Laser-Lok Technology

for enhanced **peri-implant bone** and **soft tissue attachment**

Presented by **Dr Jack Ricci** and your local leading Implantologist

Course Description

Join Dr Jack Ricci & your local leading Professional to learn more about Laser-Lok microchannels and the significant impact they are having on long-term implant aesthetics and function. Each evening session will feature an in-depth review of the scientific research used to develop this innovative technology. The review will be followed by a discussion from a leading clinician recounting their clinical success with this new and exciting scientific breakthrough.

Course Objectives

- Understand the goals of modern implant dentistry currently being achieved
- Learn how the Laser-Lok microchannels maintain soft tissue and bone levels around implants
- Discuss immediate implant placement and temporization while maintaining optimum aesthetics
- Understand the science and clinical research used to develop Laser-Lok microchannels
- Learn the secrets behind implant aesthetics

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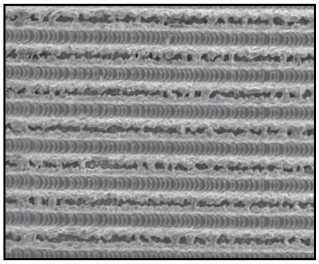
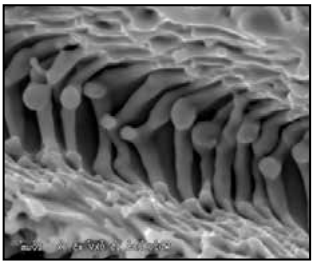
BIOHORIZONS® Laser-Lok Technology

SEM image at 39X showing the Laser-Lok zone on a BioHorizons Tapered Plus implant.



Laser-Lok at 800X exhibits consistently formed microchannels to organizeand promote tissue growth.[2,3,4,5,6,7,8,9,10,16,17]



The uniformity of the Laser-Lok microstructure and nanostructure is evident using extreme magnification.

Laser-Lok overview

Laser-Lok microchannels is a proprietary dental implant surface treatment developed from over 25 years of research initiated to create the optimal implant surface. Through this research, the unique Laser-Lok surface has been shown to elicit a biologic response that includes the inhibition of epithelial downgrowth and the attachment of connective tissue.[2,3,4,5,6,7,8,9,10] This physical attachment produces a biologic seal around the implant that protects and maintains crestal bone health. The Laser-Lok phenomenon has been shown in post-market studies to be more effective than other implant designs in reducing bone loss.[11,12,13,14]

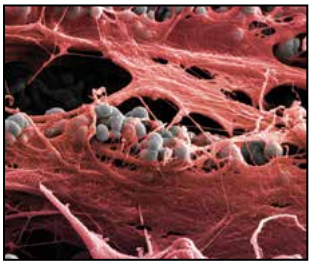
Unique surface characteristics

Laser-Lok microchannels is a series of cell-sized circumferential channels that are precisely created using proprietary laser ablation technology. This technology produces extremely consistent microchannels that are optimally sized to attach and organize both osteoblasts and fibroblasts.[15,16,17,18,19,20,21,22,23,24] The Laser-Lok microstructure also includes a repeating nanostructure that maximizes surface area and enables cell pseudopodia and collagen microfibrils to interdigitate with the Laser-Lok surface.

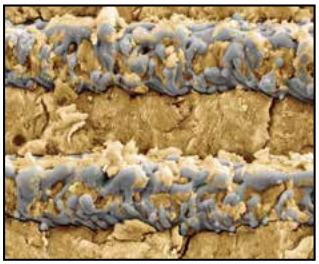
over 25 years of research

Different than other surface treatments

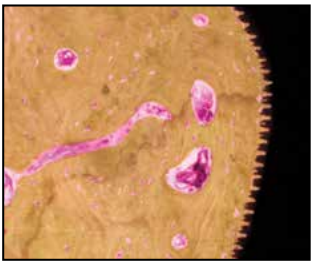
Virtually all dental implant surfaces on the market are grit-blasted and/or acid-etched. These manufacturing methods create random surfaces that vary from point to point on the implant and alter cell reaction depending on where each cell comes in contact with the surface.[10] While random surfaces have shown higher osseointegration than machined surfaces,[11] only the Laser-Lok surface has been shown using light microscopy, polarized light microscopy and scanning electron microscopy to also be effective for soft tissue attachment.[2,3,4,5,6,7,8,9,10]



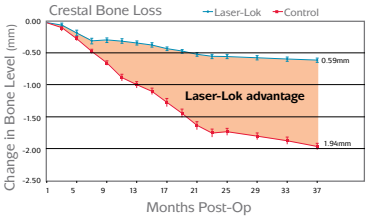
Colorized SEM of a dental implant harvested at 6 months with connective tissue physically attached and interdigitated to the Laser-Lok surface.[2]



Colorized SEM of Laser-Lok® microchannels showing superior osseointegration.[5]



Colorized histology of a fully lased implant thread at 3 months showing complete bone attachment.[5]



In a 3-year multicenter perspective study, the Laser-Lok surface showed superior bone maintenance over identical implants without the Laser-Lok surface.[11]

The clinical advantage

The Laser-Lok surface has been shown in several studies to offer a clinical advantage over other implant designs. In a prospective, controlled multi-center study, Laser-Lok implants, when placed alongside identical implants with a traditional surface, were shown at 37 months post-op to reduce bone loss by 70% (or 1.35mm).[11] In a retrospective, private practice study, Laser-Lok implants placed in a variety of site conditions and followed up to 3 years minimized bone loss to 0.46mm.[12] In a prospective, University-based overdenture study, Laser-Lok implants reduced bone loss by 63% versus NobelReplace™ Select.[13]

• *NobelReplace is a trademark of Nobel Biocare.*

2.5 CPD HOURS

Presented by Dr Jack Ricci

Dr Ricci is an Associate Professor in the Department of Biomaterials and Biomimetics at NYU College of Dentistry. He graduated from Muhlenberg College, in Pennsylvania, in 1977 with a Bachelor of Science and earned his PhD from UMDNJ in 1984.

Dr Ricci has many research interests, one of which is the development of controlled microtexture surfaces for dental implants that promote bone, connective tissue and epithelial attachment. He is one of the developers of the LaserLok microtexture surface.

Dr Ricci is also working on the development of three-dimensionally printed scaffolds, consisting of permanent and resorbable biomaterials, for replacement and regeneration of craniofacial bone and soft tissue structures. He has published over 70 research-related articles, book chapters and books.

DATES & LOCATIONS:

QUEENSLAND

Tues 3 October 2017
Henry Schein Halas
Grd Flr, 8 Gardner Close
Milton QLD 4064

6.30pm - 9.00pm

NEW SOUTH WALES

Thurs 5 October 2017
Henry Schein Halas
Unit 1, 44 O'Dea Avenue
Waterloo NSW 2017

6.30pm - 9.00pm

VICTORIA

Fri 6 October 2017
Henry Schein Halas
Level 9, 369 Royal Pde
Parkville VIC 3052

6.30pm - 9.00pm

COST: $50

Register online: www.henryschein.com.au/CPD-EVENTS

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