

Nobel Biocare NEWS

Information for the Osseointegration Specialist

Issue 1/2017



"The best decision I ever made!"

The All-on-4® treatment concept can help you change people's lives for the better.

When she was in her early thirties, Deborah Concepcion, from Florida, in the United States, began to encounter the decalcification of the enamel in her teeth. One after another, her teeth began to fracture and fragment, resulting in repeated extractions. She was facing the consequences of a hereditary disorder that got progressively worse.

By Deborah Concepcion

Losing teeth had a huge impact on my life. As one tooth after another failed, I ended up biting and chewing with just my front teeth.

Naturally, I didn't want to smile, which affected me socially. It is very difficult to be missing teeth when you're so young. My self-esteem fell dramatically and I found myself reluctant to have close-up conversations with people—even people I knew well. No close-up selfies or group shots for me!

My dentist made me aware of implants, but I learned that, in some cases, the normal process for a single dental implant restoration could extend to between 3-6 months, which wasn't an option for me.

Then a friend of mine, who was working with a couple of specialists in south Florida, Drs. Anthony G. Sclar and Juan D. Cardenas, told me that they were experts in a procedure that might be just the thing for me. She said that it was called the All-on-4® treatment concept.

First impressions

I couldn't help but be a bit skeptical at first. Could I really have a full set of teeth again that would look just like my real teeth—maybe better—and be able to smile without hesitation? As I learned more about the All-on-4® treatment concept, however, I became convinced: This was absolutely the perfect solution for me. I really did not want to wear dentures at my age. As it turned out, I wouldn't have to.

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Understanding the Biology and Mechanics of Immediate Placement

Beginning an exclusive three-part series

There is hard science behind the immediate placement and loading of implants.

By Frederic Love

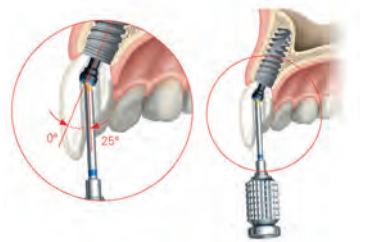
Dr. Jill A. Helms is a professor in the Department of Surgery at Stanford University. She carries out research in the field of regenerative medicine, collaborating with experts

in bioengineering, materials science, physics, and with colleagues in the life sciences.

On these pages, in the year ahead, she will be explaining why immediately placed implants routinely succeed. She will report on what we know about the biological and mechanical environments surrounding the implant and discuss innovative approaches to overcome challenging obstacles. Start reading on page 12! <

In this Issue

- 2** Tips and Techniques:
The synthesis of esthetics, health and structural stability – the advantages of using the Angulated Screw Channel (ASC) abutment system



- 9** Free Online Course:
A new approach to All-on-4® treatment concept training has been developed for every category of dental professional.



- 10** And an e-book too!
How to make the most of the All-on-4® treatment concept.



- 11** Dr. Kenji W. Higuchi:
A behind-the-scenes look at the origin and development of what may be the next big thing in implant dentistry.

Science matters

10+ years and counting

Excellent biological and technical long-term outcomes for zirconia abutments. (Ekfeldt et al., *Clinical Oral Implants Research*. 2016 Sep; doi: 10.1111/clr.12975)

This retrospective study confirms the technical and biological excellence of zirconia abutments for single-implant restorations over more than 10 years of function. It investigated the clinical outcomes of 30 NobelProcera customized zirconia abutments in 23 patients, with a minimum of 10 years' follow-up. Restorations were either one-piece with veneering porcelain baked directly onto the screw-retained zirconia abutment (n=16) or a cemented alumina crown (n=14). No fracture and only clinically insignificant chipping was observed.

Peri-implant mucosa covered the crown-abutment connection around all but four restorations. The peri-implant bone level after 10 years showed only minor changes from placement ($-0.26\text{mm} \pm 0.6$). Patients and dentists alike were extremely satisfied with the esthetics (significantly correlated) and function of the single-implant restorations.

→ www.ncbi.nlm.nih.gov/pubmed/27663724

Superior micro-stability

NobelProcera shows a reduced implant-abutment micro-motion. (Karl and Taylor, *Int J Oral Maxillofac implants*. 2016 Aug; doi: 10.11607/jomi.5116.)

Large micromotion at the abutment-implant interface increases the risk of screw loosening and joint instability, and can potentially alter the size of the microgap. This study showed significantly lower mean micromotion for NobelProcera CAD/CAM titanium implant abutment assembly prior to cyclic loading compared with all other tested products ($p \leq 0.001$) in-vitro.

Furthermore, mean micromotion for NobelProcera abutments was not significantly altered ($p=0.463$) by cyclic loading (100,000 cycles; 100 N) indicating a low settling effect. In this regard, NobelProcera performed better than Straumann CAD/CAM Zirconia and Dr. Ihde Dental implant-abutment assemblies, both of which had significantly reduced micro-motion after cyclic loading ($p < 0.05$).

The authors suggest high-quality abutments like NobelProcera remain close to their position at insertion and thus provide a higher stability and lower risk of screw loosening compared with the other products.

→ www.ncbi.nlm.nih.gov/pubmed/27525518

Bone gain with creos xenoprotect

Head-to-head comparison of bone-gain dynamics with creos xenoprotect and Bio-Gide in dehiscence defects. (Wessing et al., 2016 Sep; EAO Paris)

This ongoing prospective, multi-center RCT compares the clinical performance of creos xenoprotect (CXP) and Bio-Gide (Geistlich) collagen membranes for the treatment of dehiscence defects. Both membranes facilitated bone growth during the six months of healing. Defect height at re-entry reduced by 81% for creos xenoprotect and 62% for Bio-Gide. The maximum membrane exposure rate observed at week three was 8.7% with creos xenoprotect compared with 16.7% with Bio-Gide. Although differences between the two brands were not significant, creos xenoprotect showed a trend toward higher bone gain and a lower membrane exposure rate. Clinical results with creos xenoprotect to support implant placement in dehiscence defects were not inferior to the standard Bio-Gide. Studies with larger sample sizes may validate that the previously reported superior in-vivo results of creos xenoprotect (Bozkurt et al. 2014, Dahlin et al. 2015) are clinically relevant.

→ www.dentalcongressposters.com/eao2016/wessing.pdf

"Truly, the best decision I have ever made!"

The one and only All-on-4® treatment concept

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A plan was laid out and explained to me, we scheduled the surgery, and after the procedure was carried out as planned, I left the clinic with new teeth in place the very same day. Although having a full set of teeth in my mouth in just one day was extraordinary, for me, the best of all was the recovery.

More than a pleasant surprise

When I saw my smile for the first time, I was in a state of shock. A few moments went by, and then the tears started rolling down my cheeks as I remembered what life used to be like.

I used to smile without thinking about it, engage in conversation spontaneously, and generally feel poised and self-assured. I had regained my smile, but more importantly, I knew that I was about to reclaim my confidence.

Talk about quality of life! Without question, the All-on-4® treatment concept has transformed my daily life for the better. I find myself getting up and getting dressed earlier because I enjoy being more presentable. I no longer feel awkward in certain situations; thanks to the implants, I'm avoiding fur-

ther bone loss; and I can eat and enjoy foods that I missed when my dental health was in decline.

To anyone considering dentures today, my advice is: "Don't even think about it! Call your local specialist for a professional consultation about the All-on-4® treatment concept instead."

From my experience, there is nothing to be anxious about, and it

will change your life. Aside from becoming the mother of my two boys, my new teeth are the best gift I have ever received. <

→ More to explore!

To register for online training now, or to download the e-book, please visit: nobelbiocare.com/all-on-4course.



The All-on-4® treatment concept has the potential to dramatically transform an edentulous patient's quality of life. Deborah Concepcion says that as nice as it was to regain her smile, it was even better to regain her self-confidence.

The Synthesis of Esthetics, Health and Structural Stability

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Structural components

Titanium alloy abutment bases provide the most accurate fit with machining tolerances readily controlled. Abrasive wear, i.e., the release of titanium metal into the peri-implant tissues from the inside of the implant, is not an issue.

The zirconia abutment, with its well-designed circumferential wall strength, is held through the abutment screw, optimizing the ceramic's ability to withstand forces that have been seen to fracture non-titanium base abutments.

Conclusion:

The benefits of the ASC abutment system are numerous, reflecting a multiple symbiosis of engineering ingenuity and biocompatible materials, and allowing for the combination of good esthetics and excellent health.

The author wishes to acknowledge and personally thank the following dental laboratories for their assistance with this material: Avots Dental laboratory, Nakanishi dental laboratory and Myron Choi. <

→ More to explore!

For the complete references to his article please visit: nobelbiocare.com/news



Figure 7. An actual case: Note cast abutment has been damaged through routine laboratory procedures.