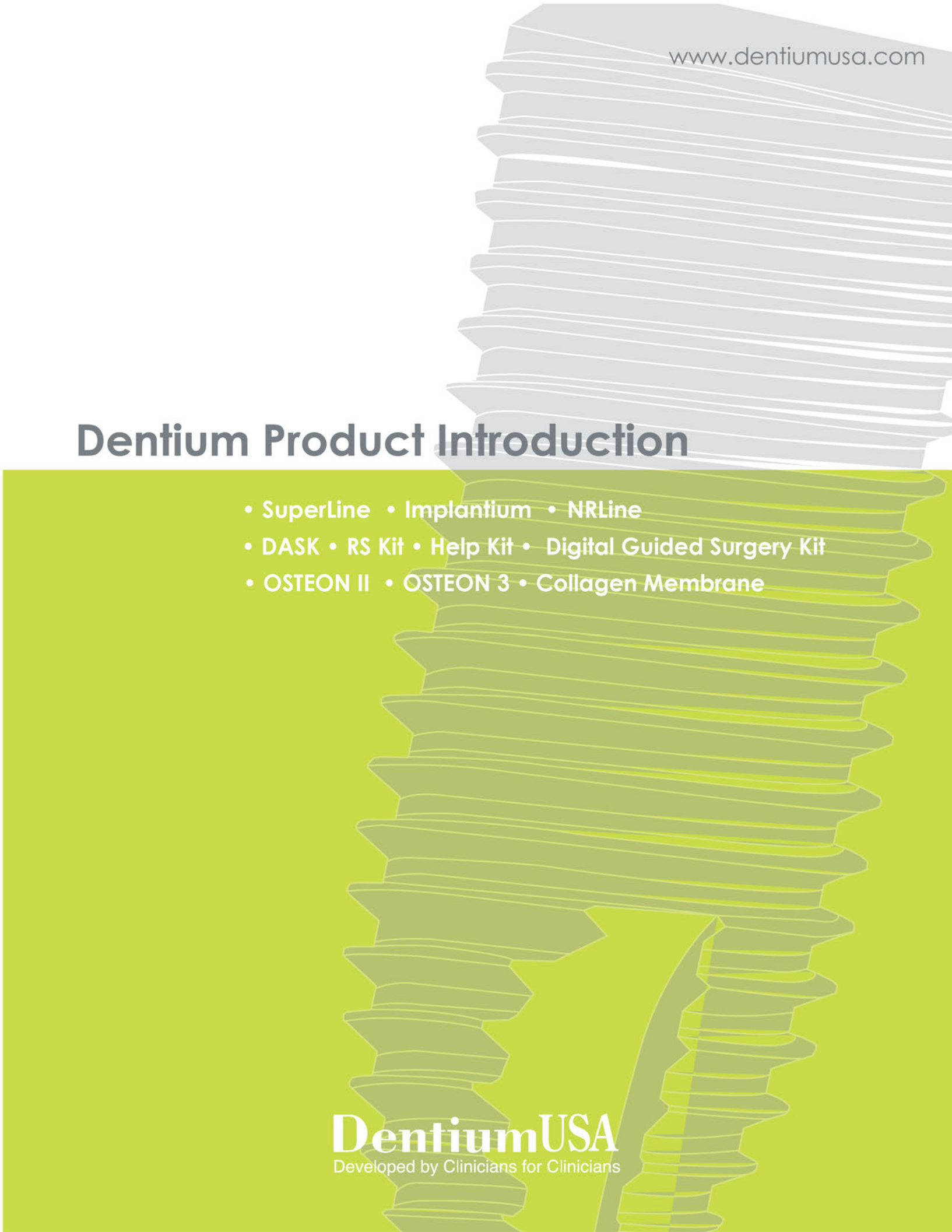
www.dentiumusa.com

Dentium Product Introduction

- SuperLine • Implantium • NRLine
- DASK • RS Kit • Help Kit • Digital Guided Surgery Kit
- OSTEON II • OSTEON 3 • Collagen Membrane



DentiumUSA

Developed by Clinicians for Clinicians

Introduction

Welcome to Dentium,

Dentium is a world class manufacturer of high quality dental implant systems, SuperLine, Implantium and NRLine with a large selection of dental instruments and restorative components. Dentium distributes its products worldwide to more than 60 countries. Dentium's manufacturing facilities, located in Korea and in the USA, are registered establishments with the FDA and are certified to ISO 13485. Dentium products are CE Marked to indicate their high quality and are backed by many research studies performed in collaboration with renowned universities and clinicians. Dentium is committed to the creation of a beautiful smile and satisfying our valued customers by providing the highest quality products, comprehensive educational programs and unrivaled customer service to dental professionals worldwide.

Dentium Head Office in South Korea

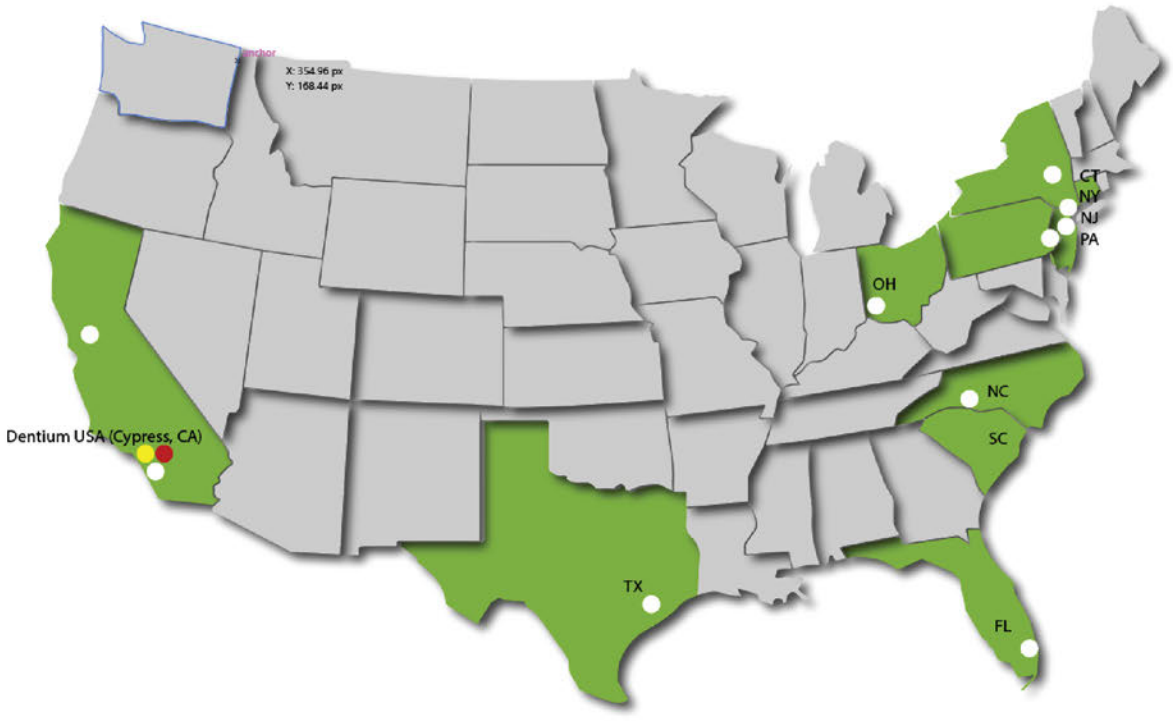
Global Network

Dentium currently has its own corporate and branch offices in the USA, China, Hong Kong, Dubai, Thailand, Russia, Germany, Turkey, India and Singapore. Dentium exports its implant products to more than 80 countries through local distributors. Dentium USA provides a direct sales network in CA, NJ, NY, PA, OH, NC and FL as well as customer service support. Information on local distributors and corporate offices of Dentium USA can be found on our website. (www.dentiumusa.com)

Dentium World Conference and Seminar

Dentium provides valuable information through scientific lectures in the Annual Dentium Symposium and Case Presentation since its establishment in 2000.

DentiumUSA Direct Sales Network



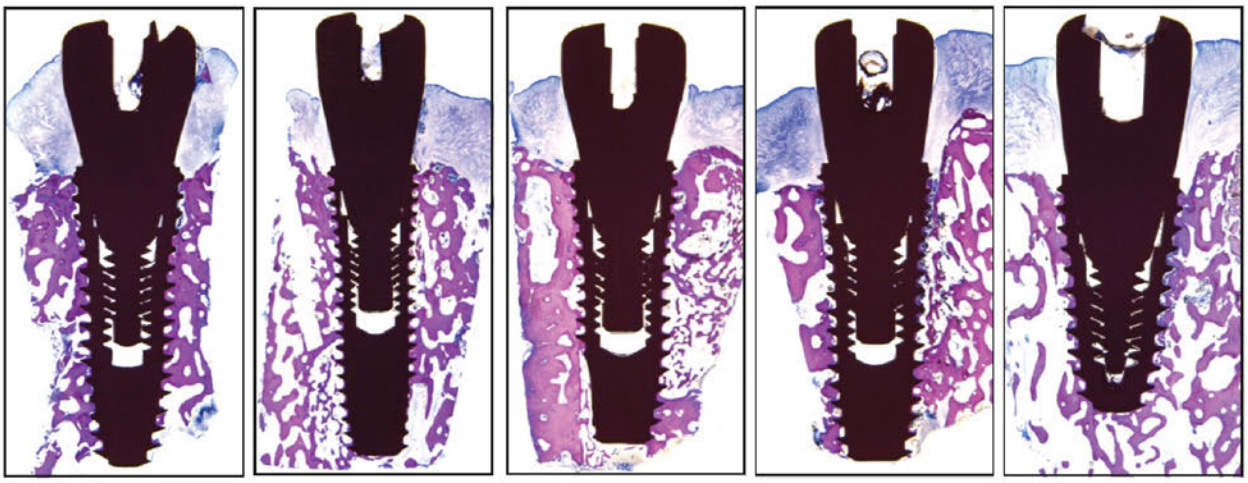
Implants

SuperLine
Implantium
NRLine

S.L.A. Surface

S.L.A. Surface S.L.A. (**S**andblasting with **L**arge grit and **A**cid etching)

Reference: Nevins M, et.al. "Clinical and Histologic Evaluations of Immediately Placed SLA Dental Implants" The Internat J of Oral and Maxifac Implants. 2018; 38:165-170



All histologic specimens demonstrated significant bone-to-implant contact. Newly formed dense bone was found in contact with the implant surfaces with normal bone marrow spaces and vasculature.

Human Osteoblast

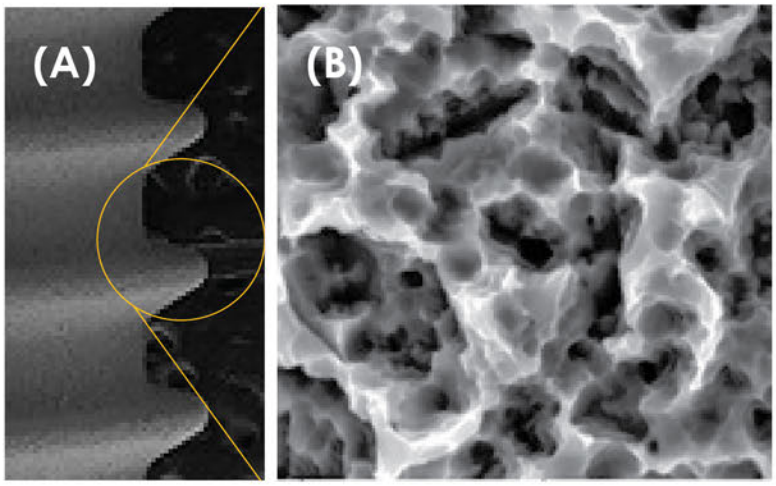


Figure 2. SEM Topography of S.L.A. surface.

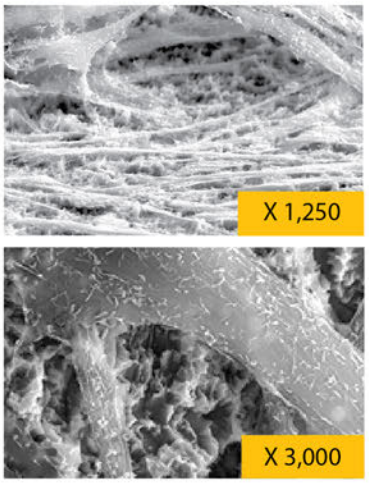


Figure 3. SEM image of human osteoblasts on S.L.A. surface after 7 days

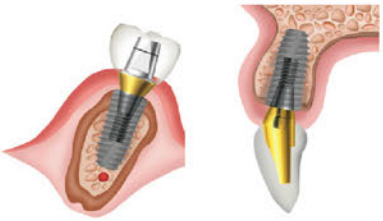
SuperLine™ Immediate Implantation with Excellent Bone Response

Length :

8, 10, 12, 14 (mm)
*Ø 6.0 and Ø7.0 do not come in 14mm length

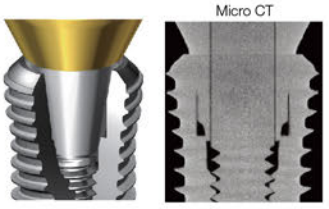
Tapered Design

- Tapered design may harmonize with surrounding bone anatomically.
- Optimized design for immediate implant placement
- Higher stabilization in extraction socket
- Tapered design for sharp & fast insertion



Biological Connection

- The conical hex connection between the implant and abutment interface distributes the load to the fixture evenly. Therefore, it helps minimize micro-movement and marginal bone loss.
- All implant diameters share the same internal hex.

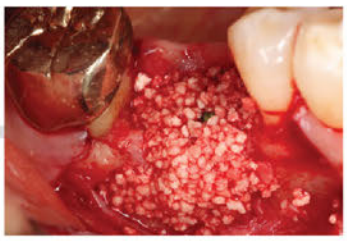


Clinical Case

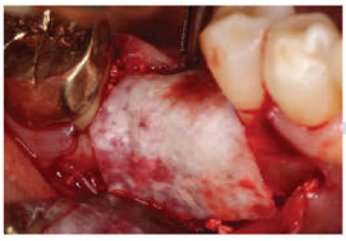
Preoperative Radiography

Preoperative

Implantation



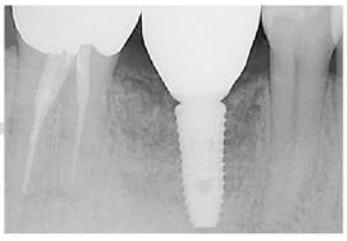
OSTEON II, OSTEON II Collagen*



Collagen Membrane

Suture

Healing After 5 Months



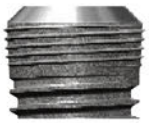
Final Prosthesis Radiography

* Osteon II ™ Collagen in the clinical case is not available in the US market

IMPLANTIUM®

Length :
8, 10, 12, 14 (mm)

Optimal Fixation Threads



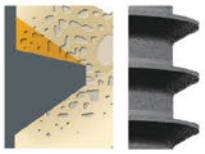
- Synchronized positive neck threads.
- Initial stability & maximum sealing between the cortical bone and fixture.
- Optimal fixation threads reduce stress of marginal cortical bone and minimize marginal bone loss.

Bacteria Resistant Bevel Platform

- The tapered bevel platform design may avoid bone profiling.

Biological Thread

- Thread platform design creates excellent bone to implant contact.
- Threads engage and penetrate bone with ease.

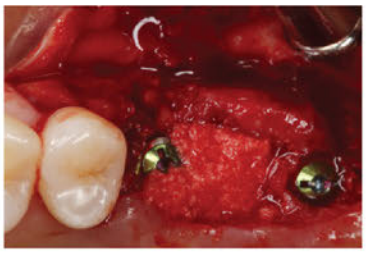


Clinical Case

Preoperative Radiography

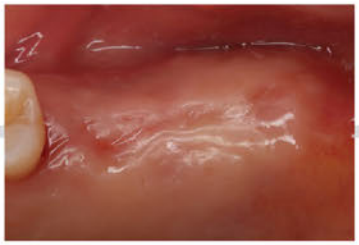
Preoperative

Implantation



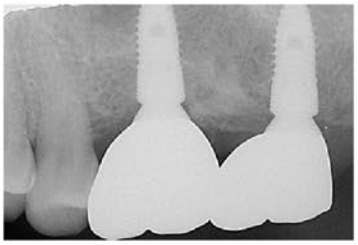
Bone Graft (OSTEON ™ II Collagen*)

Suture



Healing After 5 Months

Second Stage Surgery

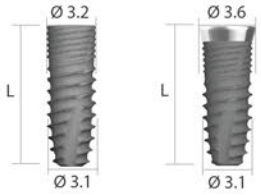


Final Prosthesis Radiography

* Osteon II ™ Collagen in the clinical case is not available in the US market

NR Line™

Narrow Diameter Implant with **Restorative Flexibility**



Length :

9, 11, 13 (mm)

* Available in two platforms (Ø3.2 & Ø3.6)

Narrow but Strong: Optimized for Narrow Ridges

- Ø3.2mm platform, Ø3.1mm body diameter for narrow ridges
- Sustains high occusal force
- 10˚ conical, **square shaped connection** between the implant and abutment interface helps tight sealing

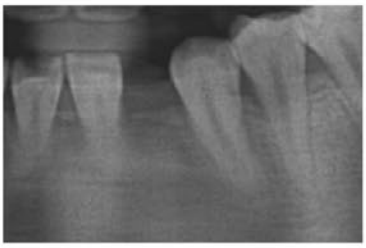
Simplified Surgical & Prosthetic Options

- Less screw, abutment & fixture fractures
- NRLine Abutment for Angled screw & Angled mini-ball allows for more variety of angulation and ginvival height selection in restoration
- The 3-blade self-tapping design may minimize bone loss

Biological Soft Tissue Response

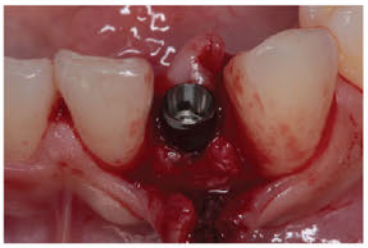
- Concave abutment design optimized for thin biotype provides more room for soft tissue to grow

Clinical Case



Preoperative Radiography

Preoperative



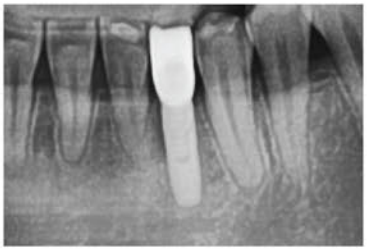
Implantation

Bone Graft (OSTEON ™ II Collagen*)

Suture

Customized Abutment

Final Prosthesis

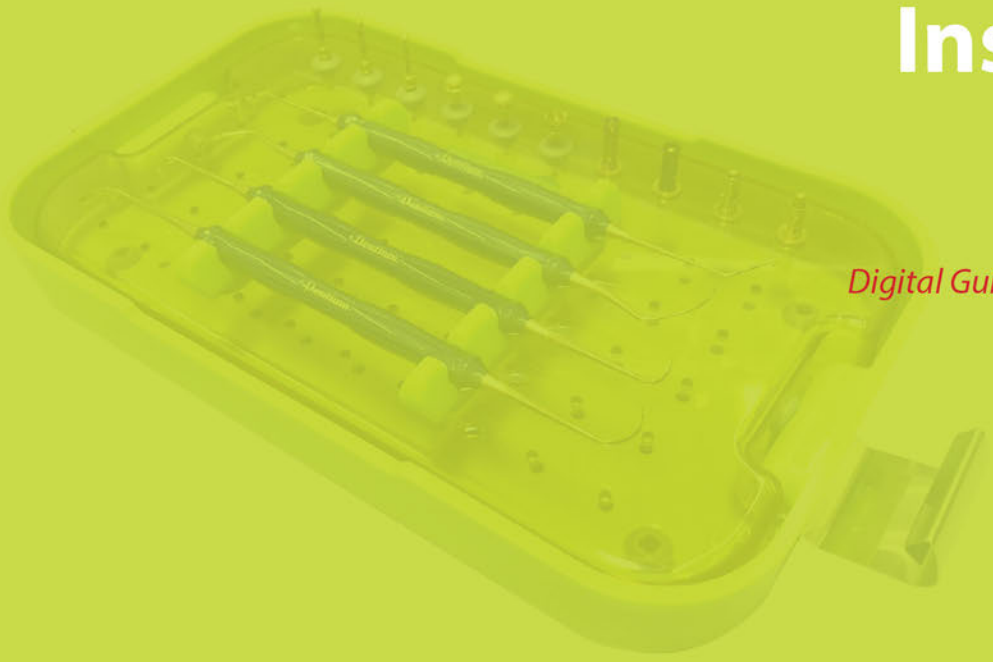


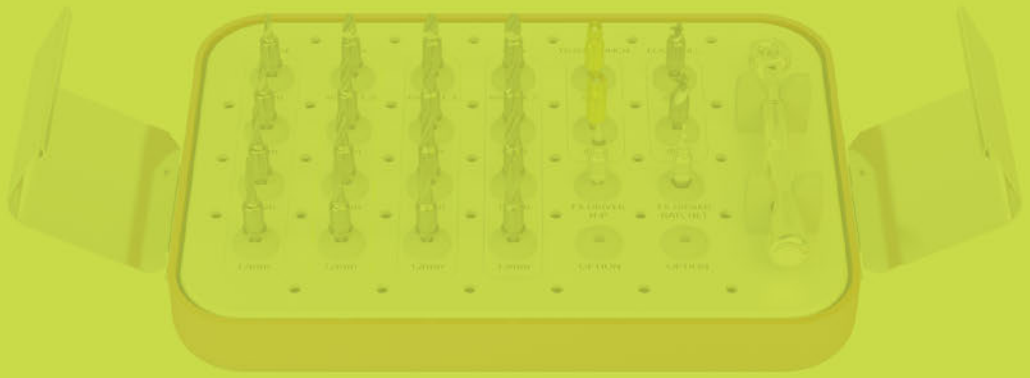
Final Prosthesis Radiography

* Osteon II ™ Collagen in the clinical case is not available in the US market

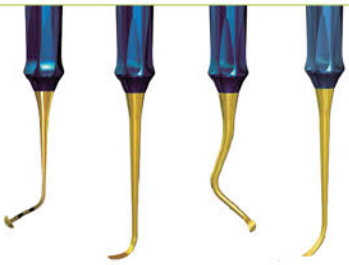
Instruments

DASK
RS (Ridge Spreader)Kit
Help Kit
Digital Guided Surgery Kit (Full & Simple)

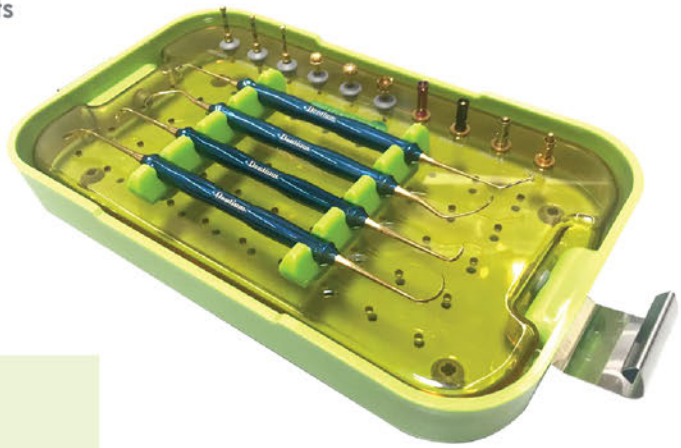




DASK® Dentium Advanced Sinus Kit



Sinus Elevation Instruments



DASK Drills #1-6

- Simple & easy access to sinus cavity
- Minimal risk of membrane perforation
- Drills #4-6: Designed for wide lateral window

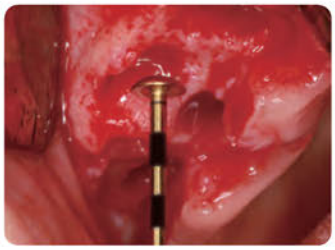
The Maxillary sinus (Lateral window) is opened.

A dome-shaped sinus membrane elevator is used to detach Sinus Membrane from the circumference of the bony window.

Implants placed with bone graft filling [OSTEON™ Sinus]

Postoperative panoramic view

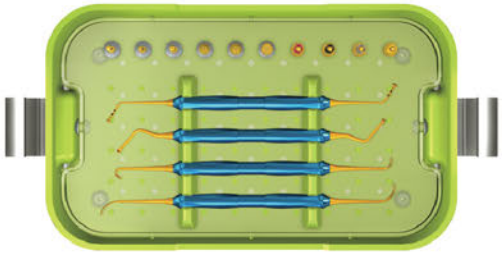
DASK Drill #1 with a drill stop to thin out the cortical bone of the sinus floor.



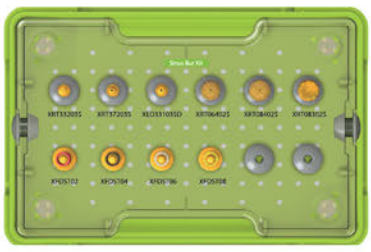
A dome-shaped sinus curette is introduced to detach the Schneiderian membrane from the sinus floor.

Bone graft material [OSTEON™ Lifting] is filled into the space under the membrane.

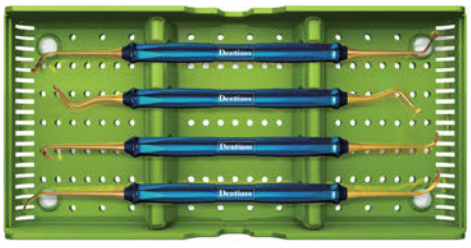
Implants [SuperLine™] placed into the osteotomy.



DASK Kit (Dentium Advanced Sinus Kit)

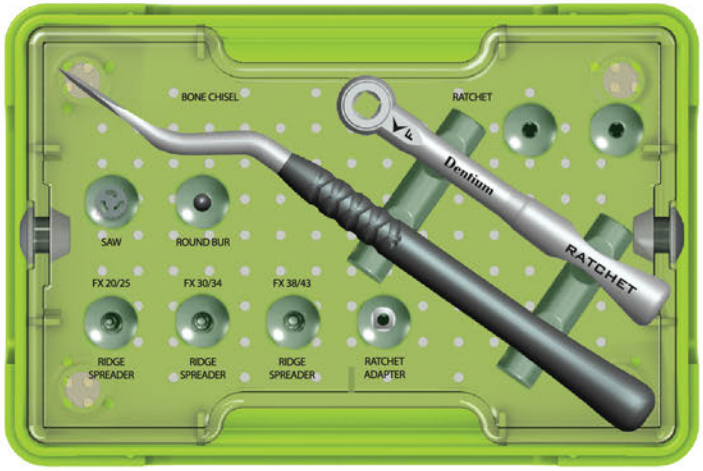


Sinus Bur Kit



Sinus Membrane Elevator Kit

RS Kit Ridge Spreader Kit



- Allows the achievement of space for implantation through the spreading of the bone with chisel without drilling
- There are three types of Ridge Spreaders to create space up to Ø4.5mm
- Convenient surgeries due to the compatibility with hand-piece and ratchet
- Ridge Spreader Drills in the kit, can be used for osseo-densification in soft bone.

Clinical Case

Preoperative

Bone chisel

Ridge spreader drill

Implantation(GFX4309S)
& Bone graft (OSTEON™ II)

GBR (Collagen Membrane)

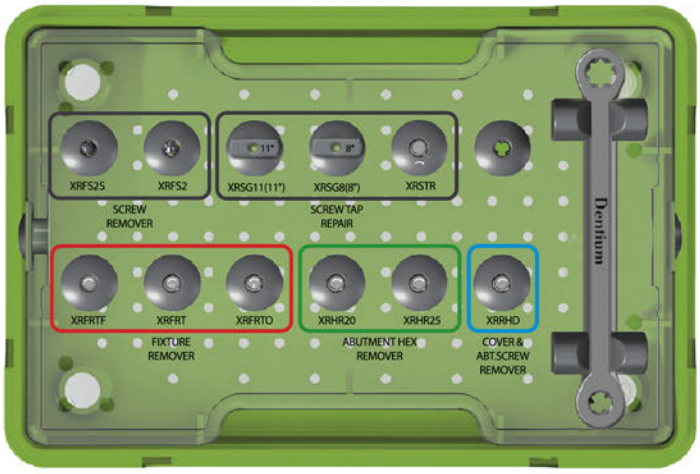
Healing after 1 month

Second Stage Surgery
(Healing after 7 months)

Final prosthesis

Help Kit

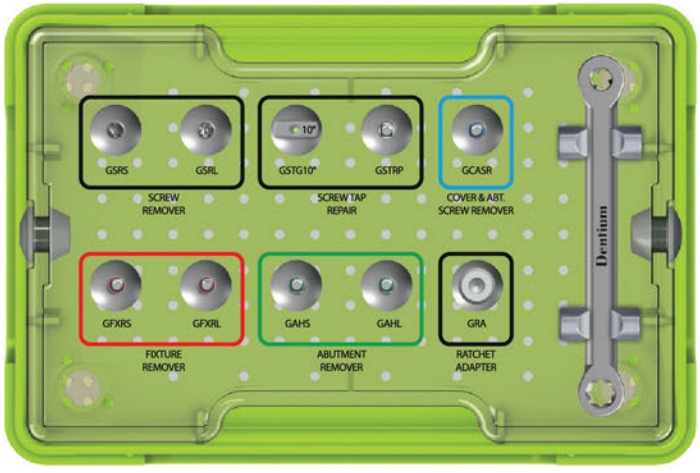
- Easy solution for critical problems which may occur in the prosthetic process
- Heavy duty with robust design and proven materials
- Help Kit is designed for single-use only



XIH

SuperLine
IMPLANTIUM

- Contains Screw Remover/ Abutment Hex Remover/ Screw Tap Repair / Fixture Remover / Cover & Abutment Screw Remover
- Compatible with most dental implant products now available on the global market

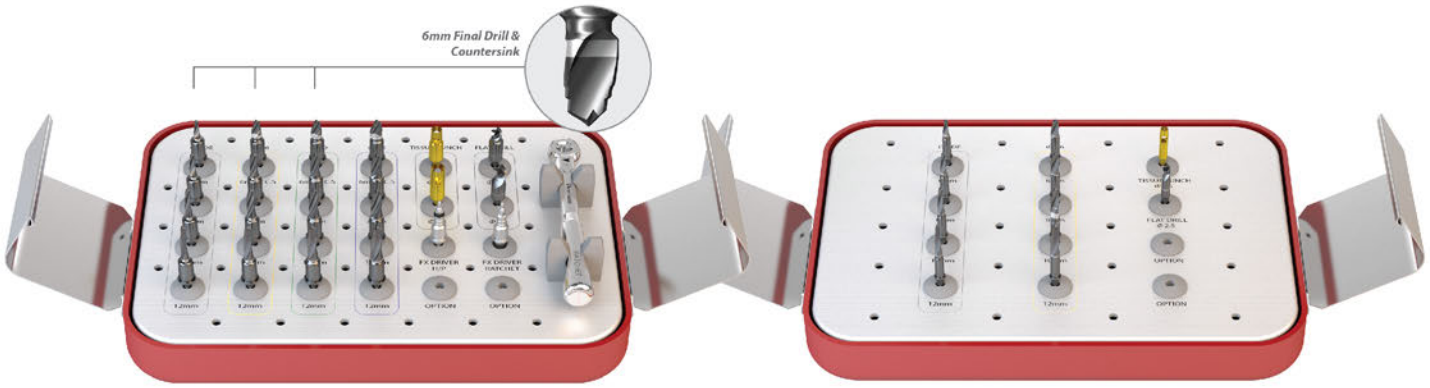


GXIH

NR Line

- Contains Screw Remover/ Abutment Hex Remover/ Screw Tap Repair / Fixture Remover / Cover & Abutment Screw Remover/ Ratchet adapter

Digital Guided Surgery Kit



Full Kit (XGSFK)

- Preparation of the osteotomies and placement of the implants completely through the surgical template
- For Platform Ø3.6, Ø4.0, Ø4.5 Fixture
- Hybrid design for 6mm Final drill & Countersink

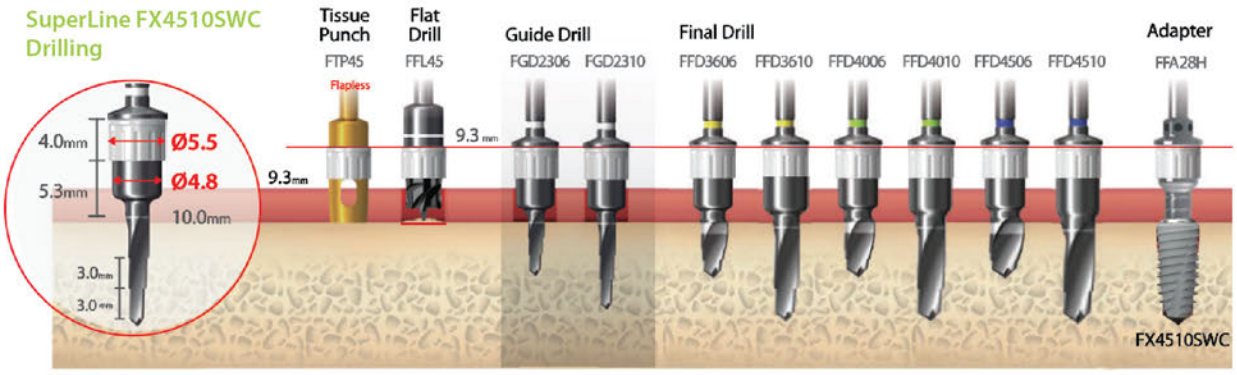
Simple Kit (XGSSK)

- Controls the position and angulations of the initial osteotomy sites and the final preparation is completed free hand.
- For Platform Ø3.6 Fixture
- Ø3.0 Narrow Sleeve

Drilling Protocol

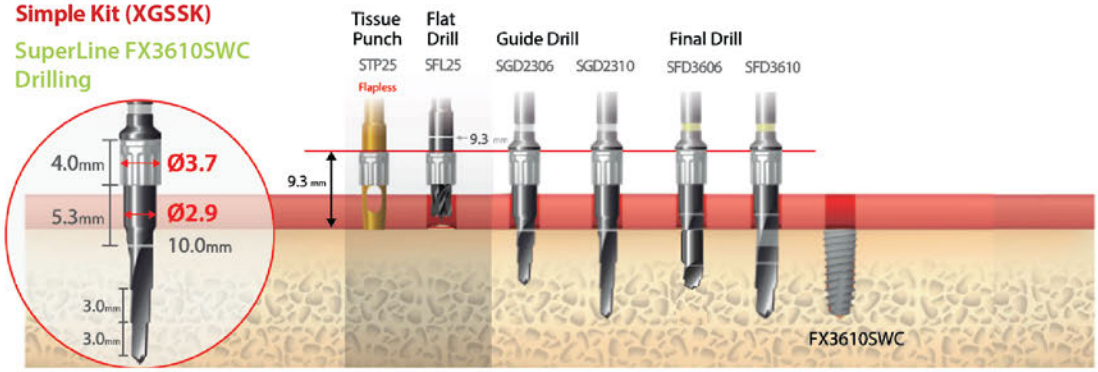
Full Kit (XGSFK)

SuperLine FX4510SWC Drilling



Simple Kit (XGSSK)

SuperLine FX3610SWC Drilling



Regeneration Materials

Osteon II
Osteon 3
Collagen Membrane

OSTEON™ II

Application of OSTEON II

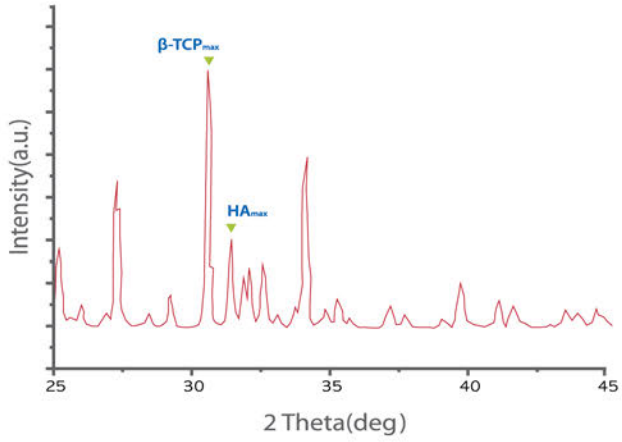
- Ridge augmentation
- Extraction sites
- Cystic cavities
- Sinus lifts
- Periodontal Intrabony defects

Composition of OSTEON II

HA scaffold coated with ß-TCP

Osteoconductive biphasic calcium phosphate with higher ß-TCP

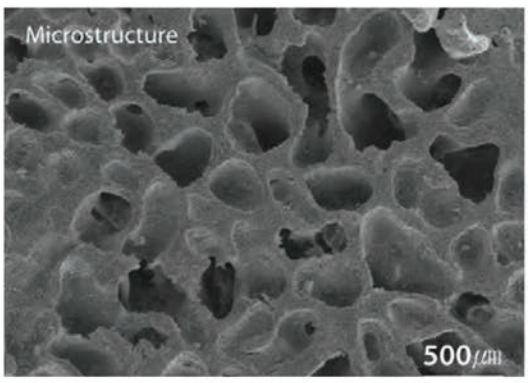
OSTEON II = HA Scaffold (30%) + ß-TCP Coating (70%)

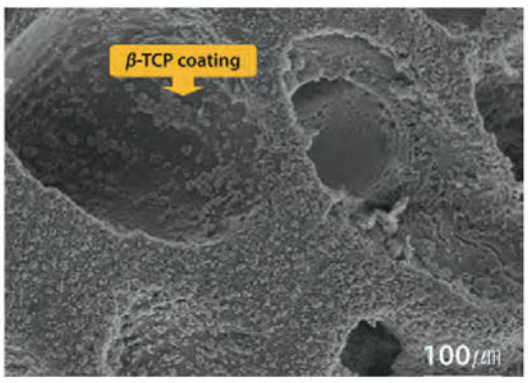


Type	Size	Volume(cc)
Vial Type	0.2~0.5 0.5~1.0 1.0~2.0	0.25/0.5/1.0
Syringe (Sinus)	0.5~1.0 1.0~2.0	0.5
Syringe (Lifting)	0.2~0.5 0.5~1.0	0.25

Characteristics of OSTEON II

- Highly resorbable due to higher ß-TCP content
- Easy manipulation
- Excellent wettability
- Osteoconductive synthetic bone graft - No risk of disease transmission
- Pore size : 250 μm
- Porosity : 70%





OSTEON™ 3

Application of OSTEON™ 3

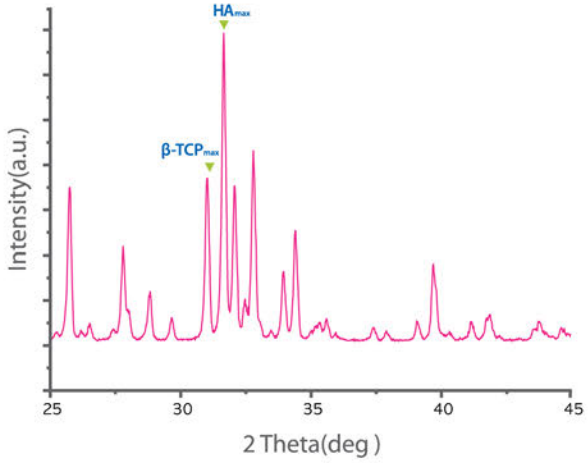
- Ridge augmentation
- Extraction sites & osteotomy
- Sinus lifts
- Periodontal defects

Composition of OSTEON™ 3

HA scaffold coated with ß-TCP

Osteoconductive biphasic calcium phosphate

OSTEON™ 3 = HA Scaffold (60%) + ß-TCP Coating (40%)



Type	Size	Volume(cc)
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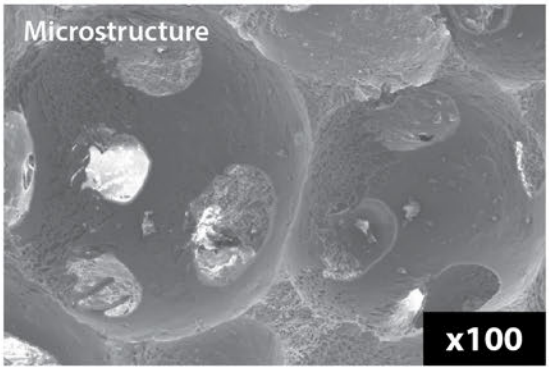
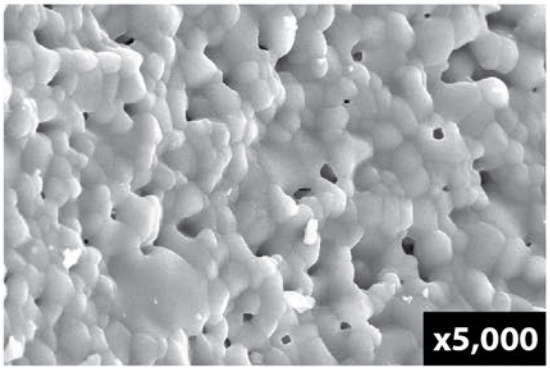
Syringe (Sinus)	0.5~1.0 1.0~2.0	0.5
Syringe (Lifting)	0.2~0.5 0.5~1.0	0.25

Characteristics of OSTEON™ 3

- Easy manipulation
- Excellent wettability
- Osteoconductive synthetic bone graft - No risk of disease transmission
- Long-term dimensional stability
- Porosity : 80%



Macropore



Micropore

Collagen Membrane

Biodegradable barrier membrane for guided bone / tissue regeneration

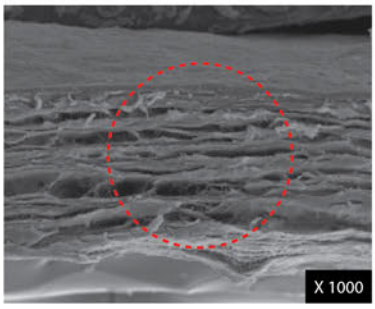
Applications of Collagen Membrane

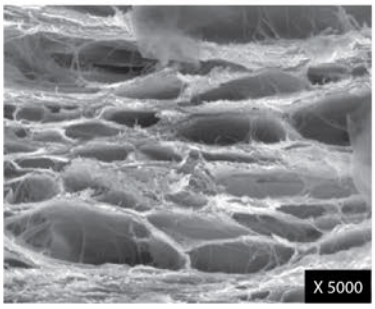
- Periodontal / intrabony defects
- Ridge augmentation
- Extraction sites (implant preparation / placement)
- Sinus lift
- GBR procedure

Characteristics of Collagen Membrane

- Easy manipulation
- Dual-sided usage
- Highly pure type I collagen derived from bovine tendon: New Zealand
- Thin membrane (300μm) with multiple layers for easy manipulation and good mechanical strength in surgery
- Resorption period of 6 months to provide enough time for stabilizing graft materials and supporting bone growth
- Multiple-layered structure enables more effective bone regeneration by sparing enough space for hard tissue formation and facilitates proliferation of osteoblasts

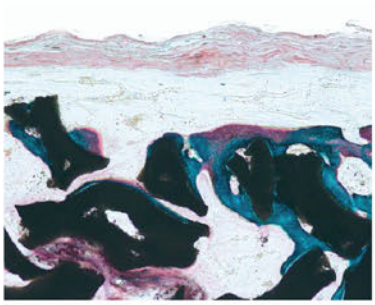
Microstructure



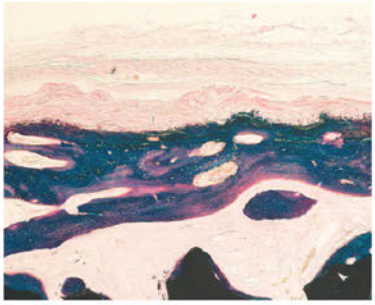


Size	Thickness (mm)
10 x 20 15 x 20 20 x 30	0.3

Animal Test

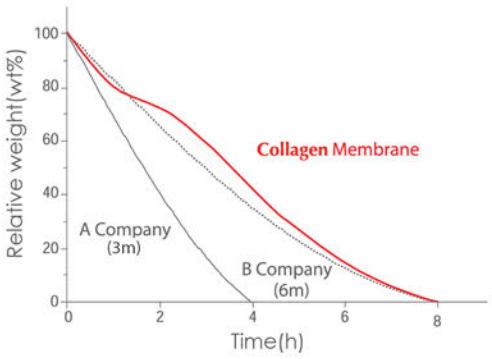


Rabbit calvaria model, 6 weeks



12 weeks

In Vitro Degradation



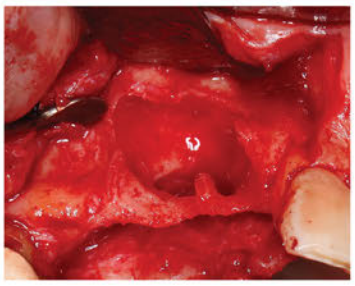
Clinical Application: 3-wall defect overcoming with Osteon 3

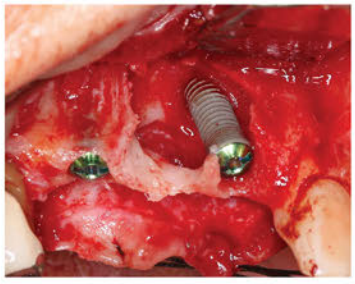
Clinical Application 1

OSTEON™ 3
Collagen Membrane
Implantium®

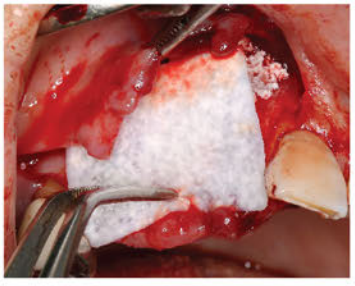

Preoperative Radiograph


Preoperative

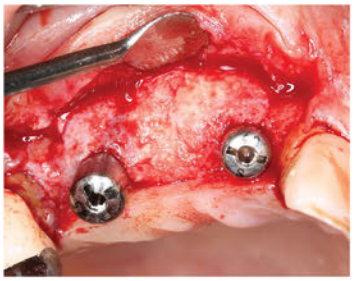

Extraction Site

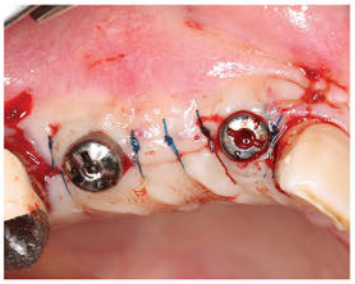

Implantation (Implantium®)


Bone graft (Osteon™ 3)


Collagen Membrane


Suture


2nd Surgery, after 6 months


2nd Surgery, suture


Healing - after 3 monts


Final Prosthesis


Postperative Radiograph

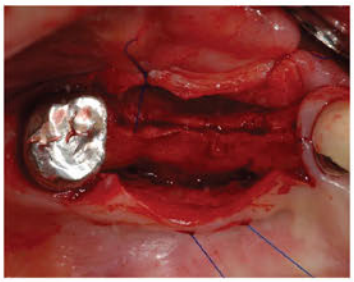
Clinical Application: Delayed implantation

Clinical Application 2

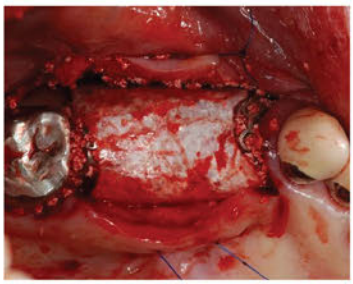
OSTEON™ 3
Collagen Membrane
SuperLine

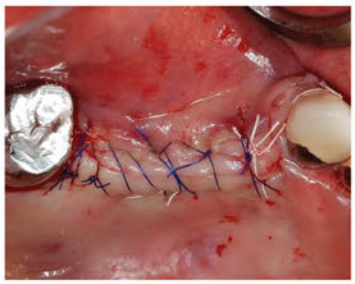

Preoperative Radiograph

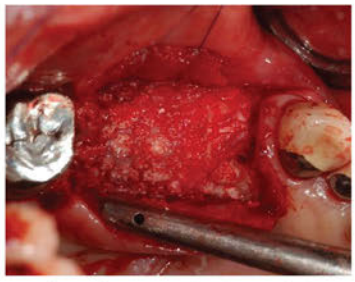

Preoperative

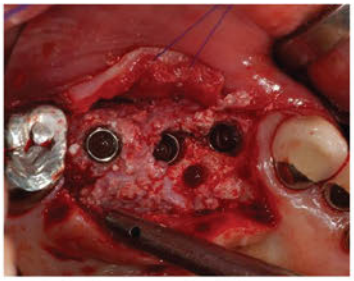

Surgery


Bone graft (Osteon™ 3)


Collagen Membrane


Suture

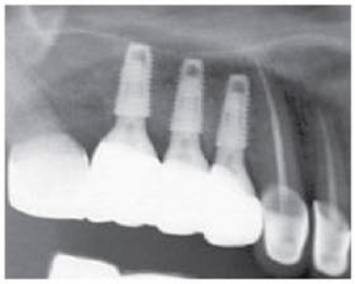

Healing after 5 months / GBR Plate removed


Implantation (SuperLine™)


Healing - after 5 months


2nd Surgery - customized abutment

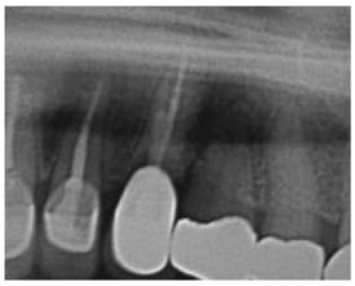

Final Prosthesis


Postperative Radiograph

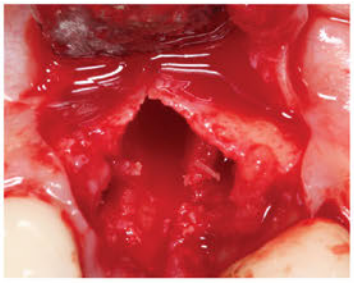
Clinical Application: Immediate implantation & GBR

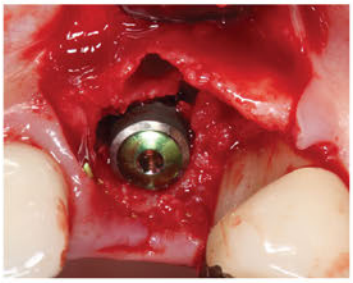
Clinical Application 3

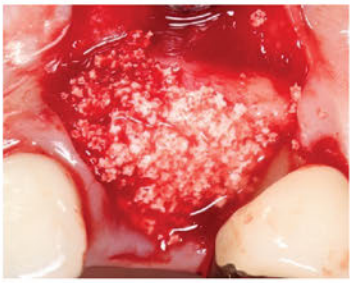
OSTEON™ 3
NR Line™

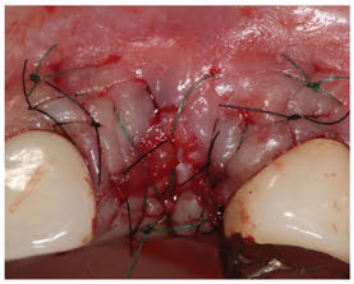

Preoperative Radiograph


Preoperative

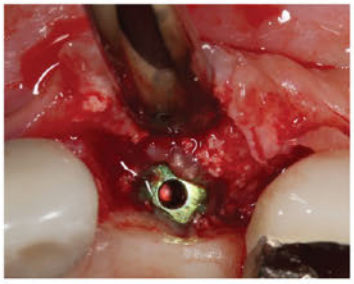

Extraction Site


Implantation (NRLine™)


Bone graft (Osteon™ 3)


Suture

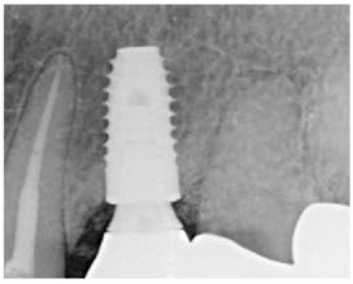

Healing: 3 months 2 weeks

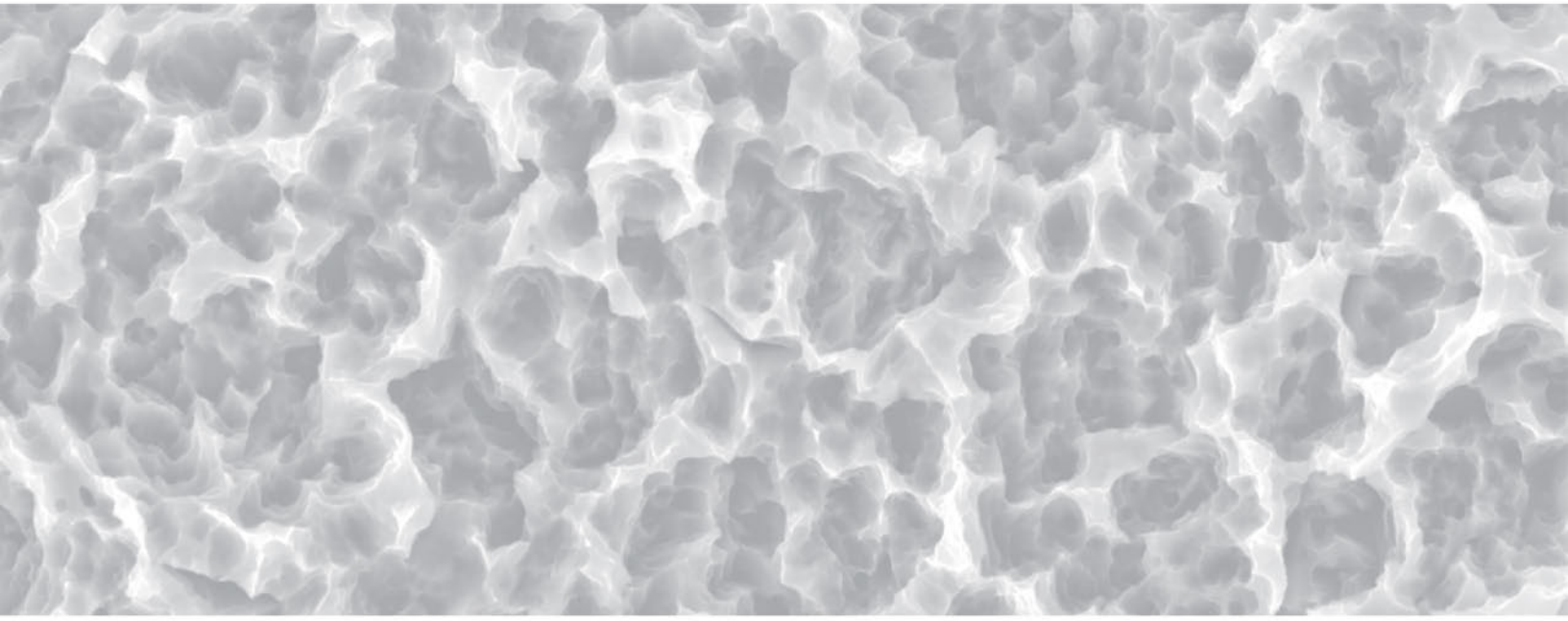

2nd Surgery


Healing: 5 weeks


Impression


Final Prosthesis


Follow up: 3 years 5 months

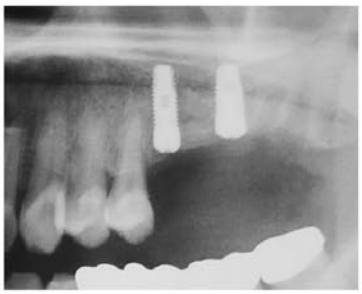


Simple & Predictable
15 Years of Clinical Evidence

over 15 years of Long term data

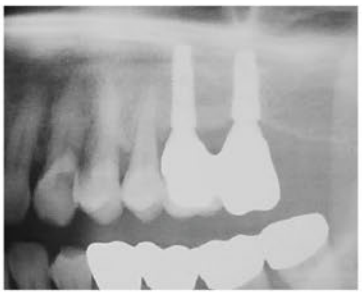
OVER A DECADE OF COMMITMENT TO THE
BEST PRODUCTS FOR DENTISTS AND PATIENTS

06. 20. 2002
Pre-op

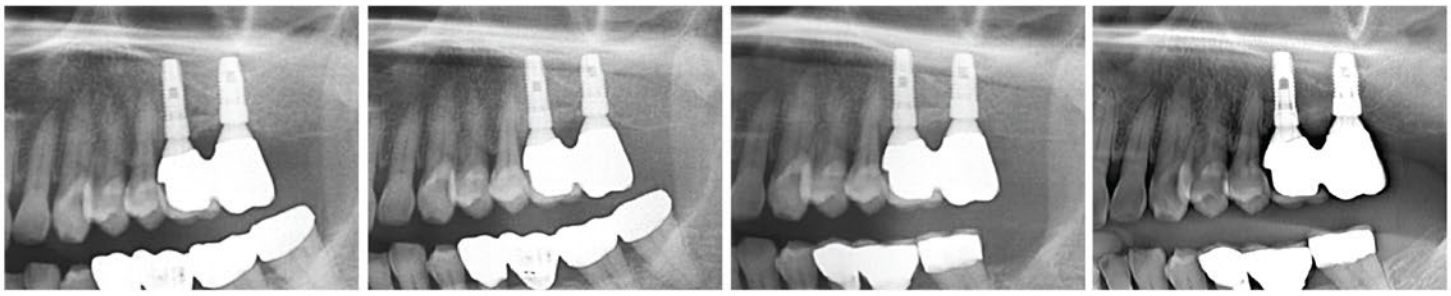


07. 02. 2002
Post-op

11. 29. 2002
Final Prosthesis



06. 02. 2004
1 Years 2 months



11. 15. 2007
5 Years

07. 24. 2009
6 Years 8 months

05. 23. 2012
9 Years 6 months

11. 25. 2017
15 Years

DentiumUSA

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