www.cowellmedi.com

COWELL®
Regenerative Solution

Help your daily practice superior Ver.11

CWM
Cowellmedi Co., Ltd.
The Pioneers in Dental Implant & E.rhBMP-2

For the first time in Korea,

beginning with the localization of dental implants, the company has been leading the biomedical industry with its rhBMP-2 fusion technology.

COWELLMEDI is a leading company of dental healthcare products specialized in dental implants, regenerative materials, instruments, and products for digitally guided implant process.

COWELLMEDI serves dental clinics, laboratories, healthcare institutes, governments and other related sites. COWELLMEDI offers a comprehensive selection of products and services including education, technology trades, commercial consulting services and other extensive solutions.

With the development and localization of Korea's first dental implant in 1994, COWELLMEDI became the pioneer of Korea's dental implant industry. COWELLMEDI received a bronze tower medal for the contribution of the development of Korea's first dental implant from Korean government.

COWELLMEDI's efforts over the last 2 decades along with its continuous research have become the core of the country's dental implant industry.

In 2010, COWELLMEDI attracted the world's attention once again by successfully developing E.coli derived rhBMP-2 bone graft for the first time in the world. That led COWELLMEDI to become a global company in the biomedical field.

Help your daily practice superior

COWELLMEDI has been committed to innovating human life based on pushing boundaries of dental healthcare system and changing the way how the world treats the dental healthcare system.

At COWELLMEDI, we are always thinking beyond products. We are pulling all our weight to realize our motto, "Help your daily practice superior ", by providing our best level services and the highest quality products which have been clinical safety, efficacy and reliability proven in multiple clinical cases and studies.

Our motto-oriented services, products and our continuous research on innovation and clinical & scientific networks have let us be one of the greatest companies in world biotechnology industry.

To achieve optimal and predictable results, we offer you the COWELL® Regenerative Materials

We all know that no single factor can achieve all requirements and indications of soft and hard tissue regeneration.

Factors such as stem cells, scaffolds, signal molecular and biological type, age, hygiene and treatment plan require a sophisticated approach with differently coordinated products.

The COWELL® Regenerative Materials include all proven materials like E.rhBMP-2, diverse types of bone substitutes, resorbable & non-resorbable membranes, wound dressings, autogenic bone harvesting instrument and bone augmentation abutments & screws which can be used in various cases for each specific indication.

All products are managed under the highest quality control system.

Be a partner with us, join us for the ride of a lifetime project

COWELLMEDI is keen to develop relationships with new partners and does look forward to fully exploring how best we can collaborate to deliver mutual benefit. It is our belief that working on a partnership-basis, you will ultimately prove to add value for our business and thereby enhance the customer and patient experience at our attractions.

Partnerships with different organizations are fundamental to our strategic priorities of growing a global business and delivering more products and services of value.
COWELLMEDI has a diverse range of partnerships and we are always looking for new opportunities.

One of current key objectives of partnership is to address partner consolidation and also to look at global opportunities for business expansion. COWELLMEDI recognizes that we need to have the right.

Should your business be as ambitious as ours and you believe you can add value for your customers, then we would be delighted for you to continue this process.

Come join us for the ride of a lifetime project

INDEX

COWELL® REGENERATIVE MATERIALS

Osteoinductive Bone Graft
rhBMP-2 + BCP

COWELL® BMP

Composition of COWELL® BMP Bone Graft

- Bone graft material initially made in South Korea by freeze-drying recombinant human bone morphogenic protein type 2 (rhBMP-2) on the surface of BCP
- BCP as a carrier allows maintenance of space

Features of COWELL® BMP Bone Graft

- Primary closure for soft tissue regeneration is not required
- Regenerates adherent gingiva
- Simplifies challenging bone grafting and soft tissue regeneration
- Acts directly on stem cells
- Induces bone regeneration without infection in extraction socket
- Contains 1 mg of bone morphogenic protein per 1g of the particle (1g of autologous bone contains 2ng of bone morphogenic protein)

Application

A. Orthopedics

Bone grafts

- Fractures : Tibia, Radius, Ulna
- Spine Fusion (Degenerative Disc Disease) : Interbody cage, Posteolateral

Injection Device

- Lengthening : Distraction Osteogenesis
- Osteoporosis : Hip joint fracture
- Bone Defect : Bone cyst
- Bone Fusion : Foot/shoulder revision

B. Dentistry

Bone grafts

- Severely resorbed alveolar ridges
- Tooth extraction socket
- Alveolar bone loss
- Maxillary sinus bone loss
- Bone-inductive implant : Coted implant
- Maxillofacial reconstruction

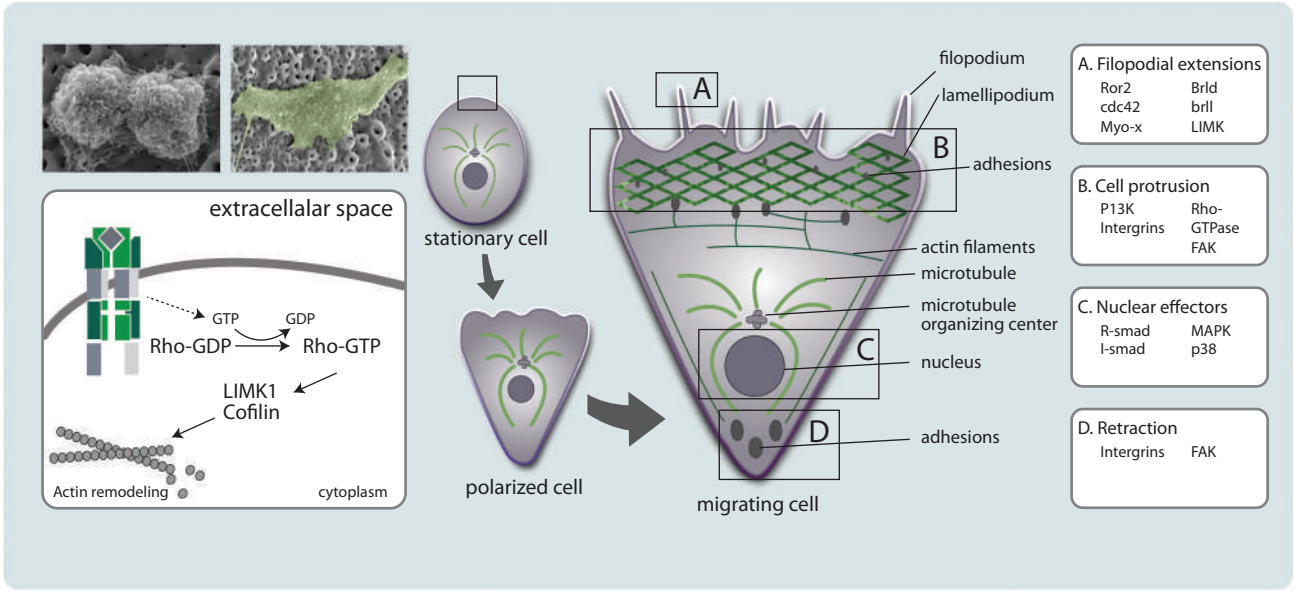
C. Dermatology

Soft Tissue grafts

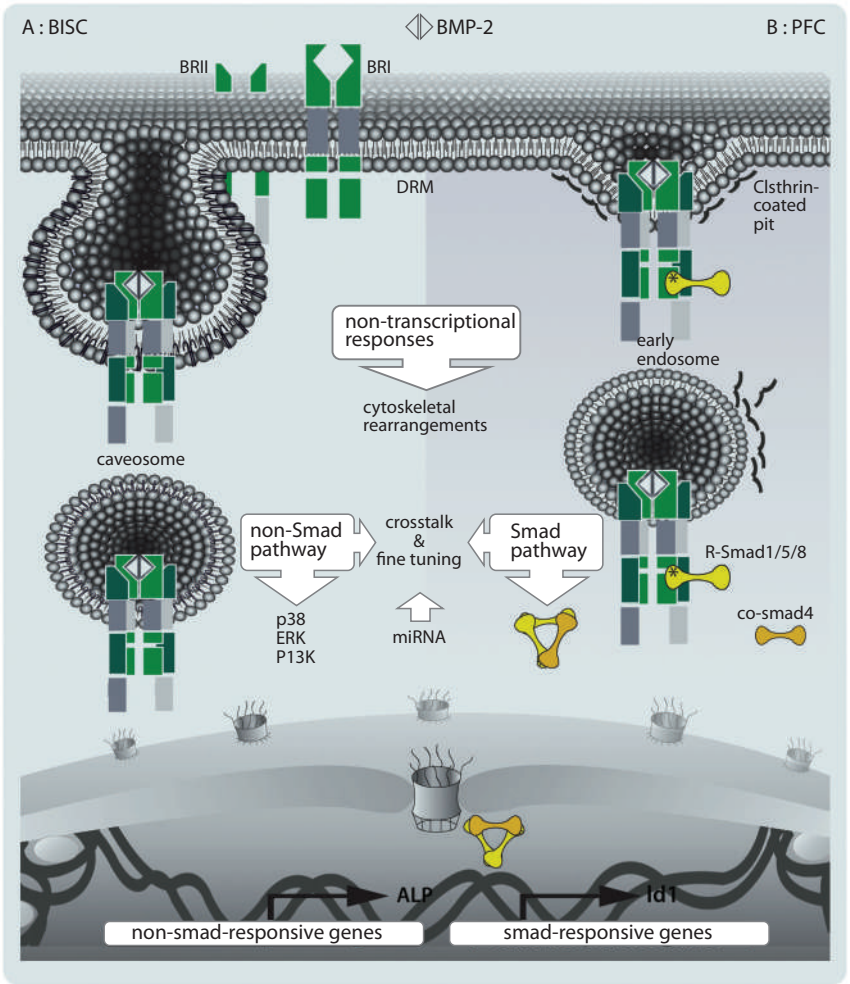
- Damaged skin regeneration
- Diabetes ulcer

Mechanism of Action of COWELL® BMP Bone Graft

A. Migration of Cells with lamellipodia



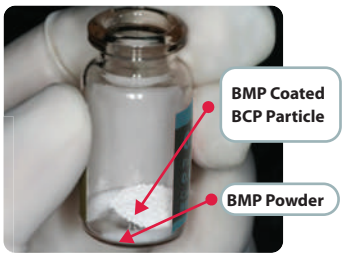
B. Cellular mechanisms



- BMP-2 adheres to the membrane of stem cell and induces expression of genes of nucleus. Then, BMP-2 migrates to recipient site.
- BMP-2 growth factor, Twist-2 transcriptional factor, and VEGF growth factor synthesize and secrete endogenous growth factor.
- Proliferation of osteoblast of osteocyte, and proliferation of fibroblast in dermis and keratinocyte of the skin.
- Twist-2 transcriptional factor induces tissue regeneration in osseous tissue and adherent gingival area.

Product Type

COWELL® BMP (One vial)



BMP Powder
+ BMP Coated BCP Particle

• Dose and Particle Size of COWELL® BMP

0.1g

Product Code	Particle Size
BB1010	0.41~1.0mm

0.25g

Product Code	Particle Size
BB1025	0.41~1.0mm

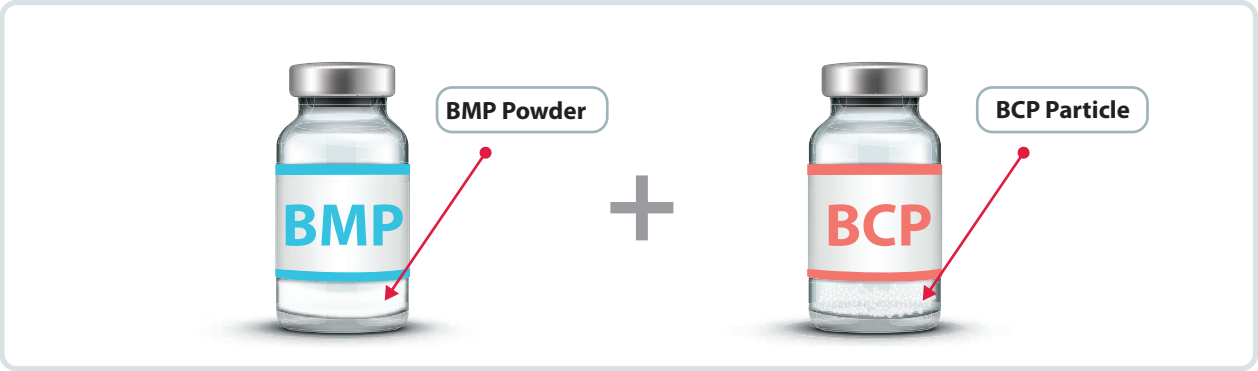
0.5g

Product Code	Particle Size
BB1050	0.41~1.0mm

※ A vial of 0.1g can be used for less than one extraction socket, while 0.25g/0.5g can be used for maxillary sinus or for the wide bone defect area.

Product Type

COWELL® BMP Plus (Two vials)



• Dose and Particle Size of COWELL® BMP Plus

BMP 0.1mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB0125	0.1mg	0.25g	0.41~1.0mm
EBB0105	0.1mg	0.5g	0.41~1.0mm
EBB1110	0.1mg	1g	0.41~1.0mm
EBB1220	0.1mg	2g	0.41~1.0mm

BMP 0.25mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB2525	0.25mg	0.25g	0.41~1.0mm
EBB2505	0.25mg	0.5g	0.41~1.0mm
EBB1125	0.25mg	1g	0.41~1.0mm
EBB1225	0.25mg	2g	0.41~1.0mm

BMP 0.5mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB0525	0.5mg	0.25g	0.41~1.0mm
EBB0505	0.5mg	0.5g	0.41~1.0mm
EBB1150	0.5mg	1g	0.41~1.0mm
EBB1250	0.5mg	2g	0.41~1.0mm

BMP 1mg

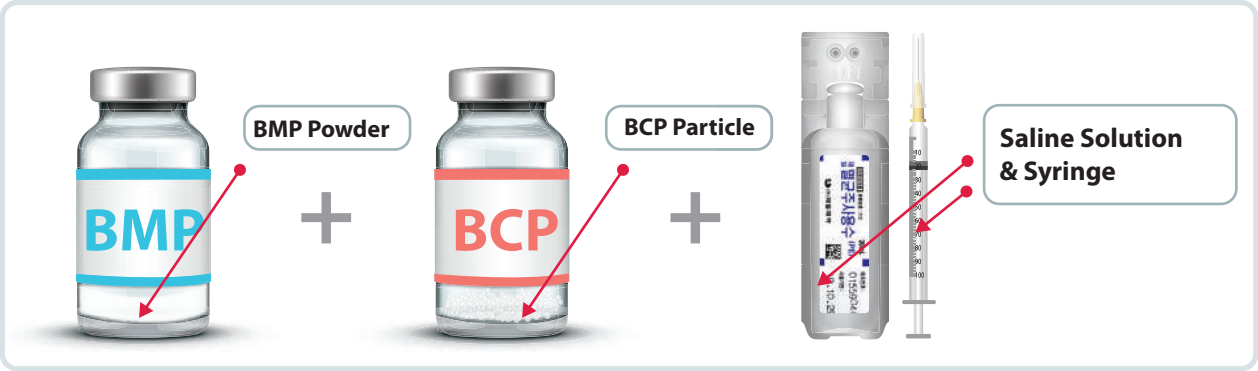
Product Code	BMP Dose	Particle Dose	Particle Size
EBB1025	1mg	0.25g	0.41~1.0mm
EBB1050	1mg	0.5g	0.41~1.0mm
EBB1011	1mg	1g	0.41~1.0mm
EBB1012	1mg	2g	0.41~1.0mm

BMP 2mg

Product Code	BMP Dose	Particle Dose	Particle Size
EBB2025	2mg	0.25g	0.41~1.0mm
EBB2050	2mg	0.5g	0.41~1.0mm
EBB2011	2mg	1g	0.41~1.0mm
EBB2012	2mg	2g	0.41~1.0mm

Product Type

INNO GF Kit (Two vials + Saline Solution + Syringe)



• Dose and Particle Size of INNO GF Kit

BMP 0.1mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB0125	0.1mg	0.25g	0.41~1.0mm
IBB0105	0.1mg	0.5g	0.41~1.0mm
IBB1110	0.1mg	1g	0.41~1.0mm
IBB1220	0.1mg	2g	0.41~1.0mm

BMP 0.25mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB2525	0.25mg	0.25g	0.41~1.0mm
IBB2505	0.25mg	0.5g	0.41~1.0mm
IBB1125	0.25mg	1g	0.41~1.0mm
IBB1225	0.25mg	2g	0.41~1.0mm

BMP 0.5mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB0525	0.5mg	0.25g	0.41~1.0mm
IBB0505	0.5mg	0.5g	0.41~1.0mm
IBB1150	0.5mg	1g	0.41~1.0mm
IBB1250	0.5mg	2g	0.41~1.0mm

BMP 1mg

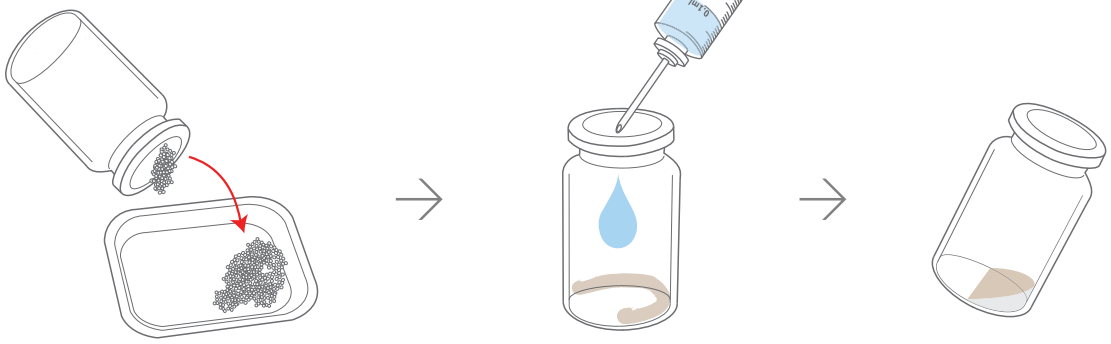
Product Code	BMP Dose	Particle Dose	Particle Size
IBB1025	1mg	0.25g	0.41~1.0mm
IBB1050	1mg	0.5g	0.41~1.0mm
IBB1011	1mg	1g	0.41~1.0mm
IBB1012	1mg	2g	0.41~1.0mm

BMP 2mg

Product Code	BMP Dose	Particle Dose	Particle Size
IBB2025	2mg	0.25g	0.41~1.0mm
IBB2050	2mg	0.5g	0.41~1.0mm
IBB2011	2mg	1g	0.41~1.0mm
IBB2012	2mg	2g	0.41~1.0mm

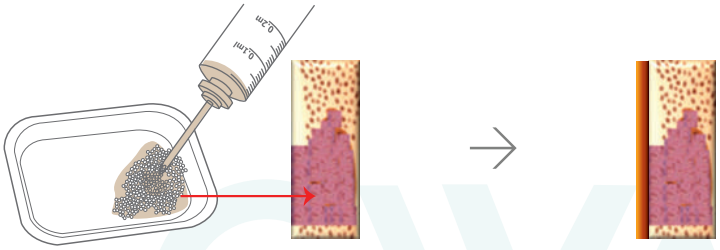
User Guide COWELL® BMP Bone Graft

A. Method Ⅰ



a. Transfer BCP graft material (Vial Ⅰ)
(+ autogenic / allograft into a container)

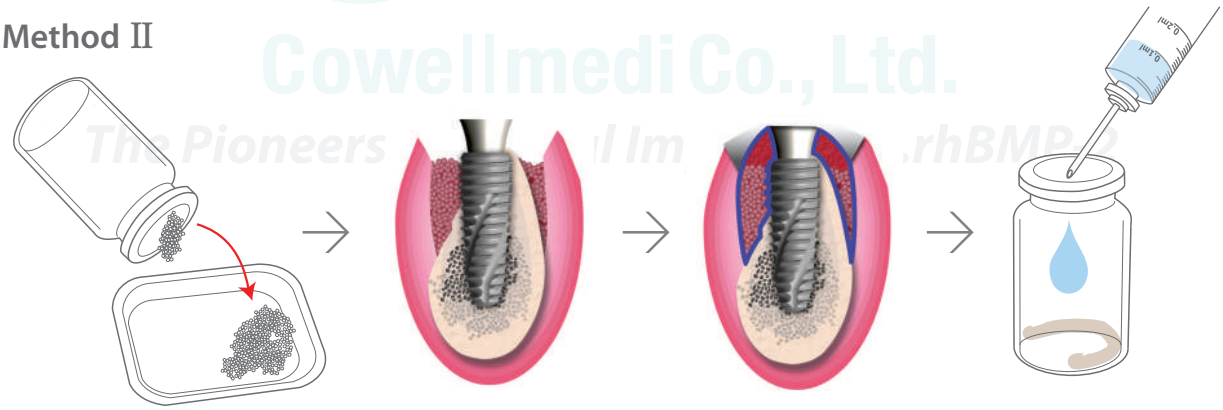
b. Inject distilled water into vial Ⅱ with lyophilized rhBMP-2 power in it and mix with the powder



c. Mix BMP solution with BCP or plus autogenic / allograft and apply into the recipient site

d. Cover the defect area using a barrier membrane or suture natural soft tissue without membrane

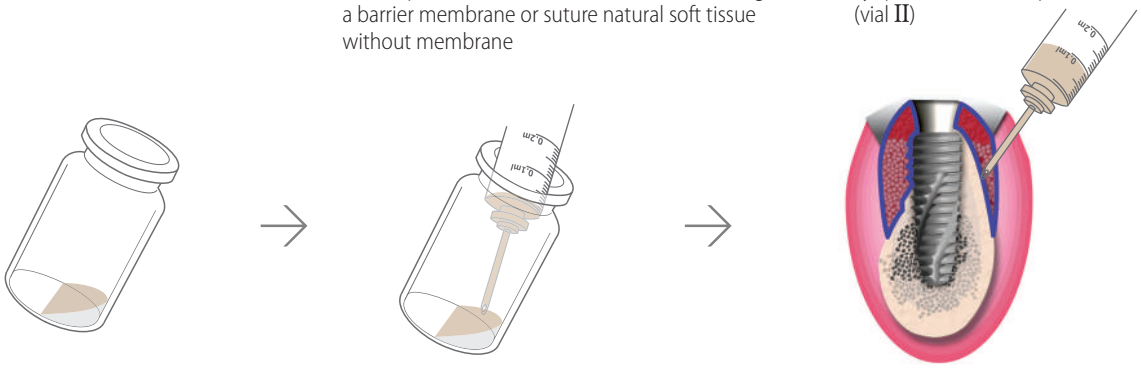
B. Method Ⅱ



a. Transfer BCP graft material (Vial Ⅰ) into a container

b. Apply BCP or plus autogenic / allograft) into the recipient site and cover the defect area using a barrier membrane or suture natural soft tissue without membrane

c. Inject distilled water into lyophilized rhBMP-2 powder (vial Ⅱ)



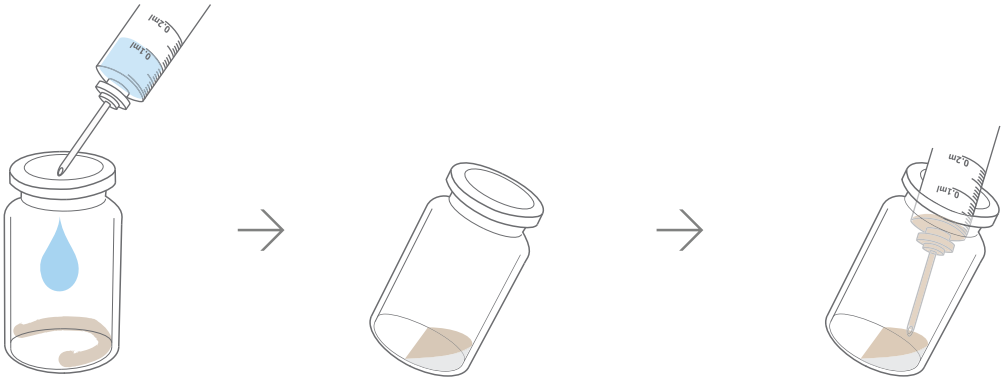
d. Mix rhBMP-2 with distilled water (saline solution) and wait for 10 to 15 mintues before using

e. Aspirate the mixture using a syringe

f. Inject BMP solution through soft tissue until needle of syringe reaches bone

User Guide COWELL® BMP Bone Graft

C. Method III



a. Inject distilled water into vial II with lyophilized rhBMP-2 power in it and mix with the powder

b. Aspirate the mixture using a syringe

c. Hydrate BMP-2 solution into membrane

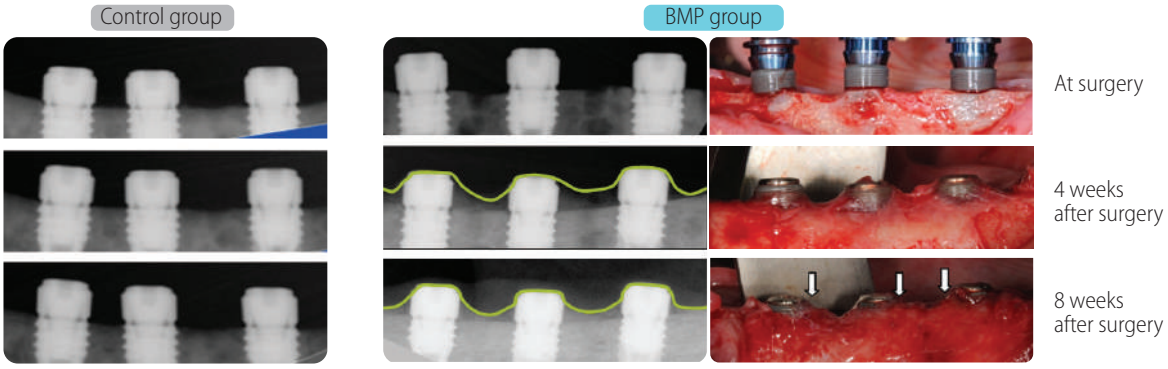
d. Apply BMP-2 solution socked membrane to damaged site

Dose of distilled water to make the mixture (BMP-2 Solution)

BMP Dose	Distilled Water Dose	BMP Dose	Distilled Water Dose
0.1mg	0.1ml	2mg	1.6ml
0.25mg	0.2ml	5mg	4ml
0.5mg	0.4ml	10mg	8ml
1mg	0.8ml	20mg	16ml

Study Result on COWELL® BMP Bone Graft

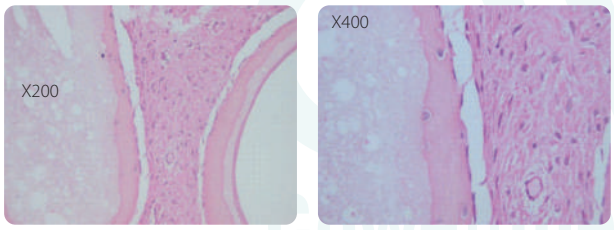
In vivo Study



Jung-Bo Huh, et al., Alveolar ridge augmentation using anodized implants coated with Escherichia coli-derived recombinant human bone morphogenetic protein 2 (Beagle dog)

- Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2011

Histologic Findings : Tissue specimen collected approximately four months after the maxillary sinus grafting (human)



- New bone was formed around the graft material.
- No inflammatory reaction was observed in connective tissue.
- Proliferation of collagen fiber was observed.
- Proliferation of fibrocyte was observed.
- Osteoblast was observed on the surface of newly formed bone.

Clinical Data of COWELL® BMP Bone Graft

- Vertical height of surrounding bone was compared three months after grafting in extraction socket.
- The study was conducted at Seoul National University Bundang Hospital, Yonsei University Dental Hospital, and Korea University Guro Hospital.

Group		Average	SD	95%CI	†*P* value
Height	Control	-1.087	1.413	(-1.565, -0.609)	0.0006**
	Experiment	-0.059	0.960	(-0.384, 0.266)	
Width at 75% ESL	Control	1.405	1.753	(0.812, 1.998)	0.346
	Experiment	1.863	2.310	(1.081, 2.644)	
Width at 50% ESL	Control	0.542	1.157	(0.15, 0.934)	0.016*
	Experiment	1.239	1.249	(0.816, 1.662)	
Width at 25% ESL	Control	0.006	1.149	(-0.383, 0.395)	<0.0001**
	Experiment	1.279	1.387	(0.81, 1.749)	

ESL : Extraction Socket Level *:*P*<.05, **:*P*<.01, †: Student *t*-test

Jung-Bo Huh, et al., Multicenter, randomized clinical trial on the efficacy and safety of Escherichia-coli-derived rhBMP-2 with β-Tricalcium phosphate and hydroxyapatite in human extraction sockets

- J Adv Prosthodont 2011;4 -134

Calcium Phosphate , Synthetic Bone Graft

COWELL® INNO CaP

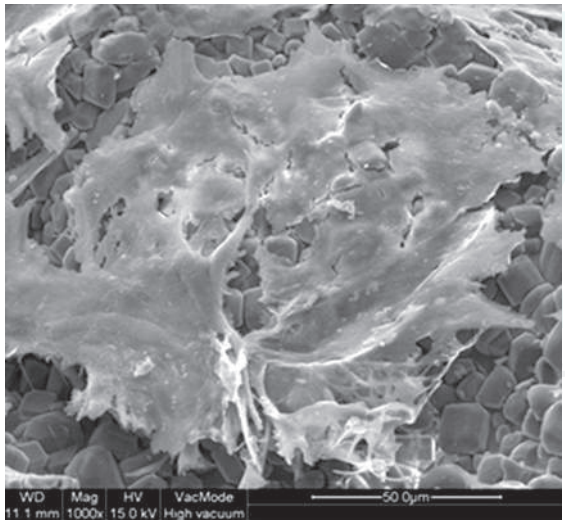
Osteoconductive resorbable synthetic bone graft material

- INNO-CaP is a osteoconductive synthetic resorbable bone graft material consisting of Calcium Phosphate.
- INNO-CaP is completely resorpted and progressively replaced by normal-structured bone in the healing period.

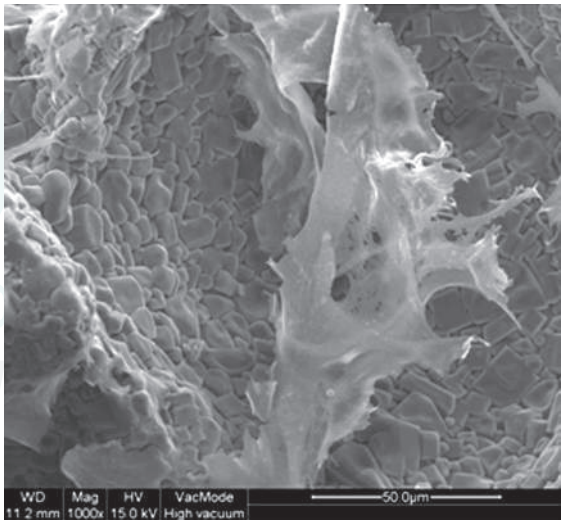
Excellent Biocompatibility and Conductivity

- The characteristic biocompatibility and conductivity of INNO-CaP represent the most safety.

Cell culture SEM images (14 days)



X1,000

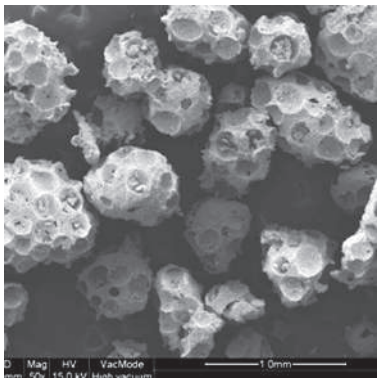


X1,000

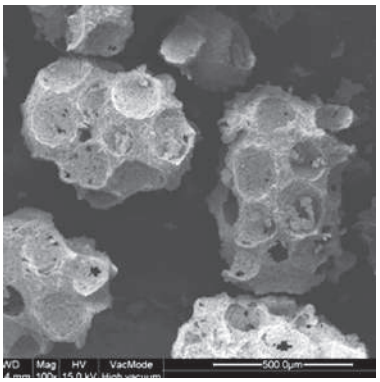
A porosity for new bone ingrowth

• The porosity promotes ingrowth of osteoblast, osteoclast and growth factors.

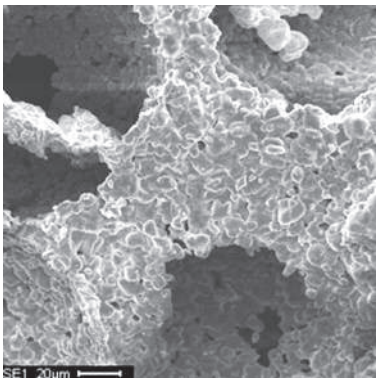
Pariticle surface SEM image



X50



X100



X500

Indications

Sinus graft surgery

• For sinus graft, INNO-CaP is used alone or in combination with the other graft materials.

• Various healing period according to residual bone height.

residual bone height	less than 1 mm	2 ~ 4 mm	more than 4 mm
implant placement	post operation 9~12 months	post operation 6 months	simultaneous placement

GBR (Guided Bone Regeneration)

• Minimize the amount of autogenous bone.

• Sub-graft materials.

Dose and Particle Size

Product Code	Particle Size	Particle Dose
IG1025	0.41~1.0mm	0.25g
IG1050		0.5g
IG1001		1g
IG1002		2g
IG1425	1.0~1.4mm	0.25g
IG1450		0.5g
IG1401		1g
IG1402		2g

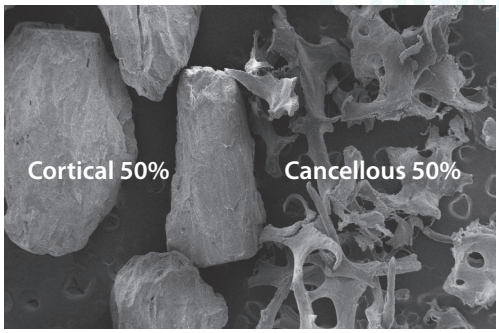
Allograft
FDBA, Cortical 50% Cancellous 50%

INNO Oss+

Product Features

- This product is made up of human tissue from trusted donors whose gender, age, and medical history were checked to ensure that their tissue could be used safely.
- It is an ideal combination of 50% cortical powder and 50% cancellous powder for bone induction.
- The 50% Cortical powder maintains the space of the transplanted area during the new bone formation due to the delayed absorption rate. [OsteoConduction]
- 50% Cancellous powder is rich in minerals and collagen that promote cell adhesion, bone remodeling, and vascular re-formation. [OsteoInduction]
- To prevent cross-infection by a different donor, the process is done by a single donor.
- Under the higher-level pharmacological standards (medical criteria) of the American Association of Tissue Banks (AATB), we sampled, processed, and distributed the allograft tissue.
- We recommend use of this product with the CowellBMP.

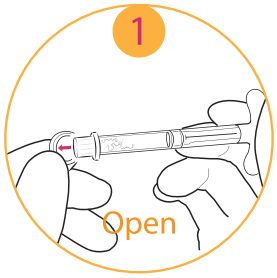
SEM Image



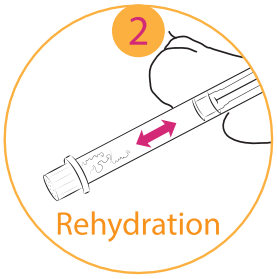
Specifications

Product Code	Granule Size	Volume
OSS3	0.3 - 0.8 mm	0.3cc
OSS6	0.3 - 0.8 mm	0.6cc

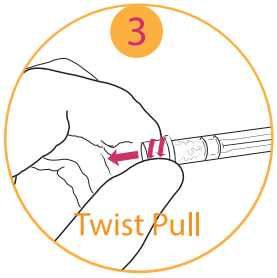
Method of Use



Remove the syringe's rubber cap.



Hydrate it in saline solution.



Turn and pull out the syringe cap to remove it.

Graft it in the desired area.

Cancellous & Cortical Bone

DO BONE

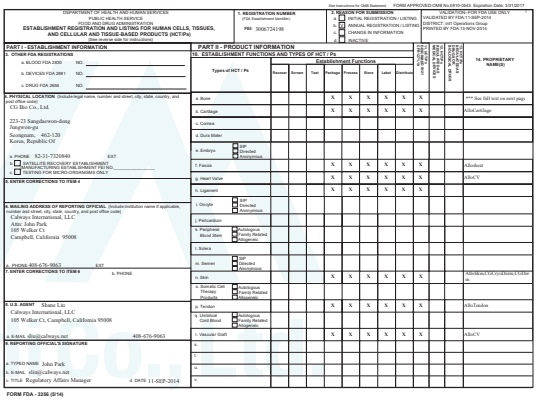
Characteristics

- High quality Dental Allograft Bone Substitute
- Easy handling with syringe container
- Secure absolute stability with thorough donor supervision
- State-of-the-art processing facilities

Thorough donor supervision

Article	FDA	KFDA	KATB	AATB	KHTB
HIV 1/2	O	O	O	O	O
HCV Ab	O	O	O	O	O
HBsAg	O	O	O	O	O
STS(RPR)	O	O	O	O	O
HTLV-1/2	X	X	O	O	O
HIV NAT	X	X	X	O	O
HCV NAT	X	X	X	O	O
HBcAb	X	X	X	O	O
HBSAb	X	X	X	X	O

DO BONE FDA Certificate



State-of-the-art Processing Facilities

: For processing high-quality and distributing stabilized bone substitute, 'DO BONE' is produced in 'CLASS 100' of Clean-Air facility and with advanced and specialized technique by CTBS (Certified Tissue Bank Specialist qualified by AATB).

Class 100,000

Class 100

What is 'Class 100'?'

: The space which has extremely cleanliness.
It allows less than 100 particles which is smaller than 0.5㎛ per feet.

* The cleanliness of brain surgery room : Class 10,000

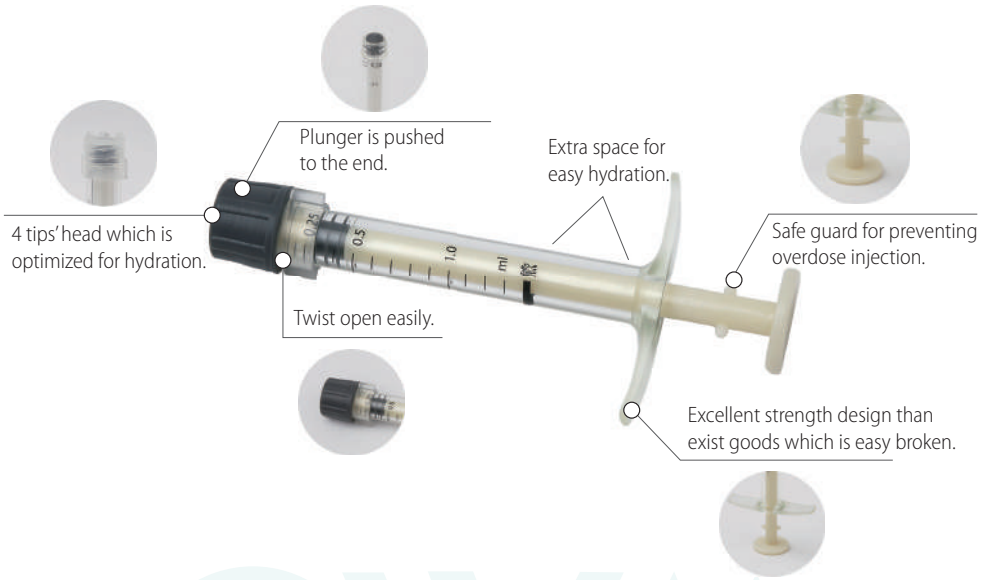
Purified water system

Clean Room 'Class 100'

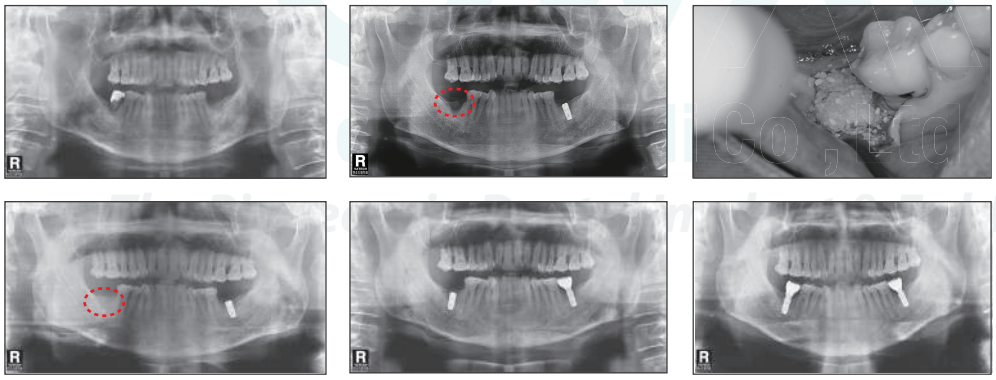
HVAC Room

Central Supply

Specially Customized Syringe for User Convenience.



DO BONE Case Studies



Specifications

Product Code	Particle Size	Volume
DOM25	0.4~0.71mm	0.25cc
DOM05	0.4~0.71mm	0.5cc
DOM10	0.4~0.71mm	1.0cc

Product Code	Particle Size	Volume
DOL25	0.71~1.6mm	0.25cc
DOL05	0.71~1.6mm	0.5cc
DOL10	0.71~1.6mm	1.0cc

Easy, fast and best Allograft

Renew Oss™

Characteristics

- Easy handling with Syringe container.
- Optimum ratio of Cortical Powder 7 : Cancellous Powder 3
- Stability [50Kgray/bioclearant]

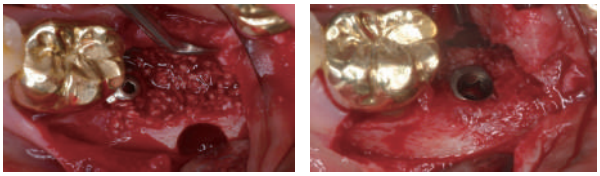
Thorough donor supervision

- Renew Oss™ is the allograft bone grafting substitute produced by Renew Medical Co., Ltd. Renew Medical Co., Ltd. has established tissue bank and hit the road the business to be a new market leader of dental bone grafting substitutes.
- To explain firstly about allograft bone, the raw material of allograft bone grafting substitute is not from a patient's own bone but from the donated cadaver at a medical facility. It is collected safely and processed disinfected and sterilized.
- Allograft bone grafting substitute has a very good effect on new bone formation safely. Basically, human bone consists of mineral and organic parts. To gain a grafting substitute from it, organic part is removed completely with physical and chemical method and gamma sterilization to eliminate the factor of immune rejection.
- And Allograft bone substitute composed of allograft and carrier component to support and transfer it. The product is the grade 4 of medical equipment. It is produced with the mixing of demineralized bone matrix and viscous gel.
- The allograft bone grafting substitute is divided into Cancellous bone and Cortical bone. Cancellous bone is to be the base role to make new bone formation because bone growth is being done in it. And Cortical bone which is stopped growing though is to be the role of filling out tightly and safely in extraction site.
- The manufacturer of Renew Oss™ is the Cellumed Co., Ltd. which has No. 1 market share in domestic tissue bank market in Korea.

* By using the sterilization method of high-dose gamma ray (50Kgray) which can eliminate all bacteria on the earth, it makes us free from the infiltration concern of pathogens. And this is the only and one product in the country that the bio clearant technique is used for elimination of bacteria without damaging the bone matrix.
* Mixture ratio is Cortical powder(70%) and Cancellous powder(30%)

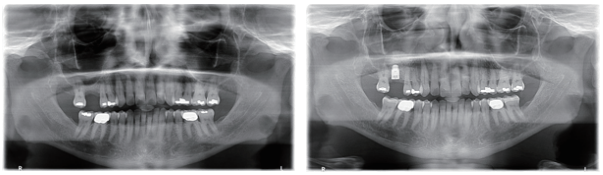
Renew Oss™ Clinical data

Case1



- Renew Oss™ placement on tooth #37 centrifugal bony defect.
- Evidence of bone regeneration after 3 months.

Case2



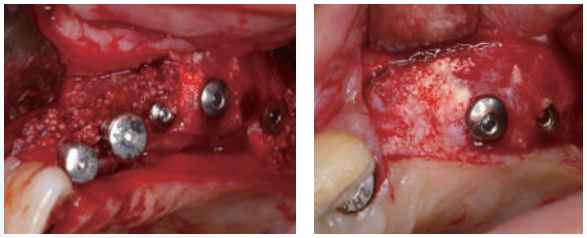
Sinus Lift

- 55years old male had upper right first molar removed.
- Socket was too short for implant without grafting.
- Performed a sinus lift, placed implant and Renew Oss™.

Case3

- Replacement of a single missing mandibular incisor.
- Renew Oss™ was placed to widen the thin bone.
- Nicely healed after 4 months displaying a natural appearing replacement for the missing tooth.

Case4



- Renew Oss™ placement on tooth #37 centrifugal bony defect.
- Evidence of bone regeneration after 3 months.

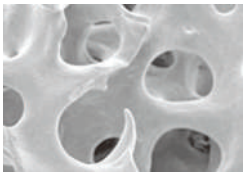
Product Description

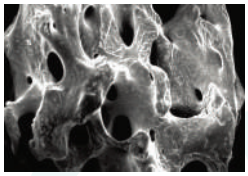
Product Code	Particle Size	Volume
RNOS03	0.2~1.0mm	0.3cc
RNOS05	0.2~1.0mm	0.5cc
RNOS10	0.2~1.0mm	1.0cc

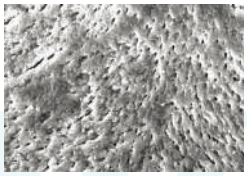
Bovine Bone Substitute **DiaBONE**

A Bone 100% fused to Natural Human Bone

- Fast Blood Penetration
- Great Hydrophilicity
- 3D mention Structure
- Easy to handle
- Maximizes bone fusion
- Mutually connected porous structure
- Optimal cell attachment and blood absorption
- Stimulates activity of osteoclast and osteoblast


Human Bone Structure


Dia Bone Structure (x50)


Dia Bone Structure (x1,500)

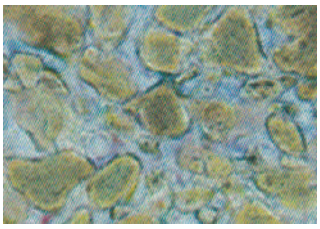

Hydrophilicity 1

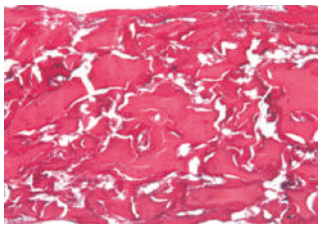

Hydrophilicity 2

Safe & Trustable Material

- Made of 100% bovine bone
- Cleansing over 30 times to perfectly remove organic substances
- Firmed bone formation as highly dense
- 100% pure HA & 99.73% of bone crystallization


Raw material


Graft test 1


Graft test 2

(new bone formation clearly observed around grafted bone site)

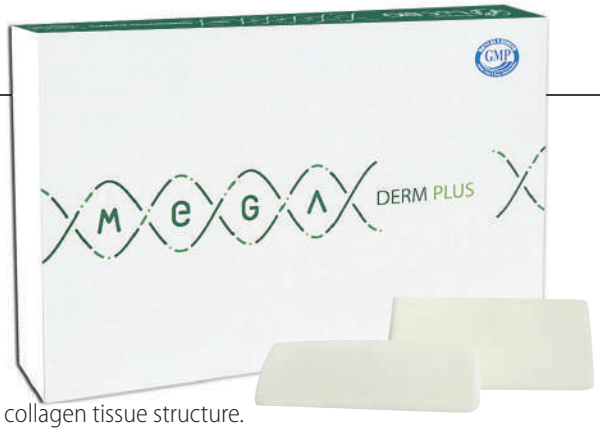
Volume and Particle Size

Product Code	Particle Size	Volume
G2015	0.25~1.0mm	0.15g
G2025	0.25~1.0mm	0.25g
G2050	0.25~1.0mm	0.5g
G2100	0.25~1.0mm	1g
G2200	0.25~1.0mm	2g

Product Code	Particle Size	Volume
G5015	1.0~2.0mm	0.15g
G5025	1.0~2.0mm	0.25g
G5050	1.0~2.0mm	0.5g
G5100	1.0~2.0mm	1g
G5200	1.0~2.0mm	2g

Acellular Dermal Matrix MEGA DERM PLUS

Product Features

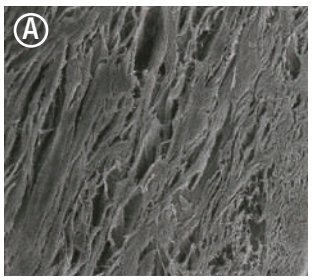


- This product can carry out the functional blocks of the membrane (soft tissue penetration protection) due to its long absorption period, and has excellent manipulability.
- Unlike other imported complete products, this product is produced under the stringent standards of the FDA in Korea.
- The world's first E-Beam sterilization can induce safe and prompt engraftment.
- E-Beam is safe and can be effectively sterilized without destroying the collagen tissue structure.
- This product is the first in the world with the basement membrane layer removed (patent pending) to maximize the transplant engraftment rate.
- This shows the high engraftment rate after the transplant by maximizing the influx of fibroblasts and/or the neovascularization. (Patent Application No. 10-2012-0026616)

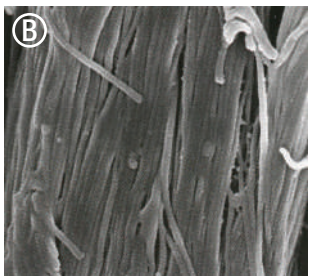
Application

- Mucogingival Defect
- Soft tissue formation around the implant area
- Wide perforation in the Schneiderian membrane

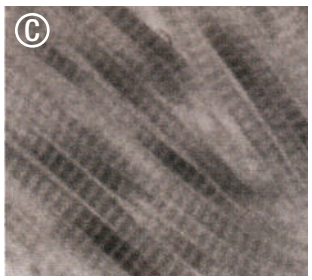
SEM Images
(These have kept the collagen structure after the E-Beam sterilization.)



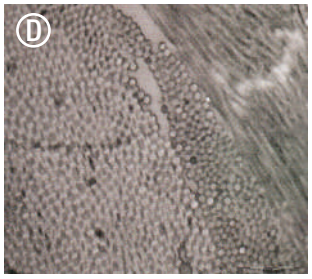
A. SEM (x200)



B. SEM (x20,000)



C. TEM (Transverse Section)

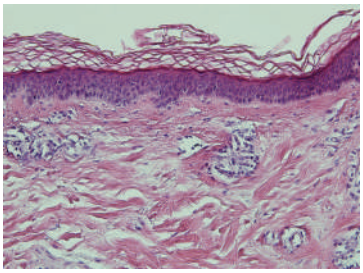


D. TEM (Cross Section)

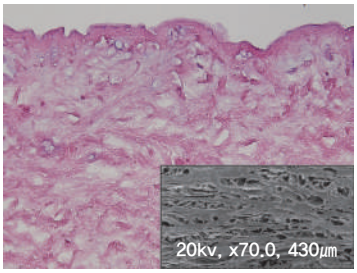
Specifications

Product Code	Size	Thickness
D1520P	15 x 20mm	0.5~0.7mm
D1530P	15 x 25mm	0.5~0.7mm

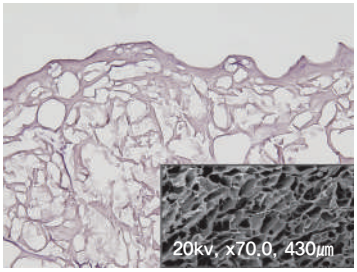
MEGA DERM PLUS three-dimensional structure of the dermis



Normal Skin

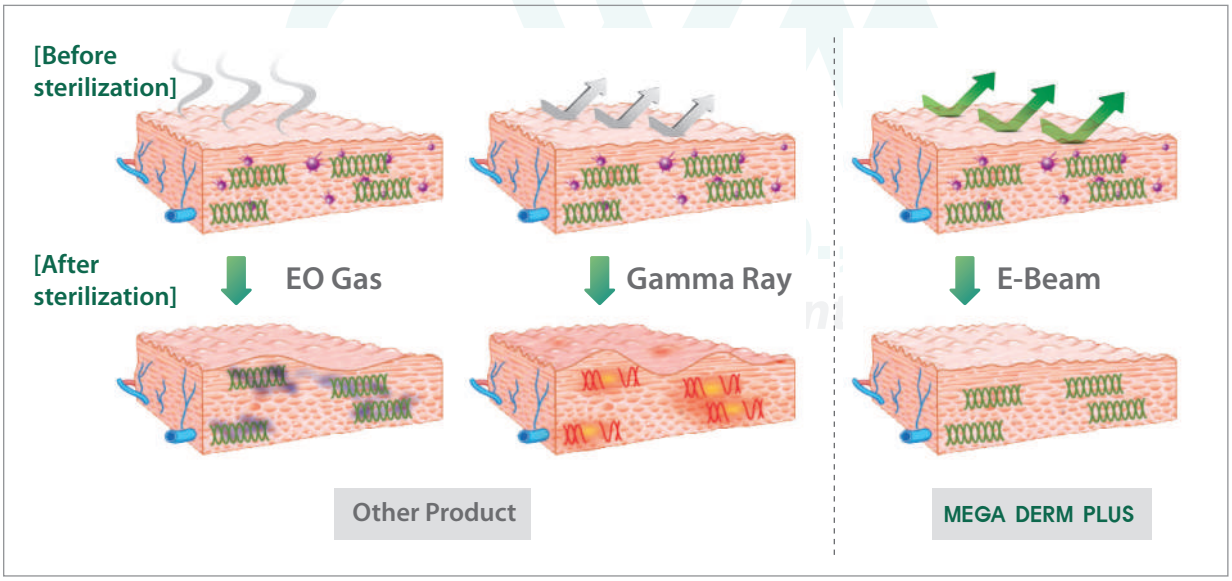


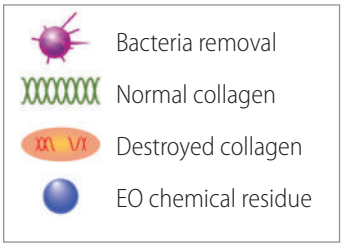
MEGA DERM PLUS



Other Product

The world's first 'E-Beam' sterilization that does not destroy the collagen structure





Biodegradable Atelocollagen Membrane **Diaderm® M**

GTR(Guided Tissue Regeneration) GBR(Guided Bone Regeneration) membrane

- Diaderm® M is a dental membrane used for GTR (Guided Tissue Regeneration) and GBR (Guided Bone Regeneration) operation.
- Diaderm® M helps restoration of alveolar bone, and protect operation site from infiltration of an epithelial cell and exterior circumstances.
- Diaderm® M made from high purity atelocollagen has high biocompatibility, mechanical strength, resistance to enzymatic degradation and flexibility.

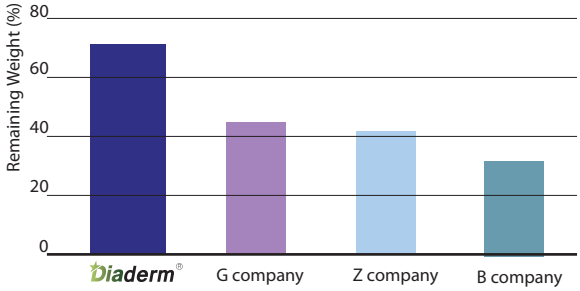
Product Features

- High biocompatibility
- Induces restoration of tissue
- Closes wound site completely
- Sustains space for bone reproduction
- Easy to handle and operate

Resistance against enzymatic degradation

- Diaderm® M has higher resistance to enzymatic-degradation compared to products from other manufacturers.

Enzymatic degradation test (Trypsin)



Storage and Shelf Lift

- Store at 1-30℃
- Shelf life : 3 years from the date of manufacture

Specifications

Product Code	Size
AS-007020	15x30mm

Collagen Wound Dressing

Diaderm® Plug S

Dental Implant, Intra oral, Tissue Regeneration

- Diaderm® Plug S is dental wound dressing. Porous sponge structure gives high permeability and high water absorption rate over 90%. It consists of a high purity of the collagen with features that may induce speedier healing and protect the wound better.
- Diaderm® Plug S based on absorbable collagen with soft, milky, flexible and intense spongy structure enables to manipulate during adhesion to the wound. Its structure and feature is maintained although it becomes wet.

Product Features

- Hemostatic activity and stabilization of coagulation
- Promotion of the growth for new tissues
- Complete resorption within 10 to 14 days
- Acceleration of the recovery for wound site
- Prevention of alveolar bone absorption induced by gingiva
- Restoration of Alveolar bone
- Buller shape (Plug)

Storage and Shelf Life

- 1~30℃, 3 years from the date of manufacture

Specifications

Product Code	Size	Packing Unit
AS-007031	8.5cmx20cm	5EA / 1BOX

Collagen wound dressing for dental surgery **Diaderm® Tape**

Dressing with collagen on wounded site in dental surgery

- DIA-DERM® Tape is a collagen ingredient which is used as a wound dressing during dental surgery
- Bleeding control and clot stabilization
- Helps to proliferate matrix of tissue
- Reabsorb within about 10-14 days
- Accelerating the wound healing process

Storage and Shelf Life

- 2~8℃, Expiration date : 2 years

Specifications

Product Code	Size	Packing Unit
AS-007025	5cmx2.5cm	5EA / 1BOX

BMP bone graft and Open Sheet System

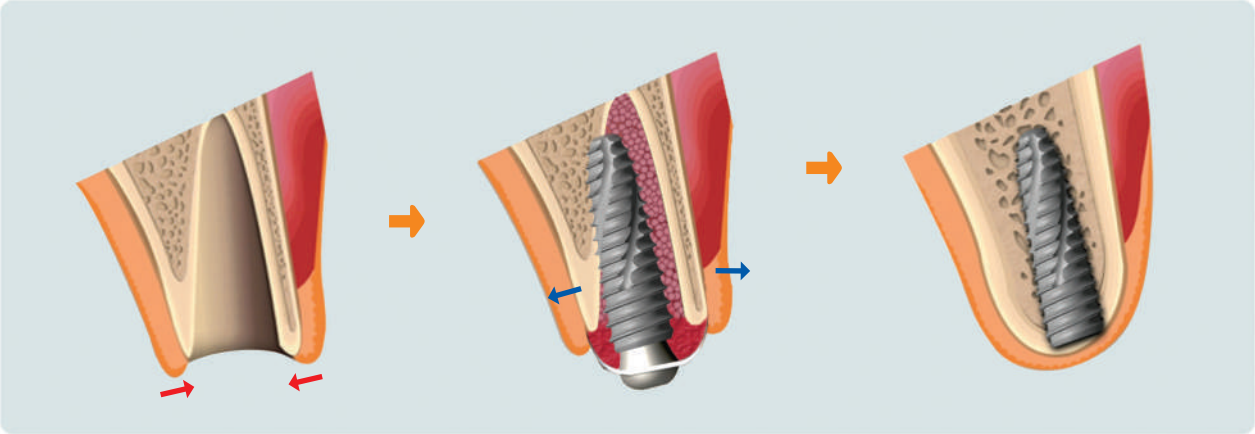
BOSS®

Advantages

- Maintains the width and height of adherent gingiva
- Offers superb mechanical support
- Easy to customize for the application of various cases
- Primary Closure may be not required
- The result may come out the best using ossteoinductive material

Introduction

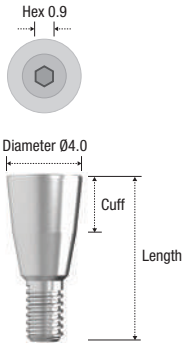
Type 1 (BOSS® Abutment) : Placement of implant in the extraction socket



- When residual bone is not sufficient for implant placement, BOSS® can induce both vertical and horizontal augmentation upon implant placement.
- BOSS® consists of abutment and guide for maintaining the space of regeneration of osseous and soft tissues.

A. Structure of the product

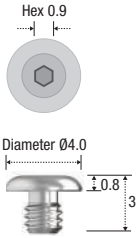
Body



Product Code	Length	Cuff
BSSB420	7.7	2
BSSB430	8.7	3
BSSB440	9.7	4

The body is connected to the fixture maintaining the space for regeneration of soft tissue.

Healing(Cover)



Product Code
BSSH001

The interface between body and InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh is fixed.

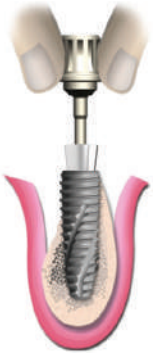
Temporary Post (Guide)

Product Code
BSST001

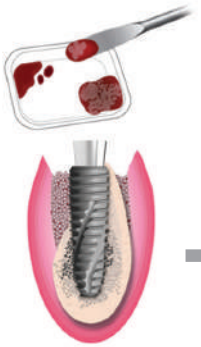
Before covering, InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh is shaped and the intraoral position of those is determined.

B. User Guide

Placement of implant.



Adjust the height identical to that of neighboring gingiva. Connect using 0.9 Hex driver.



Fill the blood-soaked bone graft material in the defective area.

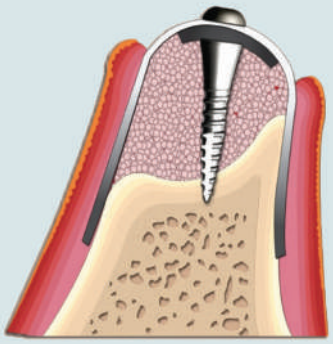
Modify the shape of InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh to prevent the bone graft material from escaping into the oral cavity.

Connect abutment body to the guide and place the InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh

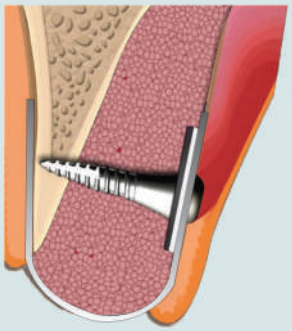
Fix the InnoGenic™ Wifi-Mesh/ PTFE-Mesh/ Ti-Mesh using the cover

Suture the cover without additional incision (if InnoGenic™ Wifi-Mesh is used, primary closer is required). The result shall be much more predictable and better if COWELL® BMP, rhBMP-2 solution is injected via gingiva into osseous tissue in the bottom.

Type 2 (BOSS® Screw) : Placement of implant in cases other than the extraction socket



vertical fixation

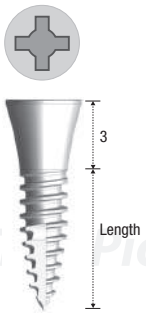


horizontal fixation

- When implant cannot be placed or when implant is to be placed after two sessions of bone regeneration procedure
- Consists of screw that can be fixed onto osseous tissue and guide
- Protects bone graft material against external force using InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh

A. Structure of the product

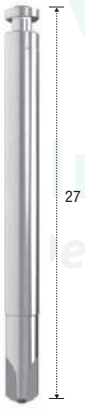
Screw



Product Code	Length
BSSS2306	6
BSSS2310	10

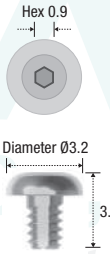
The product fixes onto osseous tissue using a dedicated screwdriver.

Screw Driver



Product Code
KBSD01

Healing(Cover)



Product Code
2BSSC001

The interface between between screw and InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh is fixed.

Temporary Post (Guide)

Product Code
2BSSG001

Before covering, InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh is shaped and the intraoral position of those is determined.

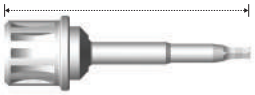
B. User Guide

- Select the screw with an appropriate width and height, and then fix using a dedicated screwdriver.
- Fill the blood-soaked bone graft material into the defective bone.
- Modify the shape of InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh to prevent the bone graft material from escaping into the oral cavity.
- Connect the screw and guide, place place the InnoGenic™ Wifi-Mesh / PTFE-Mesh / Ti-Mesh, and then fix using the cover.
- Suture the cover without additional incision(if InnoGenic™ Wifi-Mesh is used, primary closer is required). The result shall be much more predictable and better if COWELL® BMP, rhBMP-2 solution is injected via gingiva into osseous tissue in the bottom.

Instrument

0.9 Hex Driver

• For connecting BOSS® Abutment and cover



Product Code	Size
KHD0915	15
KHD0921	21
KHD0927	27

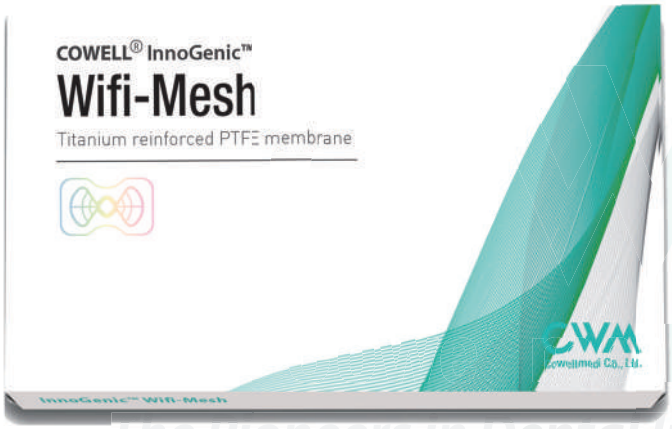
InnoGenic™ Wifi-Mesh, PTFE-Mesh & Ti-Mesh

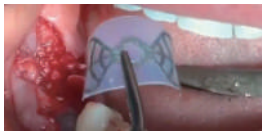
InnoGenic™ Non-resorbable Plast

InnoGenic™ Wifi-Mesh and InnoGenic™ PTFE-Mesh

• The InnoGenic™ Wifi-Mesh, PTFE-Mesh and Ti-Mesh are non-resorbable surgical plaster to be applied over intraoral defects, especially, tooth extraction and bone augmented sites. The InnoGenic™ Wifi-Mesh and PTFE-Mesh consist of proprietary 100% PTFE, the polytetrafluoroethylene (teflon) sheet which is a biologically inactive and tissue compatible material and the InnoGenic™ Wifi-Mesh is reinforced with titanium frames (Titanium Gr II, ASTM F 67) embedded between two layers of PTFE sheets.

InnoGenic™ Wifi-Mesh





Product Code	Size	Thickness
BTP1424AA25	14X24	0.2
BTP1424AB25	14X24	0.2
BTP1525BB25	15X25	0.2
BTP1725CA25	17X25	0.2
BTP2030AB25	20X30	0.2
BTP2530AB25	25X30	0.2
BTP3040AB25	30X40	0.2

Clinical Case using Wifi-Mesh

• Periodontitis with local osteomyelitis of #45 & 47

• Bone graft using INNO-Oss™ Plus

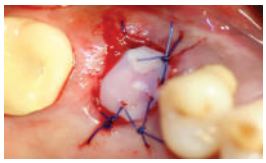
• Shielding soft tissue penetration using Wifi-Mesh

3 months later

• Removal of Wifi-Mesh

• Dense periosteum layer has been formed

InnoGenic™ PTFE-Mesh

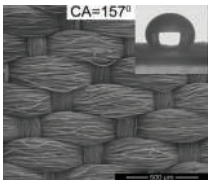
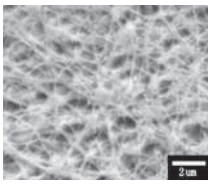


Product Code	Size	Thickness
TS17251	17 x 25	0.1
TS24301	24 x 30	0.1
TS17252	17 x 25	0.2
TS24302	24 x 30	0.2

Features

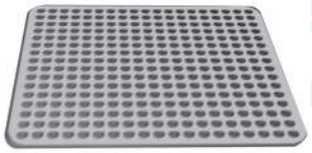
- **Non-resorbable :** Made of 100% non-resorbable material for users to modulate healing period.
- **Non-porous (0.0 μm) + Open Membrane Sheet Technique :** Prevention of infection or other possible defects caused from passage or integration of bacteria through porosity of plaster and it even allows to apply Open Membrane Sheet Technique.
- **Prevention of Displacement :** Not only being sutured along with gingival but also using **BOSS® Abutment and Screw** inserted and fixed into the hall of titanium frame allows displacement of the products.
- **Close to Transparency :** Observation of the healing of the underlying tissue through almost transparent PTFE surface allows more predictable result and helps determine removal time easier.
- **Easy to be Customized :** Easy to modify the shape according to shape and dimension of the defect.
- **Easy to be Removed :** Put a hook in the hole of the titanium frame of the InnoGenic™ Wifi-Mesh and in any center part of the InnoGenic™ PTFE-Mesh and remove.

Comparison to other similar products sold in market

Classification	Product A	Product B	InnoGenic™ Wif i-Mesh & PTFE-Mesh
SEM Photograph			
Ultrastructure	Fiber	Filter	Sheet
Bacterial infection at exposure	Bacterial toxin penetration between filters at 50 μm intervals	Bacterial toxin penetration between filters at 2 μm intervals	No Bacterial toxin penetration thanks to non porous structure
Action on Exposure	Instant Removal	Removal on week 3 to 4	Safe for more than 6 weeks
Shielding Function against Fiber Cell	High	High	Extremely High
Shape-keeping Capability against External Force	Large Deformation	Shrinkable Deformation	No Deformation

InnoGenic™ Ti-Mesh

• The InnoGenic™ Ti-Mesh is made of stamping titanium sheet, also Titanium Gr II, ASTMF 67, which is 100% commercially pure titanium. The InnoGenic™ Ti-Mesh is non-resorbable surgical mesh to be applied over intraoral defects, especially, tooth extraction and bone augmented sites.



Product Code	Size	Thickness
TMP210	25 x 34	0.07
TMP211	25 x 34	0.1

Features

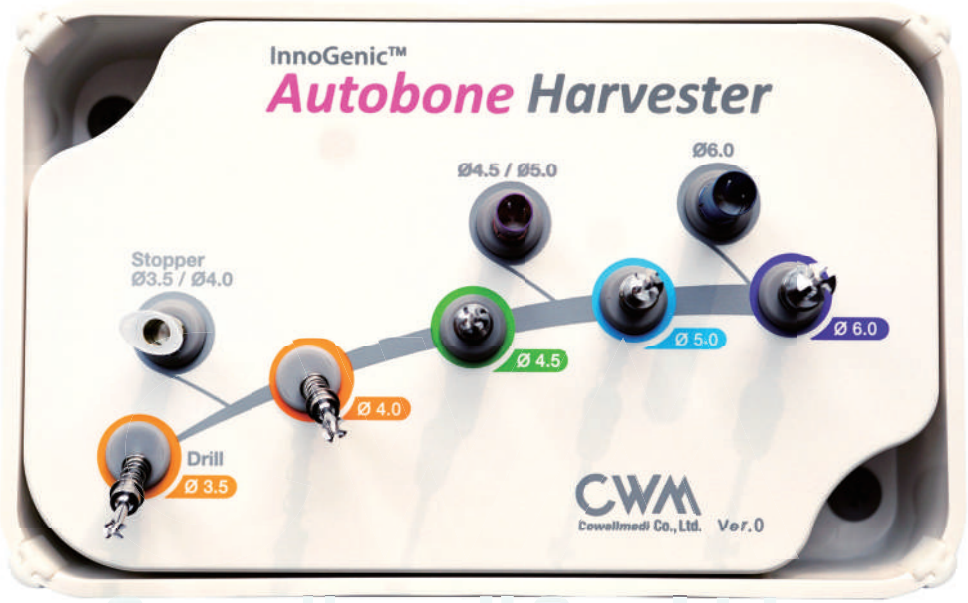
• **Easy to be Customized :** Easy to modify the shape according to shape and dimension of the defect.

• **Prevention of Displacement :** Prevents displacement of the InnoGenic™ Ti-Mesh using **the BOSS® Abutment and Screw** inserted and fixed into the 1mm hole of the Ti-Mesh Frame.

• **No Memory :** The problem of Majority of Titanium Meshes in the market is resilience of the products after certain time. Due to this problem, patients go through serious pain. The InnoGenic™ Ti-Mesh is, however, made after many times of stamping process, The InnoGenic™ Ti-Mesh does not come back to the original shape after shape is formed.

InnoGenic™ **Autobone** Harvester

Maximize Your Return On Minimal Investment, Guaranteed!



Harvesting Drill

Ø3.5 Dril
KBH35

Ø4.0 Dril
KBH40

Ø4.5 Dril
KBH45

Ø5.0 Dril
KBH50

Ø6.0 Dril
KBH60

Drill Stopper

Ø3.5 / 4.0
Drill Stopper
KBHD3540

Ø4.5 / 5.0
Drill Stopper
KBHD4550

Ø6.0
Drill Stopper
KBHD60

Silicon Shield

*1EA assembled with drill.
5EA packed in the lower tray.

X 5

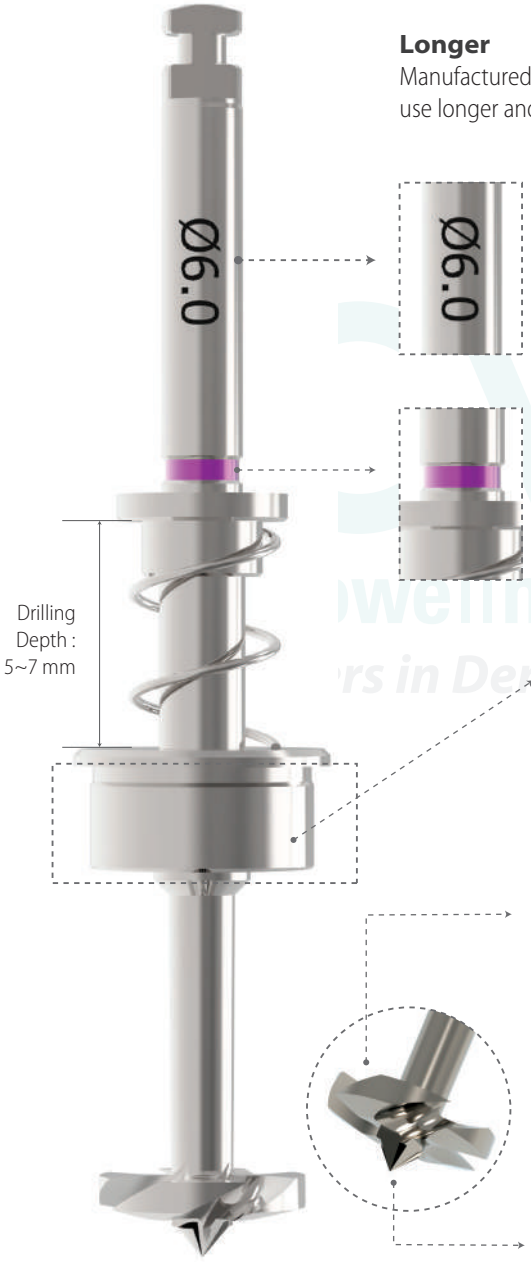
KBHDSS01

Key Concepts

Maximize your return on minimal investment

The key concept of the Autobone Harvester Plus to harvest a large amount of the autogenous bone chips from the implant site that can be wasted into the suction during implant drilling procedure.

Features: Drill



Longer

Manufactured after numerous times and various types of test; use longer and more times, compared to other products in the market

Diverse

Diverse dimensions (Ø3.5, 4.0, 4.5, 5.0 & 6.0mm) allow to harvest different volume of bone chips according to clinical indications.

Easy to identify

The Color Painting helps choose the right drill easy.

Ø3.5 Yellow Ø4.0 Orange Ø4.5 Green
Ø5.0 Blue Ø6.0 Purple

Simple

The Stopper Holder is fastened with the Stopper and moves forward and backward when drilling, and it is simple to control drilling depth up to 5 to 7mm.

No Loss

The Propeller Shaped Drill Design brings the bone chips into the Stopper without the bone chip being lost.

Safe

The Non-Slip Point Design plays a guide role in anti-slip while drilling

Features: Stopper & Silicon Shield

For Ø3.5 & 4.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø3.5 & 4.0 Drill.

+

Silicon Shield (*Exclusive for Ø3.5 & 4.0)
- Used by fastening to Ø3.5 & 4.0 stopper.
- Prevents deviation of bone chips.
- Allows bone chip harvesting from the implant site.
- Reusable transparent silicon material allows to check drilling position and bone chips being harvested.

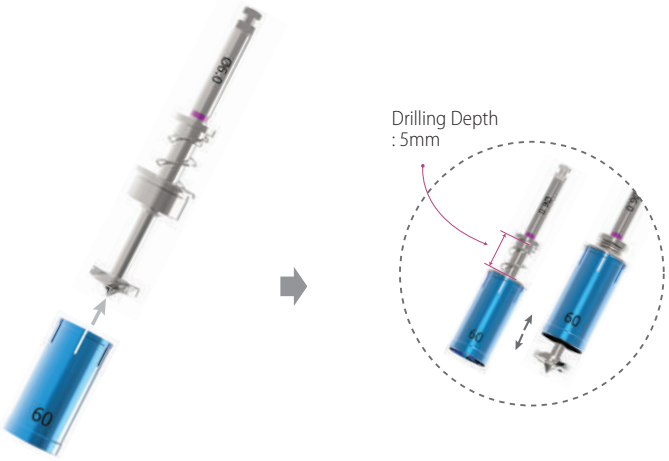
Shield
The lip-shaped shield is brought into close contact with the bone and makes sure with no bone chip loss while drilling.

For Ø4.5 & 5.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø4.5 & 5.0 Drill.

For 6.0 Drill

Stopper
Used by fastening to the
Stopper Holder of Ø6.0 Drill.



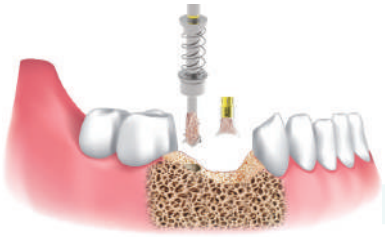
Harvesting Sequence:

Implant Site using Ø3.5/4.0 Harvesting Drill with the Silicon Shield

• Point drill to mark harvesting and implant site.

• Select Ø3.5/4.0 Drill and insert the Stopper into the selected Drill. And put the Shield on the Ø3.5&4.0 Stopper.

• Drill at 300 to 500RPM with irrigation and harvest bone chips.



• Disassemble the Silicon Shield, the Stopper and collect the bone chips for bone grafting.

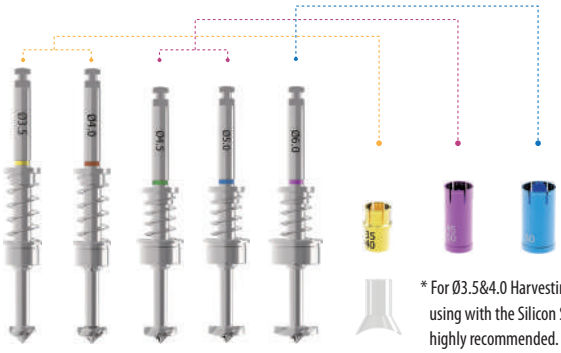
• Use final drill (equal to or over Ø3.5/4.0) according to the drilling protocol of the manufacturer and treatment planning.

• Place the implant.

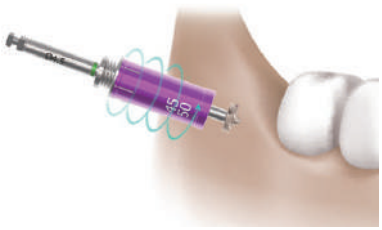
• Apply the harvested bone chips on the site.

Buccal Bone Harvesting using Ø3.5/4.0/4.5/5.0/6.0 Harvesting Drill

Select the drill according to its diameter and clinical indications.



* For Ø3.5&4.0 Harvesting Drill, using with the Silicon Shield is highly recommended.

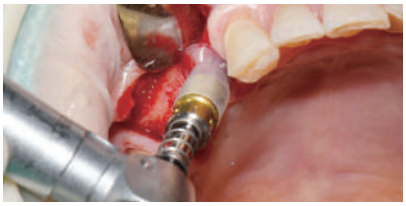


• Drill at 300 to 500RPM with irrigation and harvest autogenous bone chips.

• Apply the harvested bone chips on the site.

A Clinical Case using Ø 4.0 Harvesting Drill

by Dr. Soohong Kim, DDS, Ph.D



Drilling at 300 RPM with irrigation was carried out after marking implant and harvesting position.

The Silicone Shield was brought into close contact with various types of bone level and prevented bone chip loss.

The amount of bone taken was easily ascertained, through the transparent Silicone Shield.

The bone was transferred to medical bowl after disassembling the Silicon Shield and Stopper. The amount of the bone was much more than expected.

After the implant placement, healing abutments were connected and carried out GBR in the defected area.

* 2 Step Havesting: Drilling to 7mm is recommended after transferring bone chips to bowl since the Stopper & Silicon Shield are fully filled with bone chips while 4mm drilling.

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