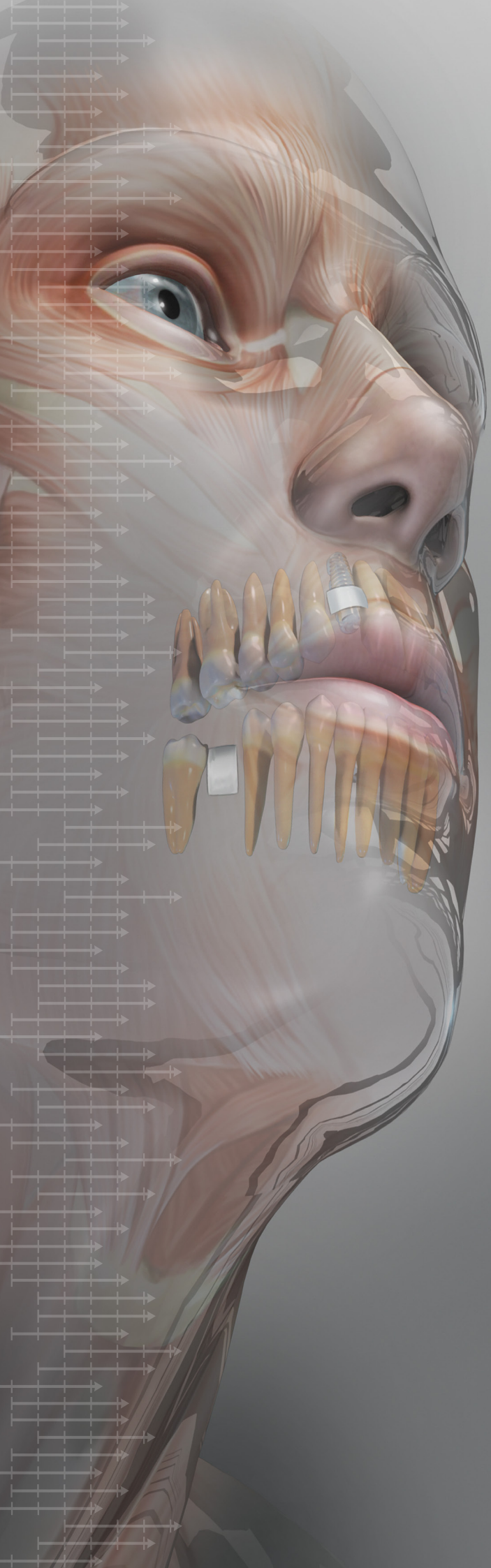


DENTAL REGENERATIVE SOLUTIONS

Collagen Matrix, Inc.

Science, Technology, Innovation

Collagen Matrix, Inc.

ENHANCING THE SCIENCE OF COLLAGEN, MINERAL, AND MINERAL-COLLAGEN COMPOSITE TECHNOLOGY

Collagen Matrix, Inc. is a leader in the design and engineering of collagen- and mineral-based extracellular matrices for tissue and organ repair and regeneration. Collagen Matrix first introduced a resorbable collagen membrane for use in oral surgery in 2001.

Our full-line of products for oral surgery are considered by many in the field to be the premier collagen membranes, anorganic and synthetic mineral bone grafts, and mineral-collagen composites for treatment of periodontal disease, for use in dental implant, bone defects, and ridge augmentation procedures. These devices strike the right balance among critical product characteristics to deliver predictable results and easily support the clinician's preferred techniques.

Our extensive research, development, and manufacturing expertise has led to the creation of several new membranes, bone grafts and dental wound dressings.

COLLAGEN MEMBRANES

Matrix*flex*™, MatrixDerm®, MatrixDerm® EXT, MatrixDerm® *Cap*, and MatrixMem™ membranes are intended for use in oral surgical procedures as a resorbable material for use in augmentation around implants placed in immediate extraction sockets, delayed extraction sockets, localized ridge augmentation for later implantation, alveolar ridge reconstruction for prosthetic treatment, filling of bone defects, guided bone regeneration in dehiscence defects and guided tissue regeneration procedures in periodontal defects.

WOUND DRESSINGS

Collatene™ Microfibrillar Collagen is an absorbent microfibrillar collagen matrix intended for the management of oral wounds and sores. It is indicated for use for denture sores, oral ulcers (non-infected or viral), periodontal surgical wounds, suture sites, burns, extraction sites, surgical wounds, and traumatic wounds.

BONE GRAFTS

MatrixOss™ Granules and MatrixOss™ in Syringe, SynOss™ Granules and SynOss™ Putty deliver choices to clinicians by providing exceptionally high quality xenograft and synthetic alternatives to human bone graft materials.

Our products are indicated for use in bone repair such as augmentation or reconstructive treatment of the alveolar ridge and filling of periodontal defects. In addition, they are suitable for use in conjunction with products intended for Guided Tissue Regeneration and Guided Bone Regeneration and for filling defects after root resection, filling extraction sockets, and elevating the maxillary sinus floor.

TABLE OF CONTENTS

COMPANY OVERVIEW

Collagen Matrix, Inc. is a leader in the design and engineering of collagen- and mineral-based extracellular matrices for tissue and organ repair and regeneration. The company currently manufactures collagen- and mineral-based finished medical devices in the areas of oral surgery, neurosurgery, orthopaedic-spine surgery and wound care.

The company was founded in 1997 by Shu-Tung Li, Ph.D., who has over 40 years of experience in connective tissue research and collagen- and mineral-based implant development. Since its inception in 1997, the company was awarded $8 Million (1997-2003) in grant money for research and development of collagen-based matrix products in the areas of neurological, vascular, urological, and orthopaedic tissue regeneration applications. Dr. Li was awarded the German-Austrian-Swiss Society for Orthopaedic-Traumatology Sports Medicine (GOTS) Biersdorf Research Award for the Collagen Meniscus Implant in 2000. He has authored over 90 publications in basic and applied sciences in collagen- and mineral-based materials. He has been awarded 35 U.S. patents, and in 2012 was inducted into the New Jersey Inventors Hall of Fame.

Collagen Matrix's 28,000 sq. ft. (2,600 sq. meters) facility in Oakland and 45,000 sq. ft. (4,200 sq. meters) facility in Allendale, New Jersey, USA, provide ample manufacturing space to support upcoming new product launches and continued growth.

Oakland Corporate Headquarters

Allendale Facility

EVOLUTION OF COLLAGEN MATRIX

1997
Collagen Matrix founded by Dr. Shu-Tung Li

2001
Launches first product, a collagen membrane for oral surgery, and signs distribution agreement

2004
Launches a bovine anorganic bone mineral and signs a distribution agreement

2004
Enters neurosurgery market with launch of DuraMatrix and Neuroflex / NeuroMatrix

2006
Signs major distribution agreement with Stryker to distribute neurosurgery products

2007
Enters orthopedic / spine market with launch of OssiMend bone graft products

2010
Moves headquarters to new facility in Oakland, New Jersey to increase capacity

October 2014
Collagen Matrix partners with Metalmark Capital

September 2015
Expands facility to Allendale, New Jersey

DISTRIBUTION FOR DENTAL SALES IN OVER 80 COUNTRIES

Dental Membranes at a Glance

Our goal is to provide a portfolio of collagen-based resorbable dental membranes that meet the needs of various dental indications.

The three key design parameters that we have identified in the development of the membranes are:

- Handling characteristics: Conformability vs. Stiffness
- Strength: Suture pullout strength
- Resorption time

This allows the clinician to select the most ideal membrane for the type of procedure.

Product	Material Source	Handling (conformability)	Strength (suture pullout strength)	Resorption Time
Matrix*flex*™	Porcine peritoneum	High (very drapable)	High 0.83 kg	3 - 4 months
MatrixDerm®	Porcine dermis	Moderate	Moderate 0.46 kg	6 - 9 months
MatrixDerm® EXT	Porcine dermis	Low (space maintaining)	High 0.67 kg	9 - 12 months
MatrixDerm® *Cap*	Porcine dermis	Low (space maintaining)	Moderate 0.51 kg	9 - 12 months
MatrixMem™	Porcine tendon	Moderate	Lower 0.28 kg	4 - 6 months

Membrane Features:

- Highly purified collagen derived from porcine tissue
- Highly biocompatible
- Structural integrity for easy handling and suturing
- Permeable to macromolecules and nutrients while creating an effective barrier to epithelial cells
- Conformable and repositionable for precise adjustment and placement
- Programmed resorption time to accommodate various applications
- Terminally sterilized and ready for use following brief hydration

Matrix*flex*™

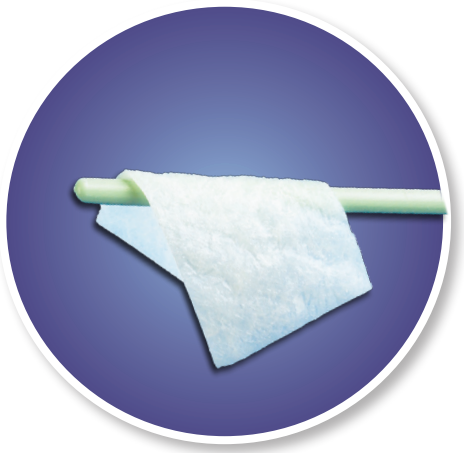
Regenerative Collagen Dental Membrane

Matrix*flex*™ regenerative collagen dental membrane is a strong, conformable collagen barrier membrane manufactured from purified porcine peritoneum tissue. It is intended for use in oral surgical procedures as a resorbable membrane material for guided bone regeneration procedures, augmentation around implants placed in immediate extraction or delayed extraction sockets, alveolar ridge reconstruction, filling of infrabony periodontal defects and defects after root resection, and guided tissue regeneration procedures in periodontal defects.

Matrix*flex*™ is the newest membrane to be added to the membrane portfolio, designed to provide a very drapable yet very strong membrane. This combination of drapability and strength is maximized in this membrane, while maintaining a handling characteristic that allows the membrane to be repositioned if necessary and does not stick to instruments during placement.

Product Features

- **Resorbable in 3-4 months**
- **Highly purified intact collagen**
- **Highly biocompatible**
- **High mechanical strength**
- **Soft and very drapable, yet repositionable for precise adjustment and placement**
- **Does not stick to instruments**



Ordering Information

Ordering Number	Size
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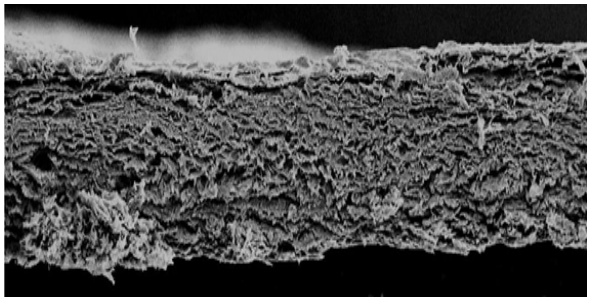
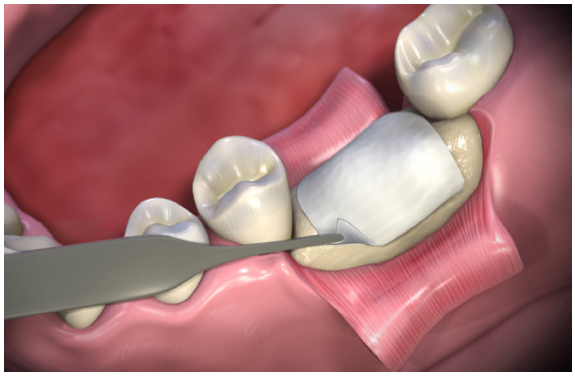
CDMPP2030	20mm x 30mm
CDMPP3040	30mm x 40mm



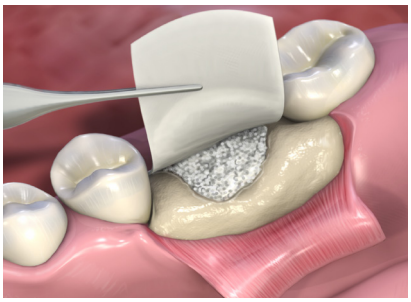
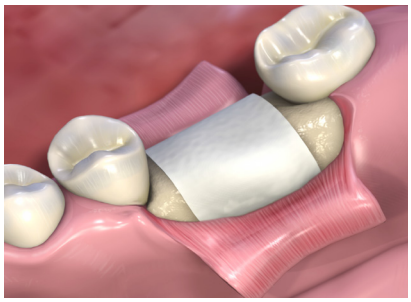
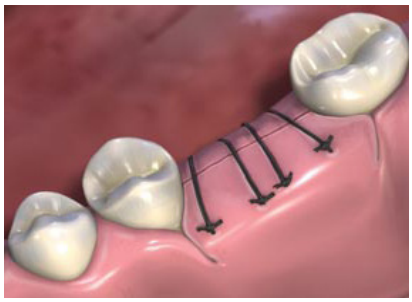
Scanning Electron Micrograph of the dry Matrix*flex*™ (cross-section) at 50x magnification



MatrixDerm®

Regenerative Collagen Dental Membrane

MatrixDerm® porcine collagen membrane has the enhanced characteristics to provide periodontal and dental surgeons with the ideal balance of properties to effectively address a host of clinical indications and surgical procedures.

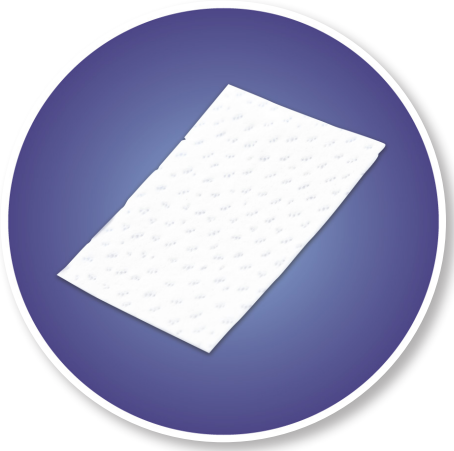
MatrixDerm®, manufactured from porcine dermis, strikes the right balance among critical product characteristics to deliver predictable results and easily supports the clinician's preferred techniques.

MatrixDerm® has been designed to simultaneously achieve moderate drapability, strength, structural integrity, in vivo stability and provides the clinician the ability to reposition the membrane for ideal placement prior to closure. MatrixDerm® conforms to the defect site, but also has sufficient memory to maintain space for bone and tissue ingrowth.

The programmed resorption time of MatrixDerm® supports bone or tissue regeneration for 6 to 9 months to allow for ingrowth and remodeling of the defect site.

Product Features

- **Resorbable in 6-9 months**
- **Highly purified intact collagen**
- **Highly biocompatible**
- **Good mechanical strength and moderate conformability for easy handling**
- **Balanced characteristics of handling, strength, and resorption time**



Ordering Information

Ordering Number	Size
PDM1520	15mm x 20mm
PDM2030	20mm x 30mm
PDM3040	30mm x 40mm

MatrixDerm® EXT

Regenerative Collagen Dental Membrane with Extended Resorption Time

MatrixDerm® EXT Regenerative Collagen Dental Membrane is a white, nonfriable membrane matrix engineered from highly purified porcine dermis. It is indicated for use in oral surgical procedures as a resorbable material in the area of dental implant, bone defect, or ridge augmentation to aid in wound healing.

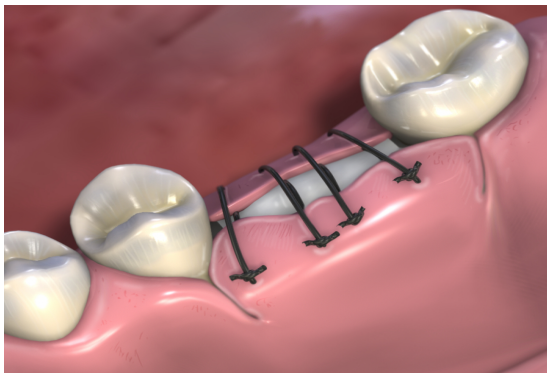
MatrixDerm® EXT was developed to meet the needs when a surgery requires that the membrane is more firm in holding the underlying bone grafting material volume. It is resorbable in 9-12 months. The sizes, strength, in vivo stability and conformability are particularly useful for guided bone regeneration applications.

Product Features

- **Resorbable in 9-12 months**
- **Highly purified intact collagen**
- **Highly biocompatible**
- **High mechanical strength**
- **Longer in vivo stability**
- **Quick hydration time in seconds**
- **Designed for ridge augmentation cases where primary closure may be difficult**

Ordering Information

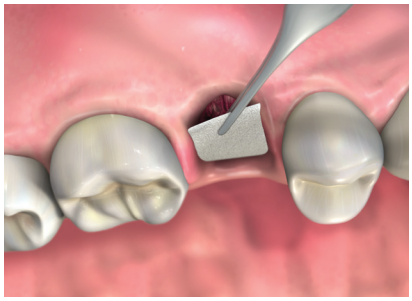
Ordering Number	Size
PDMX1520	15mm x 20mm
PDMX2030	20mm x 30mm
PDMX3040	30mm x 40mm

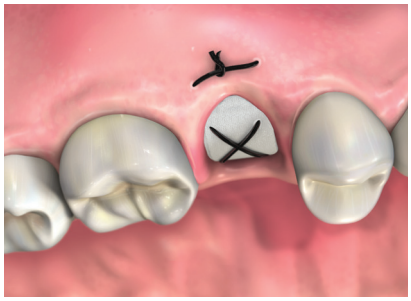


MatrixDerm® *Cap*

Regenerative Collagen Dental Membrane Cap

MatrixDerm® *Cap* Regenerative Collagen Dental Membrane Cap is a white, nonfriable membrane matrix engineered from highly purified porcine dermis. It is indicated for oral surgical procedures as a resorbable material for use in extraction sockets and small bone defects.





MatrixDerm® *Cap* was specifically designed to meet the needs for socket ridge preservation procedures, and it has a slight curve when hydrated to facilitate placement. It is resorbable in 9-12 months for extended stability. The size, shape, strength, in vivo stability, and conformability are particularly useful for guided bone regeneration in socket preservation.

Product Features

- **Resorbable in 9-12 months**
- **Highly purified intact collagen**
- **Highly biocompatible**
- **Curves when hydrated to facilitate placement**
- **Shape and curvature ideal for socket preservation applications**

Ordering Information

Ordering Number	Size
PDMC1216	12mm x 16mm

MatrixDerm® Cap Regenerative Collagen Dental Membrane Cap, hydrated

MatrixMem™

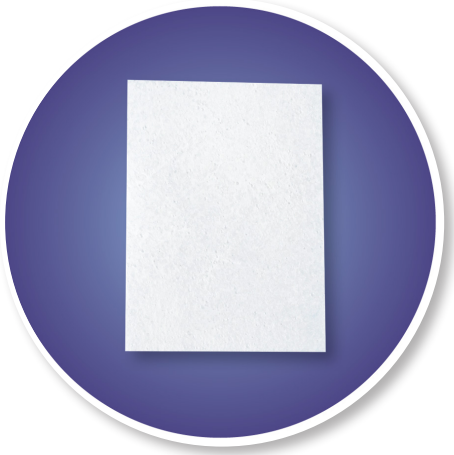
Regenerative Collagen Dental Membrane

MatrixMem™ Regenerative Collagen Dental Membrane is a white, nonfriable, conformable membrane matrix engineered from highly purified type I collagen derived from porcine tendon. It is indicated for use in oral surgical procedures as a resorbable material for placement in the area of the dental implant, bone defect or ridge reconstruction to aid in wound healing.

MatrixMem™ was developed with the thickness, density, permeability, mechanical strength, and in vivo stability that are properly balanced so that its handling characteristics are suitable for guided tissue and bone regeneration applications where the membrane can conform to the surfaces of mild irregularities. It is engineered to have a quicker resorption time of about 4-6 months. The semi-permeable membrane allows for nutrient exchange while providing a cell barrier to prevent epithelial down growth. It is flexible and conforms to the contours of the defect site.

Product Features

- **Resorbable in 4-6 months**
- **Highly purified collagen**
- **Highly biocompatible**
- **Conformable and repositionable**
- **Softer surface texture**



Ordering Information

Ordering Number	Size
CMPT1520	15mm x 20mm
CMPT2030	20mm x 30mm
CMPT3040	30mm x 40mm

Note: MatrixMem™ is not currently CE mark approved

Bone Graft Materials at a Glance

Collagen Matrix offers both a xenograft-derived bone graft matrix and a synthetic calcium phosphate bone graft matrix.

The material structure and porosity (or void space) are two parameters that we have evaluated and optimized in the development of the bone graft matrices. Maximizing the porosity of the material allows for increased void space available for bone regeneration and ingrowth. The material structure of carbonate apatite being similar to the mineral structure of natural bone, supports and facilitates remodeling of the new bone.

Product	Material Source	Particle Size Range	Form/ Configuration	Volume Fill	Void Space (Porosity)
MatrixOss™ Granules	Anorganic Porcine Bone Mineral (Cancellous)	0.25 - 1.0 mm	Granules	3 cc / gram	88%
MatrixOss™ Granules	Anorganic Porcine Bone Mineral (Cancellous)	1.0 - 2.0 mm	Granules	4 cc / gram	95%
SynOss™ Granules	Synthetic Carbonate Apatite	0.35 - 1.0 mm	Granules	2 cc / gram	81%
SynOss™ Putty	Synthetic Carbonate Apatite & Bovine Type I Collagen	0.35 - 1.0 mm	Putty	N/A	N/A

MatrixOss™ Granules

Anorganic Bone Graft

MatrixOss™ Granules is an osteoconductive, porous, anorganic bone mineral with carbonate apatite structure derived from porcine cancellous bone. It is intended for use in oral surgical procedures involving bone repair and regeneration such as reconstructive treatment of the alveolar ridge; elevation of the maxillary sinus floor; filling of periodontal defects; filling of infrabony periodontal defects and defects after root resection, apicoectomy, and cystectomy; and filling of extraction sockets.

Product Features

- Osteoconductive
- Carbonate apatite structure similar to natural bone mineral[1]
- Highly porous—more space available for new bone deposition
- Rough surface—facilitates cell adhesion and spread for bone in-growth[2]

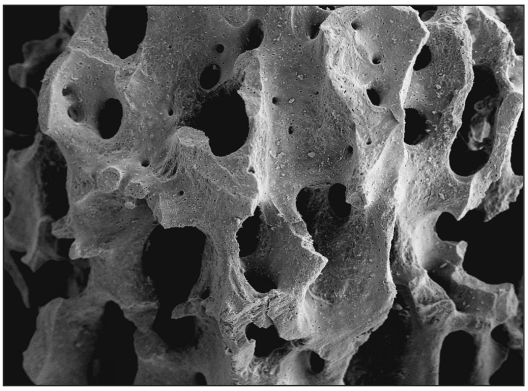
Composition Derived from Natural Bone

Carbonate Apatite Structure

- Carbonate apatite structures are better osteoconductive materials than hydroxyapatite[3,4,5]
- Resorption and remodeling profiles are more similar to native or normal human bone than those of synthetic materials, such as hydroxyapatite or tricalcium phosphate[4]

MatrixOss™ Granules

Ordering No.	Volume	Particle Size Range
PMC0510	0.5 cc	0.25-1.0 mm
PMC1010	1.0 cc	0.25-1.0 mm
PMC2010	2.0 cc	0.25-1.0 mm
PMC4010	4.0 cc	0.25-1.0 mm
PMC1020	1.0 cc	1.0-2.0 mm
PMC2020	2.0 cc	1.0-2.0 mm



Scanning Electron Micrograph of MatrixOss™ Anorganic Porcine Bone Graft Magnification x50

MatrixOss™ Syringe
Anorganic Bone Graft in Syringe

Ordering No.	Volume	Particle Size Range
PMCS025	0.25 cc	0.25-1.0 mm
PMCS05	0.5 cc	0.25-1.0 mm
PMCS10	1.0 cc	0.25-1.0 mm

[1] Data on file.
[2] Deligianni DD, Katsala ND, Koutsoukos PG, Missirlis YF, Effect of Surface Roughness of Hydroxyapatite on Human Bone Marrow Cell Adhesion, Proliferation, Differentiation and Detachment Strength. Elsevier Biomaterials 22 (2001) 87-96.
[3] Spense G., Patel N., Brooks R., Rushton N. 2009. Carbonate Substituted Hydroxyapatite: Resorption by Osteoclasts Modifies the Osteoblastic Response. Journal of Biomedical Materials Research Part A.
[4] Ellies LG, Carter JM, Natiella JR, Featherstone JDB, Nelson DGA. 1988. Quantitative Analysis of Early In Vivo Tissue Response to Synthetic Apatite Implants. J Biomed Mater Res 22:137-148.
[5] Landi E., Celotti G., Logroscino G., Tampieri A. 2003. Carbonated Hydroxyapatite as Bone Substitute. Journal of the European Ceramic Society 23: 2931-2937.

SynOss™ Granules

Synthetic Mineral Bone Graft

SynOss™ Granules Synthetic Mineral Bone Graft is an osteoconductive calcium phosphate-based (carbonate apatite) bone graft material intended for use in oral surgical applications involving bone repair such as augmentation or reconstructive treatment of the alveolar ridge, filling of periodontal defects, filling of defects after root resection or extraction sockets, and elevation of maxillary sinus floor.

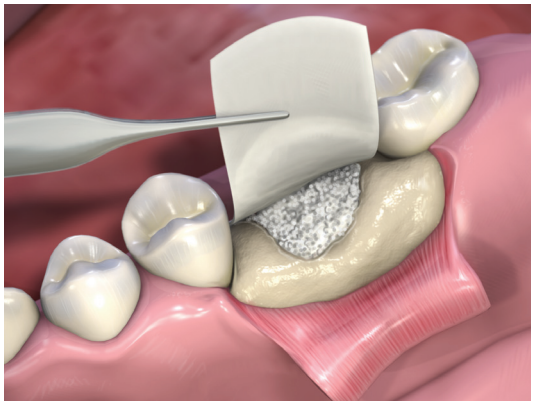
SynOss™ Granules provide clinicians and their patients with an ideal alternative to human allograft and animal origin bone graft material. The similarity in structure between SynOss™ Granules and natural bone mineral allows the SynOss™ Granules in vivo resorption and remodeling profile to mimic that of natural bone. Clinical studies of similar bone graft materials have shown improved results when used in conjunction with a barrier membrane[1] such as MatrixDerm, MatrixDerm *Cap*, MatrixDerm EXT, or MatrixMem Regenerative Collagen Dental Membranes.

Product Features

- **Synthetic alternative to allografts and xenografts**
- **Carbonate apatite structure similar to natural bone mineral**
- **Osteoconductive**

Ordering Information

Ordering Number	Weight	Volume	Particle Size Range
SM2510	0.25g	0.5cc	0.35 - 1.0 mm
SM5010	0.5g	1.0cc	0.35 - 1.0 mm
SM10010	1.0g	2.0cc	0.35 - 1.0 mm
SM20010	2.0g	3.5cc	0.35 - 1.0 mm



[1] Cornelini R, Cangini F, Martuscelli G, Wennstrom J. Deproteinized bovine bone and biodegradable barrier membranes to support healing following immediate placement of transmucosal implants: a short-term controlled clinical trial. Int J Periodontics Restorative Dent 2004; 24:555-563

Note: SynOss™ Granules is not currently CE mark approved.

SynOss™ Putty

Synthetic Mineral-Collagen Composite Bone Graft

SynOss™ Putty Synthetic Mineral-Collagen Composite is a bone graft matrix with an additional characteristic that enables it to become moldable putty upon hydration. It is indicated for use in oral surgical applications involving bone repair such as augmentation or reconstructive treatment of the alveolar ridge and for the filling of periodontal defects in conjunction with products intended for Guided Tissue Regeneration and Guided Bone Regeneration.

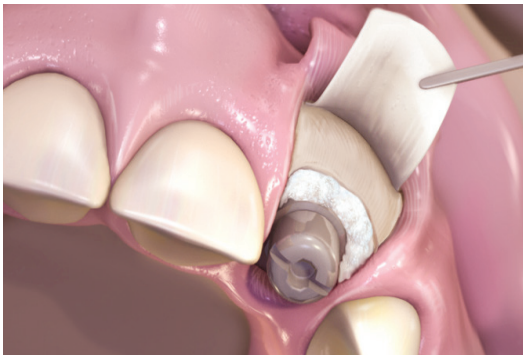
SynOss™ Putty is a calcium phosphate-based mineral with a carbonate apatite structure similar to natural bone combined with type I collagen derived from bovine Achilles tendon. The mineral particles are dispersed within collagen fibers forming a 3-dimensional matrix. It is supplied dry and forms a moldable putty upon hydration. It is fully resorbed during the natural process of bone formation and remodeling. Clinical studies of similar bone graft materials have shown improved results when used in conjunction with a barrier membrane[1] such as Matrix*flex*, MatrixDerm, MatrixDerm *Cap*, MatrixDerm EXT, or MatrixMem Regenerative Collagen Dental Membranes.

Product Features

- **Carbonate apatite plus bovine type I collagen**
- **Moldable putty upon hydration**
- **Osteoconductive, 3-dimensional structure for bone forming cells**
- **Mineral particles are contained within the defect site**

Ordering Information

Ordering Number	Size (OD x Height)	Volume
SMB050	9.0mm x 8.0mm	0.5cc
SMB100	11.0mm x 10.5mm	1.0cc
SMB200	11.0mm x 21.0mm	2.0cc



[1] Cornelini R, Cangini F, Martuscelli G, Wennstrom J. Deproteinized bovine bone and biodegradable barrier membranes to support healing following immediate placement of transmucosal implants: a short-term controlled clinical trial. Int J Periodontics Restorative Dent 2004; 24:555-563 U.S. Patent #7,381,224 and #7,554,212

Note: SynOss™ Putty is not currently CE mark approved.

Socket Repair Kit

Regenerative Products for Extraction Site in Two Specific Sizes

SOCKET REPAIR KIT .5cc

Contents: **MatrixDerm® *Cap***
Regenerative Collagen Dental Membrane
12 x 16 mm

SynOss™ Putty
Synthetic Mineral-Collagen
Composite Bone Graft
0.5cc volume

LOOK™ POLYSYN™ (Polyglycolic Acid)
4-0 USP Absorbable Suture

SOCKET REPAIR KIT 1cc

Contents: **MatrixDerm® EXT**
Regenerative Collagen Dental Membrane
15 x 20 mm

SynOss™ Putty
Synthetic Mineral-Collagen
Composite Bone Graft
1.0cc volume

LOOK™ POLYSYN™ (Polyglycolic Acid)
4-0 USP Absorbable Suture

Note: Socket Repair Kit is not currently CE mark approved.

Collatene™

Microfibrillar Collagen Wound Dressing

Collatene™ Microfibrillar Collagen is an absorbent microfibrillar collagen matrix intended for the management of oral wounds and sores. It is indicated for use for denture sores, oral ulcers (non-infected or viral), periodontal surgical wounds, suture sites, burns, extraction sites, surgical wounds and traumatic wounds.

Collatene™ is applied directly to the wound and protects the wound bed and delicate new tissue. It forms a gel when mixing with the wound's exudate and oral fluid to provide a moist healing environment. Intact collagen fibers have intrinsic hemostatic properties to control minor bleeding. Collatene is supplied sterile, in individual vials and for single-use only.

Product Features

- **Resorbable**
- **Highly purified bovine type I collagen**
- **Highly biocompatible**
- **Non-pyrogenic**
- **Controls minor bleeding due to intrinsic hemostatic properties of intact collagen fibers**

Ordering Information

Ordering Number	Volume	Quantity
DWDG0010	0.1 gram	15 vials/box

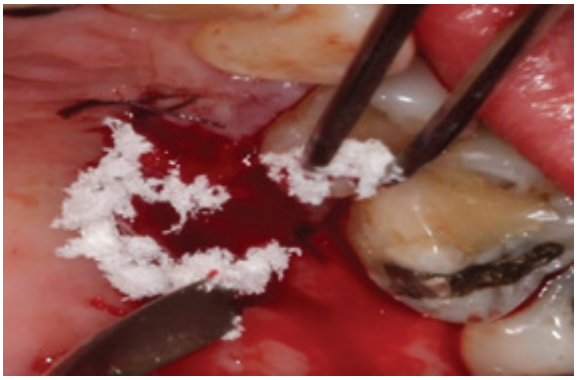


Photo courtesy of Dr. Gail G. Childers, Marlton, New Jersey, USA

Gingival Recession Treated with Matrix*flex*™

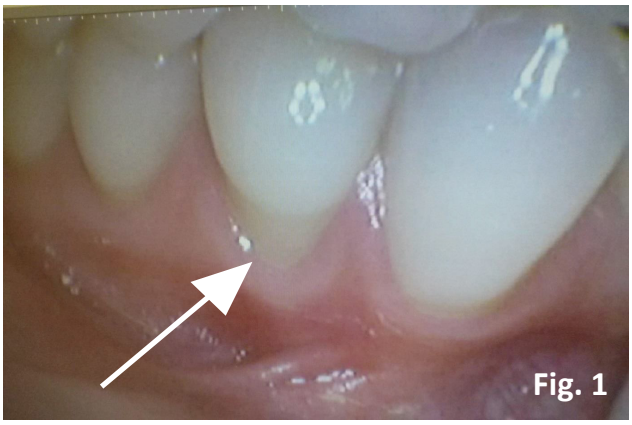
Dr. Cory Wanatick, Fort Lee, New Jersey, USA

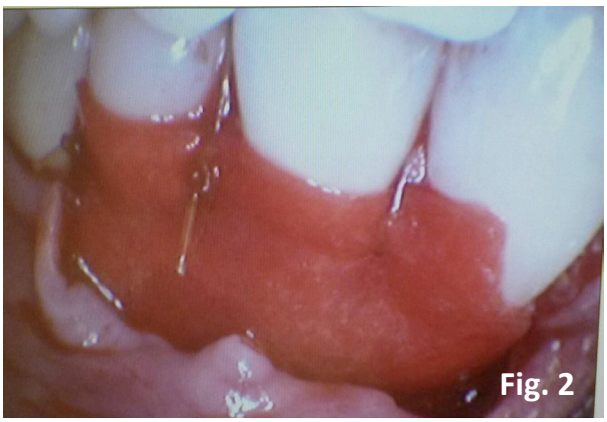
Fig. 1 A 29-year old male with localized gingival recession of tooth #28.

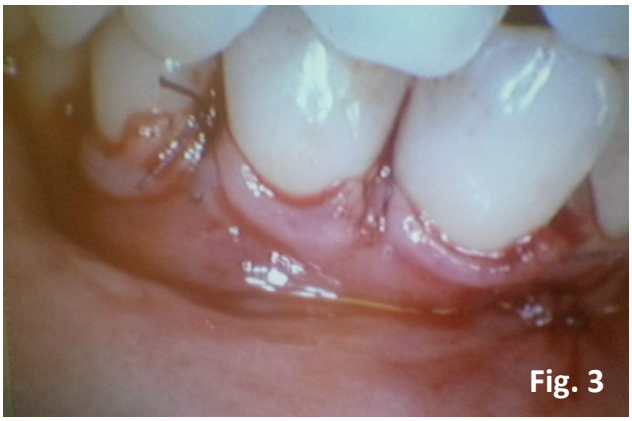
Fig. 2 Thorough scaling and root planing performed prior to a full / partial thickness mucoperiosteal flap. The root #28 was treated with Ethylenediaminetetraacetic Acid (EDTA Solution) and the Matrix*flex*™ membrane was sutured in place with 5-0 gut sutures.

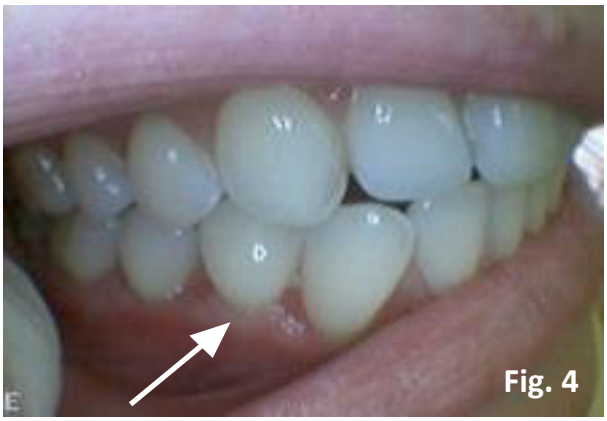
Fig. 3 The flap was coronally positioned without tension with 5-0 vicryl sutures.

Fig. 4 Sutures were removed at 2 weeks and full root coverage with healthy soft tissue was noted on #28.









Maxillary Sinus Augmentation Using MatrixOss™ and Matrix*flex*™

Dr. Shankar Iyer, Elizabeth, New Jersey, USA

Fig. 1 Pre-operative panoramic radiograph of a 58-year old male with missing tooth #2.

Fig. 2 A left maxillary defect site was prepared for bone graft augmentation via lateral window approach in order to receive implant placement at the site.

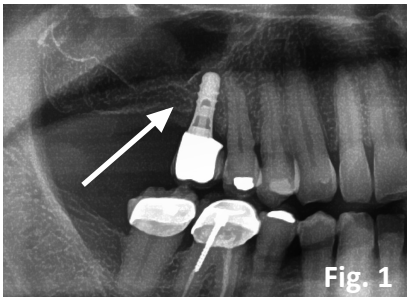
Fig. 3 MatrixOss™ was hydrated with saline solution and was transferred to the prepared recipient site.

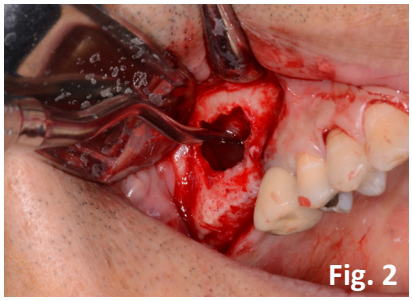
Fig. 4 Matrix*flex*™ was hydrated and placed over the graft site.

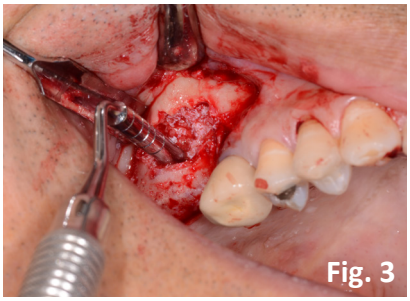
Fig. 5 The site was sutured and primary closure was achieved.

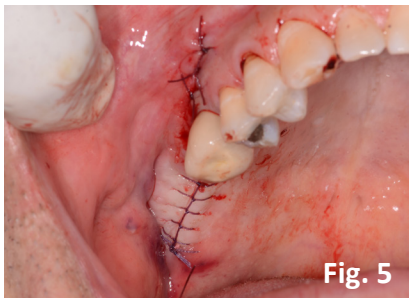
Fig. 6 Post-operative panoramic radiograph of the graft site at 6 months. The site healed uneventfully, and the bone regeneration was adequate for implant placement at 6 months.

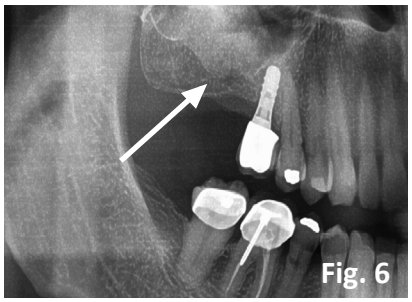
Fig. 7 Panoramic radiograph of the site after implant placement.

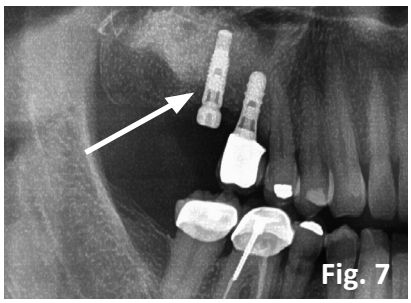












Socket Preservation with Buccal Wall Defect Treated with MatrixOss™ and Matrix*flex*™

Dr. Cory Wanatick, Fort Lee, New Jersey, USA

Fig. 1 Pre-op radiograph of tooth #21 of a 65-year old male with vertical root fracture of the tooth.
Fig. 2 Full thickness mucoperiosteal flaps were raised. Tooth #21 was extracted and significant facial bone loss noted.
Fig. 3 MatrixOss™ Granules were hydrated with sterile saline and placed in the defect site.
Fig. 4 Matrix*flex*™ membrane was sized and placed over the defect site.
Fig. 5 Primary closure was obtained with 4-0 vicryl sutures. At two weeks, sutures were removed and soft tissue healing was unremarkable.
Fig. 6 Post-op radiograph of extraction socket treated with MatrixOss™ and Matrix*flex*™ taken immediately after closure.
Fig. 7a Post-op radiograph of the implant placed five-months post grafting. The healing was uneventful.
Fig. 7b Fully restored tooth #21.

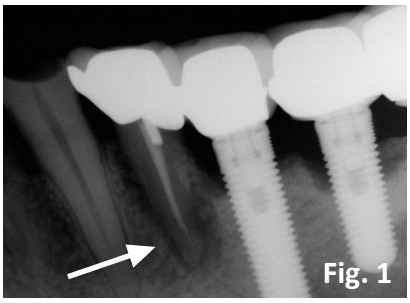


Fig. 1

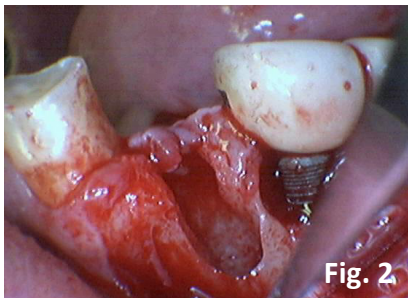


Fig. 2

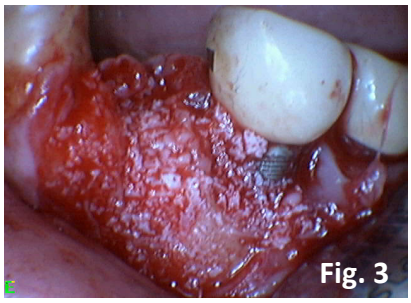


Fig. 3

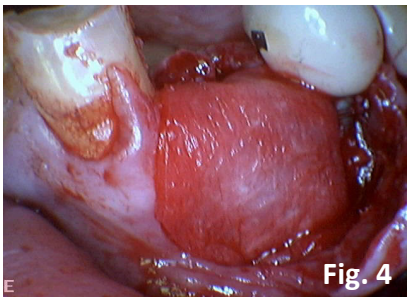


Fig. 4

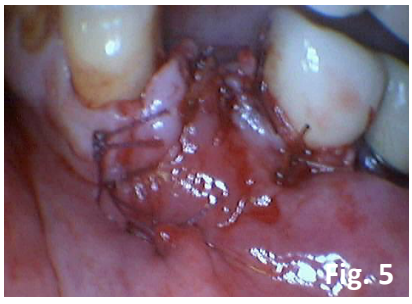


Fig. 5

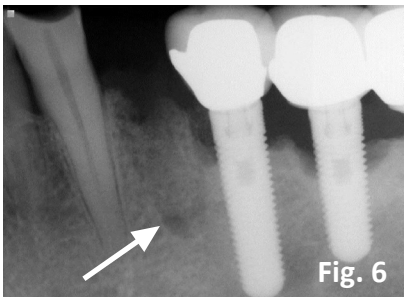


Fig. 6

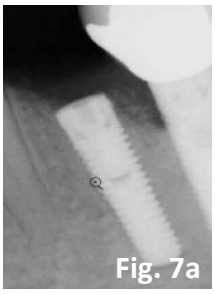


Fig. 7a

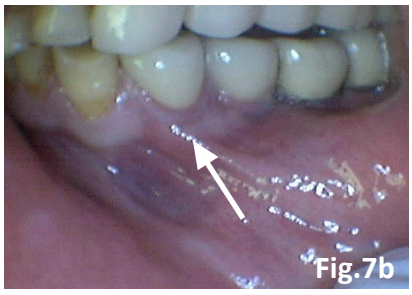


Fig.7b

Maxillary Sinus Augmentation Using MatrixOss™ and MatrixDerm®

Dr. John JH Choi, Fort Lee, New Jersey, USA

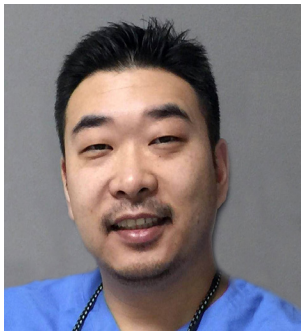


Fig. 1 A 50-year old female patient with multiple missing teeth. The left maxillary sinus was scheduled for bone graft augmentation via lateral window approach in order to receive implant placement at sites: Tooth #12, #13, and #15 for a four-unit fixed partial denture.

Fig. 2 MatrixOss™ was hydrated with saline solution and was transferred to the prepared recipient site. The graft was condensed, without packing too tightly.

Fig. 3 Maxillary sinus window was then covered with MatrixDerm® collagen membrane so that the entire window and the graft material was covered over 3-5 mm over all sides and corners.

Fig. 4 Then the buccal flap was sutured to primary closure with 5-0 chromic gut sutures and 5-0 vicryl sutures. Primary closure was attained.

Fig. 5 Re-entry was performed at six-months status post op. The quality of the bone was dense and would classify as Bone Type II to III.

Fig. 6 The implant fixtures were placed and the primary stability was achieved. The healing abutments were placed at the same time as the fixture placement.

Fig. 7 The surgical site was allowed to heal for an additional three-months before the prosthetic phase started. The patient is currently scheduled for the last part of the prosthetic phase, receiving her final crown and bridge.

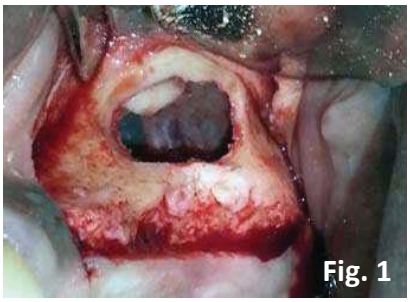


Fig. 1

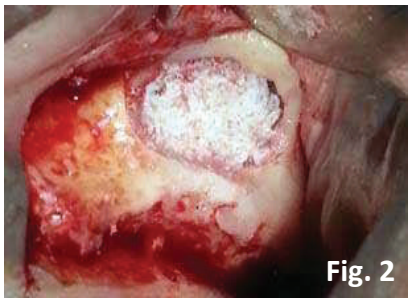


Fig. 2

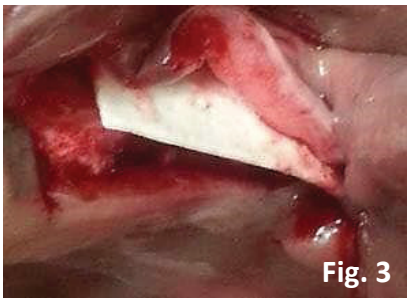


Fig. 3

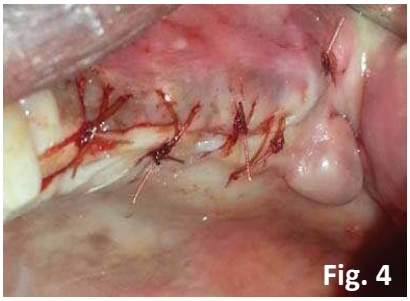


Fig. 4

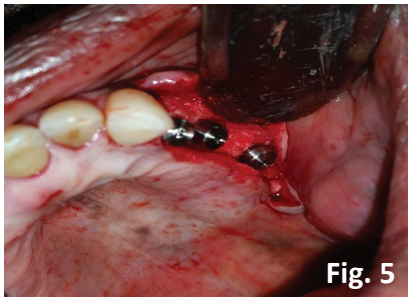
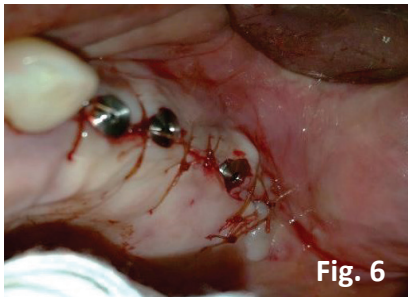


Fig. 5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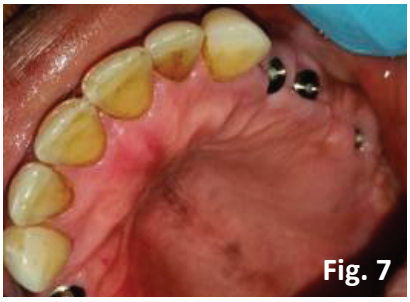
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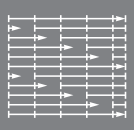

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