julia R. Davies PhD ... [See all authors](#)

First published: 12 March 2019 | <https://doi.org/10.1111/cid.12749> | Cited by: 2

Gerald Niznick DMD, MSD

now ...

Chairman of the Board of Directors at Acromil Aer...

Study #6 cited by Nobel reports compares a machine surface abutment to an anodized one. Anodizing the abutment surface makes it smoother than a machined surface which could account for observation of less bleeding on abutment removal. The study should have compared the anodized abutment surface to an electro polished surface to prove whether the observed results were due merely to smoothness or some other factor related to the anodization of the surface. The study did show no significance in biofilm formation between a machined and anodized surface. As for less bleeding on abutment removal with the anodized surface that could indicate less soft tissue attachment to the anodized surface which would not be beneficial. Remember, Nobel use to extend the TiUnite up the neck of its NobelDirect 1-piece implant claiming it created soft tissue integration. That implant was removed from the market, in part because of reports of soft tissue complications. This was a decade before it now trademarked “mucointegration”.

Purpose

To investigate if abutments with the anodized surface improve healing and soft tissue health in a randomized controlled study.

Materials and Methods

Test abutments with a nanostructured anodized surface were compared with control machined titanium abutments. In total, 35 subjects each received a pair of test and control abutments. The primary endpoint was reduction of biofilm formation at test abutments at the 6-week follow-up. Secondary endpoints included several soft tissue assessments. qPCR for gene markers was used to indirectly evaluate healing and soft tissue health.

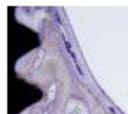
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Results: “No significant histological differences in inflammation scores, epithelium length, bone-to-implant contact or bone density were observed between groups for any healing time. ...No significant differences in radiographic bone volume, bone-to-implant contact, trabecular thickness, and Crestal bone levels were observed, irrespective of healing time. “



CLINICAL IMPLANT DENTISTRY and Related Research

ORIGINAL ARTICLE | [Free Access](#)

Safety and efficacy of a novel anodized abutment on soft tissue healing in Yucatan mini-pigs

Cristiano Susin DDS, MSD, PhD , Amanda Finger Stadler DDS, MSD, PhD ... [See all authors](#) 

Purpose

To assess the short- and long-term safety and efficacy of a novel, gradually anodized dental implant surface/anodized abutment.

Materials and Methods

Twenty-four Yucatan mini pigs (20-24 months old) received two dental implants in each jaw quadrant. Each site was randomized to receive either a commercially available anodized implant/machined abutment or a gradually anodized implant/anodized abutment with a protective layer. Animals were euthanized at 3, 6, and 13 weeks. Microcomputed tomography and histological analyses were performed.

Results

No significant histological differences in inflammation scores, epithelium length, bone-to-implant contact, or bone density were observed between groups for any healing time. Mucosal height was significantly higher at 3 weeks for controls ($\Delta=0.2$ mm); no differences were observed at 6 and 13 weeks. No significant differences in radiographic bone volume, bone-to-implant contact, trabecular thickness, and crestal bone levels were observed, irrespective of healing time. Trabecular spacing was borderline significant at 3 weeks in favor of the test implant sites; no differences were observed at 6 weeks. No significant differences were observed between experimental groups at 13 weeks.

Conclusions

The new implant system yielded results comparable to a commercially available predicate device.