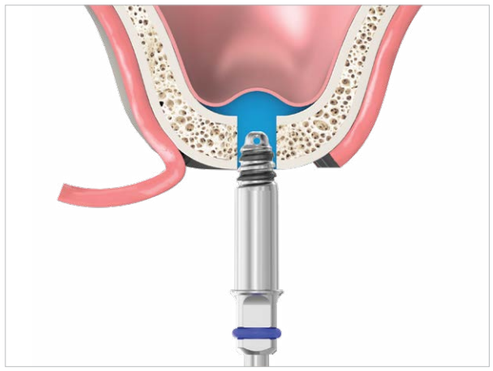
For education

SAVE SINUS

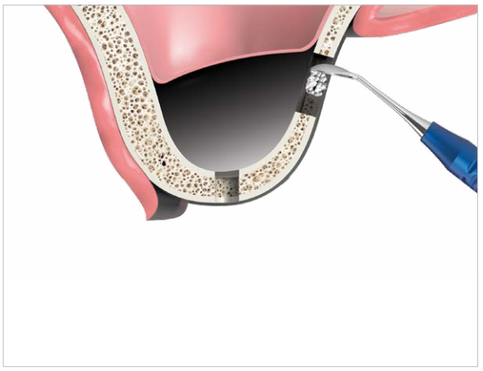
Crestal & Lateral Approach

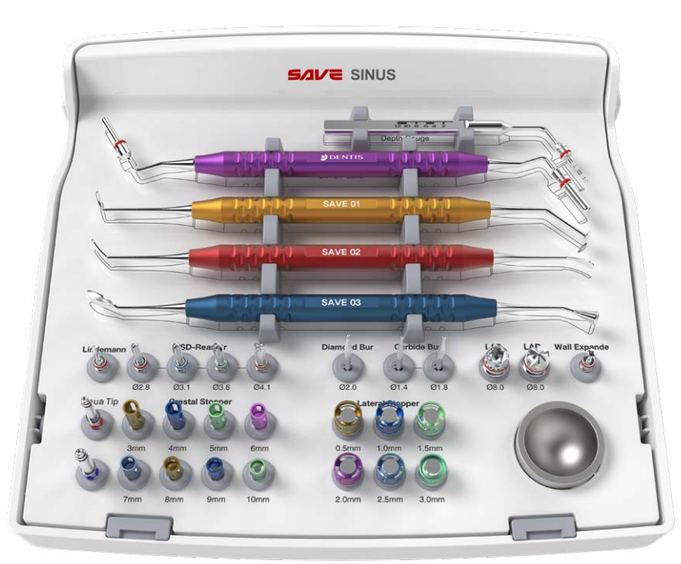
User Manual Ver.3

*Crestal Approach



*Lateral Approach





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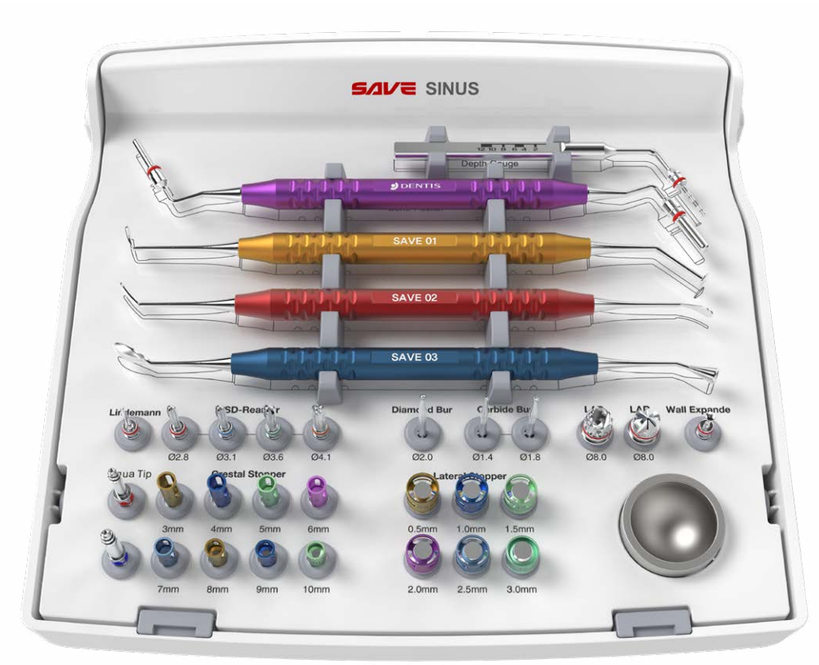
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I. Overview

1. Definition of Maxillary Sinus Lifting Technique

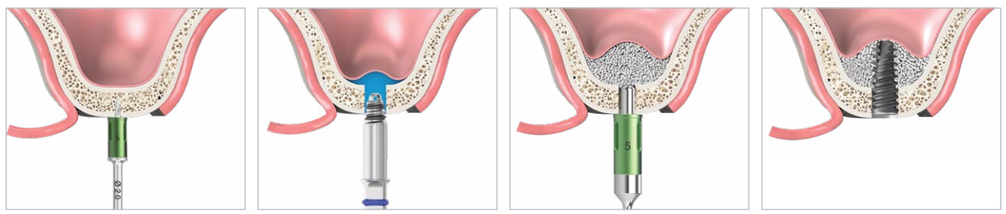
- The Maxillary sinus is an air-filled cavity in a dense portion of the skull bone and differs in size for each individual. Therefore, when installing implants in the maxillary posterior region, maxillary sinus elevation technique may be necessary depending on the quantity of bone on the sinus floor. The purpose of maxillary sinus elevation technique is to elevate the sinus membrane and to perform bone grafting on the lower portion of the maxillary sinus.

- Depending on the height of the remaining bone, approach methods can be different. They are classified into 'socket approach' and 'lateral approach', and various techniques exist in each approach method.

2. Classifications of the Techniques of Maxillary Sinus Lifting

1) Crestal Approach

A method in which the maxillary sinus is elevated by crestal approach from the alveolar crest and filled with graft material. Conventionally, the osteotome technique has been used the most. However, safer and easier methods such as the hydraulic elevation method have been introduced.



2) Lateral Approach

A method in which a bony window is formed on the lateral wall of maxillary sinus. The membrane is directly elevated and then filled with bone graft. It is recommended in cases with relatively low bone height.



3. Criteria for Choosing the Maxillary Sinus Lifting Technique

Depending on the height of the remaining bone, methods of access to the maxillary sinus are classified.

Classifications	Residucal Bone Height	Treatment Procedures
Crestal Approach	≥ 10mm	Sinus surgery is not needed
	7~9mm	Bone-Added Osteotome Sinus Floor Elevation(BAOSFE)
Lateral Approach	4~6mm	Sinus bone graft & delayed or simultaneous implant placement
	1~3mm	Sinus bone graft & delayed implant placement

Ref) in Massachusetts, Babson college, 1996. 11.16~17

4. Pros and Cons of Maxillary Sinus Lifting Techniques

Classifications	Crestal Approach	Lateral Approach
Pros	• It is not technique sensitive. • Recovery is fast and there is less discom-fort since the surgery area is not large.	• Bone grafting is possible while securing the site.
Cons	• Blind technique (Membrane of maxillary sinus is not clearly seen).	• It is technique sensitive due to complicated procedures • Various instruments are necessary. • Surgery area is large and post-operative discomfort increases.

5. Indications and Contraindications of the Sinus Augmentation

1) Indications

To sinus cavity, residual alveolar ridge height of less than 10mm

2) Contraindications

① When there is hard or soft tissue lesion, such as a tumor in the insertion area or adjacent.

② When there is mucocele in maxillary sinus.

③ Chronic maxillary sinus disease.

④ Patient with contra-indication on minor oromaxillofacial surgery due to severe endocrine disease, circulatory disease, respiratory disease, hemopathy, and immune deficiency etc.

6. Sinus Augmentation Complications

Complications during operation	Initial complications after operation	Delay complications after operation
① Perforation of mucosa ② Fracture of the remaining alveolar bone ③ Bleeding ④ Damage of adjacent tooth	① Wound dehiscence ② Acute infection ③ Implant failure or loss ④ Loss of graft material	① Implant failure or loss ② Loss of graft material ③ Dislocation of implant ④ Chronic pain ⑤ Maxillary fistula ⑥ Chronic maxillary sinusitis

7. Sinus Augmentation Postoperative Care

① Bite down on gauze for 1–2 hours to control bleeding
② Nose–bleeding may occur after surgery
③ Avoid blowing the nose
④ Avoid contacting the surgery site with finger, tongue, toothbrush, or toothpick.
⑤ Some amount of bleeding, pain, and swelling may occur after surgery.
⑥ Smoking is prohibited for 8 weeks after surgery.
⑦ Cold pack for 1 ~ 2 days
⑧ Take the medication prescribed for prevention of inflammation.

8. Perforation of Maxillary Sinus Membrane

Maxillary sinus membrane is composed of periosteum that is covered by respiratory epithelium and it's very thin and weak. In most cases perforation will occur in the procedure where the notch is formed on lateral bony window in sinus elevation technique. It may also occur in a procedure where maxillary sinus membrane is elevated from the bony wall.

9. How to Cope with Perforation of Sinus Membrane

Although treatment methods could vary depending on the size of the membrane perforation, absorbable barrier membrane is used to close the perforation and bone grafting is performed in most cases.

II. Product Overview

1. Introduction

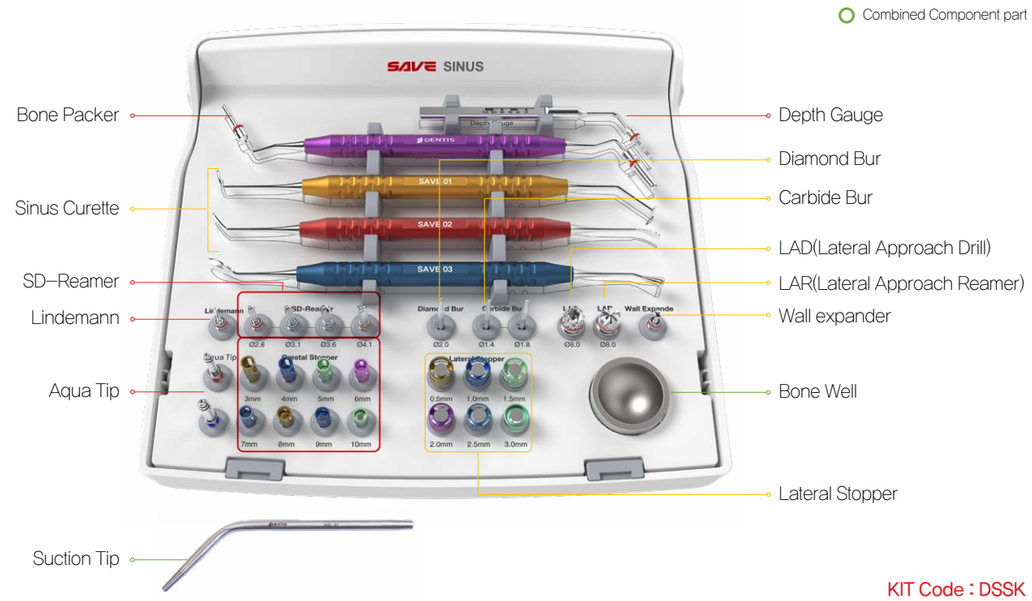
Sinus lift kit is designed for Crestal and Lateral approach. The tools are designed to be easy to use and perform the sinus lift quickly and safely. It is a proven success for OneQ and SQ implant placement and Ovis Bone materials.

2. Precautions on the Use of Product

① This is a medical device that must be used properly and as originally intended.
② If the product shows any defect, it must be returned before removing the package.
③ Carefully handle the product to avoid damage or deformation
④ Handle the blade of the drills with care.
⑤ Be sure to sterilize it before use.
⑥ Be aware of the proper use of each tool before using.

3. KIT

Lateral Approach
Crestal Approach
Combined Component part



KIT Code : DSSK

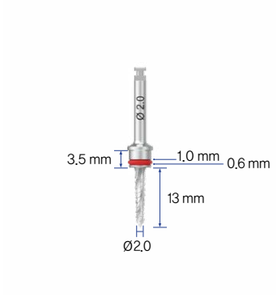
III. Product Overview

1. Components of Crestal Approach

Lindemann Drill

- For initial drilling
- Connect the crestal stopper
- Recommended RPM : 800~1,200 RPM

Diameter / Length	Code
Ø2.0 / 13 mm	DSSLD20



Reamer

- Round end design without cutting edge for safe membrane elevation.
- Connect the crestal stopper
- Recommended RPM :
  (Normal bone type) High speed drilling 800~1,200 RPM
  (Soft bone type) Low speed drilling 50~100 RPM

Diameter / Length	Code
Ø2.8 / 13 mm	DSSR28
Ø3.1 / 13 mm	DSSR31
Ø3.6 / 13 mm	DSSR36
Ø4.1 / 13 mm	DSSR41



*Round end design without cutting edge



Crestal Stopper

- Connect the lindemann drill, reamer, depth gauge, wall expander for use.
- Prevent over instrumentation.



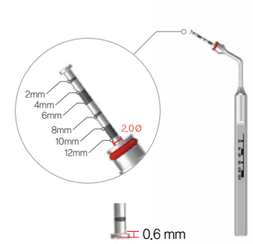


Length	3mm	4mm	5mm	6mm	7mm	8mm	9mm	10mm
Code	DSSCS3	DSSCS4	DSSCS5	DSSCS6	DSSCS7	DSSCS8	DSSCS9	DSSCS10

Depth Gauge

- After using SD reamer, check whether sinus floor has been perforated.
- 2~12 mm(2mm unit) laser marking.
- Connect the crestal stopper

Diameter	Code
Ø2.0	DSSDG



Bone Packer

- For pushing bone material into sinus after drilling hole with SD Reamer.
- Connect the crestal stopper
- After using SD reamer, it could be also used as sensor gauge (to check sinus floor perforation).

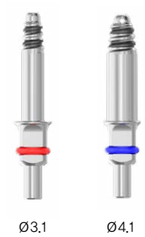
Diameter	Code
Ø3.5 / Ø4.5	DSSBP



Aqua Tip

- It is used to elevate the sinus membrane using hydraulic pressure when during crestal approach.

Diameter / Length	Code
Ø3.1	DSSAT31
Ø4.1	DSSAT41



2. Components of Lateral Approach

Carbide Round Bur

- Bur for lateral window opening.
- For straight handpiece.
- Diameter Ø 1.4 straight low speed round bur coincides with #4 bur size, and Ø 1.8 with #6.
- Recommended RPM : 30,000~40,000 RPM

Diameter	Code
Ø1.4	DSSCB14L
Ø1.8	DSSCB18L

Diamond Round Bur

- Bur for lateral window opening.
- For straight handpiece.
- Recommended RPM : 30,000~40,000 RPM

Diameter	Code
Ø2.0	DSSDB20L

LAR (Lateral Approach Reamer)

- Drill through sinus lateral wall to generate bony window.
- Blade design provides excellent cutting force and reduces the damage of the membrane by adopting a design in which the bone chip is filled in the blade during cutting.
- Recommended RPM : 800~1,200 RPM.

Diameter	Code
Ø8.0	DSSAR80



LAD (Lateral Approach Drill)

- Bone lid is formed on the sinus lateral wall to form a lateral window.
- Curved blade relieves the impact on the sinus membrane and generates bone lid.
- Connect the lateral stopper for use.
- Recommended RPM : 800~1,200 RPM.

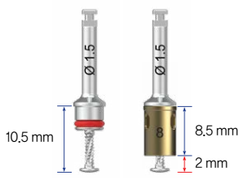
Diameter	Code
Ø8.0	DSSLAD80



Enlarge Lateral Window by LAD or LAR

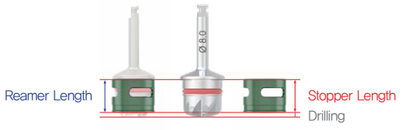
- Enlarge lateral window with LAD or LAR
- Connect the crestal stopper for use (8, 9, 10).
- Method of choosing stopper height :
  crestal stopper height–7mm = Lateral wall width
- Recommended RPM : 800~1,200 RPM

Diameter	Code
Ø1.5	DSSWE



Lateral Stopper

- It is used to control drilling depth of LAD and LAR reamer accurately.





Length	0.5mm	1.0mm	1.5mm	2.0mm	2.5mm	3.0mm
Code	DSSLS05	DSSLS10	DSSLS15	DSSLS20	DSSLS25	DSSLS30

Sinus Curette

- It is composed of 3 curettes that are designed to elevate sinus membrane safely.
- Elevate Sinus Membrane with SAVE 01/02/03 instruments.
- The tip size is minimized to improve accessibility in maxillary sinus.
- Anti-rotation structure handle to prevent rotation of the instrument during use.

1) Sinus Curette 01

- For initial separation of sinus membrane, use membrane separator and then use the opposite part for initial elevation.

Code
DSSS01



① Membrane separator ② Membrane elevator

2) Sinus Curette 02

- The membrane elevator is used to elevate the sinus membrane.
- Periosteal elevator is used to separate medial (palatal) wall.
- Periosteal elevator can be used for detaching the lateral window.

Code
DSSS02



① Membrane elevator ② Periosteal elevator

3) Sinus Curette 03

- It is used in bone grafting.
- After putting the bone graft material in bone carrier, deliver it to the sinus cavity by using sinus curette, and then perform the filling by using plugger.

Code
DSSS03



① Bone carrier ② Plugger

3. Combined Component Part

Suction Tip

- It is used in lateral approach, and its end is designed smoothly to prevent perforation of sinus membrane.

Code
DSSST



Bone Well

- It is used for storing graft material or hydration.

Code
DSSBW



Ⅳ. Maintenance

1. Cleaning and Disinfection of the KIT

① Thoroughly pre-rinse blood stain or foreign body on the instruments after using the kit by using a cleaning brush on the surface in distilled water or 30 ~ 40℃ running water for 20 seconds.

② Pre-rinse it by immersing it in disinfectant liquid for 10 minutes.

③ Clean additionally by using ultrasonic cleaner.

④ After cleansing it by using detergent and cleaning brush, wash it in running water thoroughly.

⑤ Let air dry or dry with a clean cloth.

⑥ Place instruments back in kit. Color-coding indicates designated placement.

⑦ Wrap the kit with sterilization wrap.

⑧ Mark the sterilization date after attaching sterilization tape on sterilization wrap.

⑨ Place the wrapped kit into the sterilization device and proceed with sterilization.

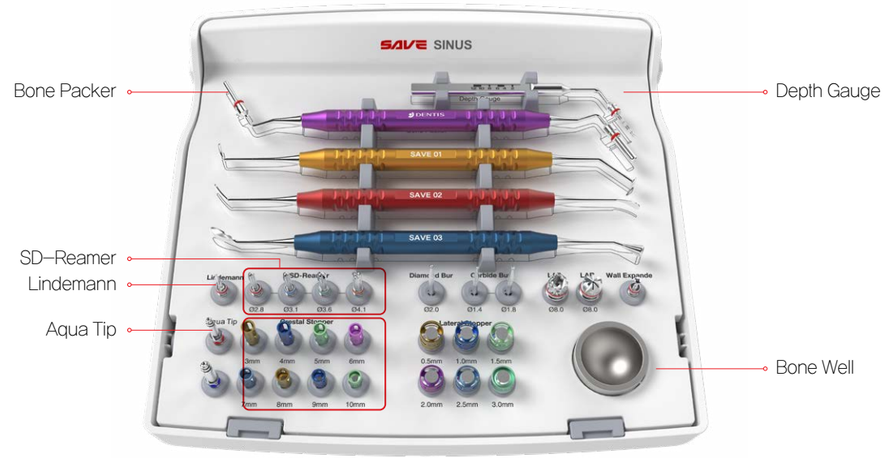
2. Proper Storage of the KIT

① Store it at room temperature and in uncontaminated area.

② Check the marked sterilization date, and if it has not been used within 3 ~ 4 days, re-sterilize it before using it for surgery.

Ⅴ. Crestal Approach

1. Components of Crestal Approach



2. Suggested Crestal Approach Protocol

Fixture Size	Bone Type	Lindemann	Reamer				Hydraulic lift	Bone Condensing		
		Ø 2.0	Ø 2.8	Ø 3.1	Ø3.6	Ø4.1	Aqua Tip	Depth Gauge	Ovis Bone	Bone Packer
 Ø4.0	Soft	●	●				●	●	○	●
	Normal	●	●	●			●	●	○	●
 Ø4.5	Soft	●	●	●			●	●	○	●
	Normal	●	●	●	●		●	●	○	●
 Ø5.0	Soft	●	●	●	●		●	●	○	●
	Normal	●	●	●	●	●	●	●	○	●

● Required ○ Crestal Approach

3. Surgical Procedure

1) Incision & flap elevation



Make an incision and separate the periosteum by using a periosteal elevator or something similar

2) Initial drilling





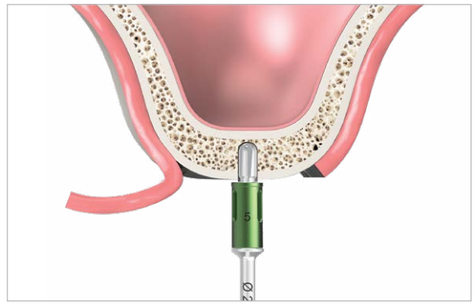
Lindemann Drill

Crestal Stopper

Connect the crestal stopper to a Ø 2.0 Lindemann drill.
Then choose the insertion site and drill at 800–1200 RPM.

Tip
- Stable drilling is achieved by connecting the Crestal Stopper that is 2mm shorter than the remaining bone height.
- Example : Connect 5mm Crestal Stopper on 7mm bone height.

3) Enlarge the hole





Reamer Drill

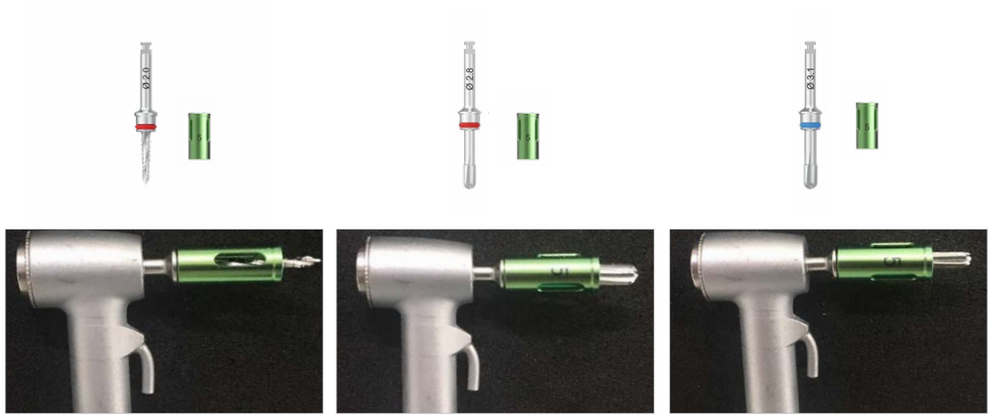


Crestal Stopper

After connecting the crestal stopper that is 2mm shorter than the remaining bone height to a Ø 2.8 reamer drill, expand the hole that was started with the initial drill. Gradually expand the hole by changing the reamer drill in order, up to the desired fixture size.

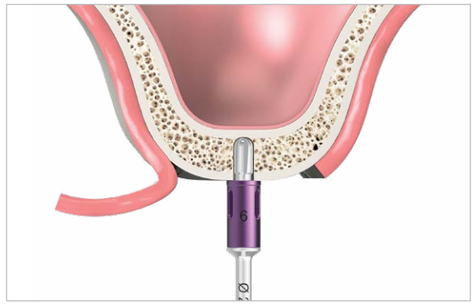
Change the Drill Refer to reamer system. (20p)

Ø2.0 Lindemann drill with 5.0mm stopper	→	Ø2.8 Reamer drill with 5.0mm stopper	→	Ø3.1 Reamer drill with 5.0mm stopper



Tip In soft bone type, either use low speed for drilling or perform reamer drilling for under drilling.

4) Advance the drill





Reamer Drill

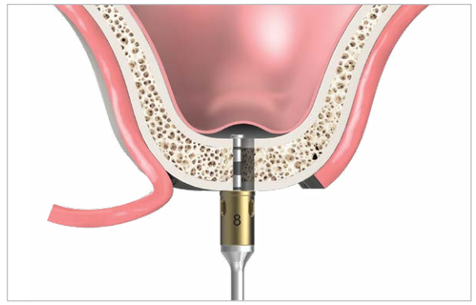
Crestal Stopper

After using the reamer to expand the hole to desired width, use the crestal stopper to gradually approach the sinus floor. Recommended drilling at 800–1200 RPM.

Change the Drill Refer to reamer system. (20p)

Ø3.6 Reamer drill with 5.0mm stopper	Ø3.6 Reamer drill with 6.0mm stopper	Ø3.6 Reamer drill with 7.0mm stopper
		
		

5) Check sinus floor





Depth Gauge

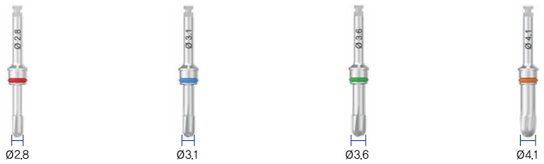


Crestal Stopper

Connect the crestal stopper that is 1mm longer than the one that was used in drilling. Use the depth gauge to check the perforation of the sinus floor.

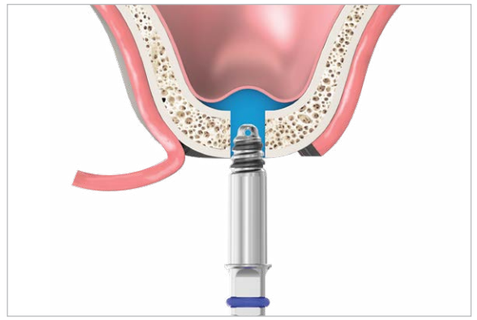
Note Do not use without connecting the stopper.

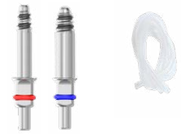
Reamer System



Fixture Size	Bone Type	Residual Bone Height	Reamer with Crestal Stopper			
 Ø4.0	Soft	7mm	5mm 6mm 7mm			
		8mm	6mm 7mm 8mm			
		9mm	7mm 8mm 9mm			
		10mm	8mm 9mm 10mm			
	Normal	7mm	5mm	5mm 6mm 7mm		
		8mm	6mm	6mm 7mm 8mm		
 Ø4.5	Soft	9mm	7mm	7mm 8mm 9mm		
		10mm	8mm	8mm 9mm 10mm		
	Normal	7mm	5mm	5mm	5mm 6mm 7mm	
		8mm	6mm	6mm	6mm 7mm 8mm	
 Ø5.0	Soft	9mm	7mm	7mm	7mm 8mm 9mm	
		10mm	8mm	8mm	8mm 9mm 10mm	
	Normal	7mm	5mm	5mm	5mm	5mm 6mm 7mm
		8mm	6mm	6mm	6mm	6mm 7mm 8mm
		9mm	7mm	7mm	7mm	7mm 8mm 9mm
		10mm	8mm	8mm	8mm	8mm 9mm 10mm

6) Hydraulic lift

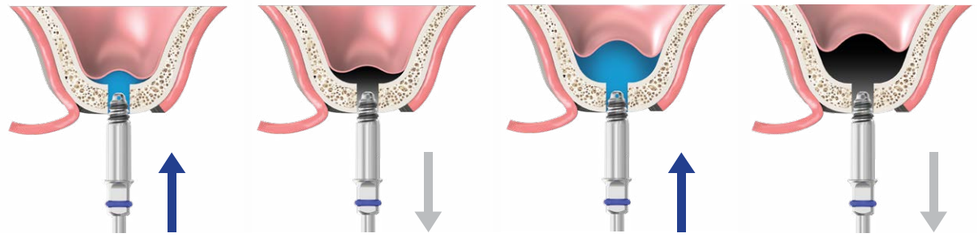




Fill the syringe with 2.0cc – 3.0cc of saline. Connect the syringe and silicone tube to the aqua tip and then connect it to the hex drilling part for stability. Repeat the push and pull motion to elevate the sinus membrane.

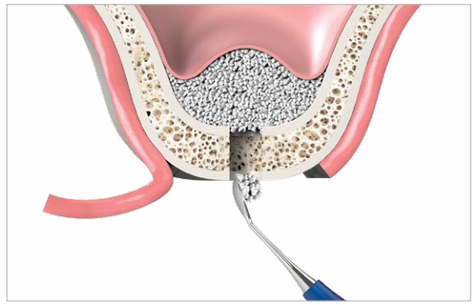
Tip
- After securing the sealing by attaching the aqua tip to the drill, fix it so that hydraulic pressure elevation is possible.
- Recommended for single implant placement: Fill with 2.0cc of saline.
- Recommended for multiple implant placement: Fill 3.0cc of saline.

Aqua Tip System 0.5cc push → 0.5cc pull → 1.0cc push → 0.5cc pull → 1.5cc push → 1.0cc pull → 2.0cc push



7) Bone graft application

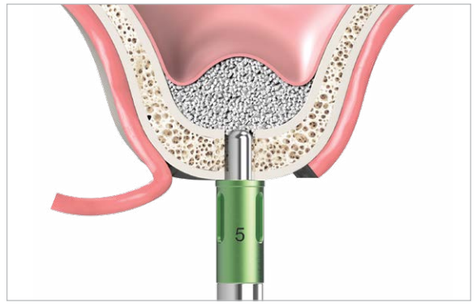
① Sinus Curette 03–1 : Bone graft carrier

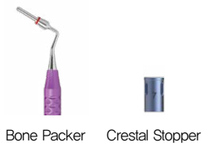




Bone graft material is transferred to the bone graft carrier and it is transferred to the obtained sinus cavity by using the sinus curette.

② Bone packer





By using the bone packer, bone graft material is filled in the sinus cavity.
Connect the final crestal stopper to the bone packer before use.

Ovis ALLO
Allograft Material



- Osteoconduction and osteoinduction
- The used human anatomy with passed strict guidelines of FDA and KFDA
- Priority of domestic donor
- Production process by a single donor to prevent cross infection
- Ideal combination of cortical and cancellous bone powder
- Easy and simple syringe type

Ovis XENO
Xenograft Material



- Bovine bone grafting material of natural mineral cancellous bone composed of double coated Ca–P
- Natural mineral bone obtained through strict manufacturing process
- No immunologic rejection
- Biocompatibility and great bioactivity
- Easy revascularization of the bone graft site
- Well–formed Macro/Micro porous similar to human's cancellous bone

OVIS XENO-B
Xenograft Material



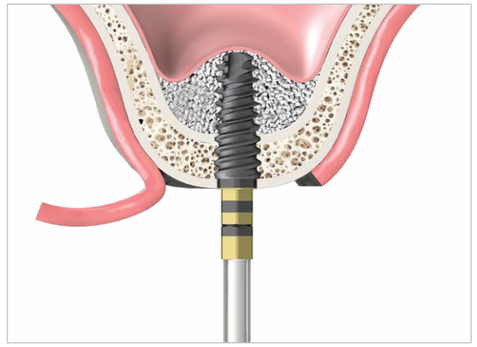
- Ovis XENO–B has excellent volume and wettability with a pore structure similar to human bone.
- Excellent hydrophilicity and transparency
- Biocompatible and excellent bone regeneration ability.
- Surface void form of natural bone is maintained due to special processing technique.

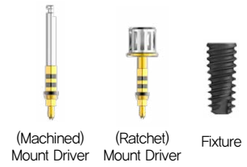
Ovis Bone BCP
Synthetic Material



- Osteoconductive synthetic bone graft with higher β–TCP content
- Excellent wettability
- Easy manipulation
- Biocompatibility and great bioactivity
- Well–formed Marco/Micro porous
- Porosity : 70%

8) Implant placement



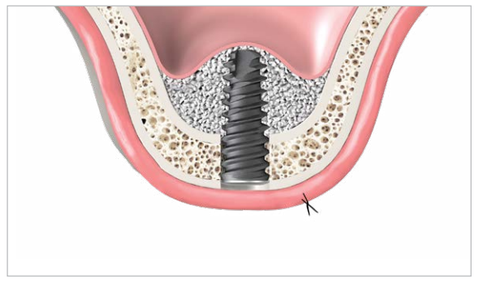


Fixture installation with fixture driver.

9) Connect cover screw or healing abutment



10) Suture



4. Clinical Case

Crestal Approach with SAVE SINUS KIT and Flapless SQ Implant Placement

Dr. Kim, Yongjin I Ilsan Apsun Dental Clinic

Patient Information

Placement Implant Area	6 7	**Sex / Age**	Male / 47
C.C.	Missing of #26, 27		
Treatment Plan	Flapless implant placement with crestal approach sinus lifting		
Materials and Methods	1. Crestal approach sinus lifting with SAVE SINUS KIT 2. Ø 5.0X 12mm SQ implant placement 3. Healing abutments		

Pre-operation



Fig.1 Pre-op panorama



Fig.2 Pre-op clinical view

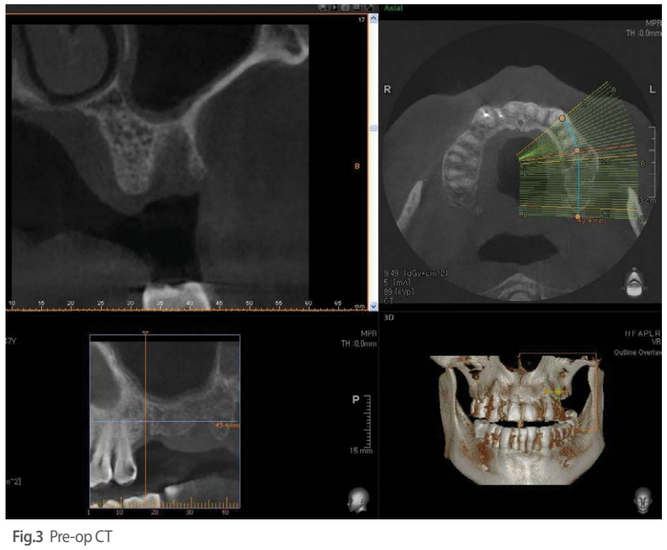


Fig.3 Pre-op CT

Treatment



Fig.4a-b Connect crestal stopper to the lindemann drill and initial drilling



Fig.5 The hole was expanded by changing the reamer drill. Advancement of drill was done by changing the crestal stopper



Fig.6a-b After hydraulic lifting two SQ implants were placed



Fig.7 Connect healing abutment

Post-operation



Fig.8 Post-op panorama

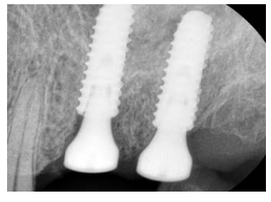
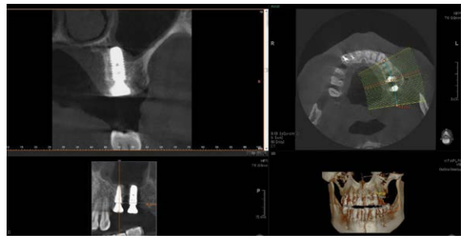


Fig.9 Post-op P.A



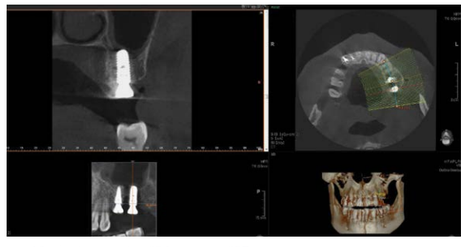


Fig.10a-b Post-op CT. #26 (upper), #27(lower)

Conclusion

Sinus floor was penetrated without sinus membrane perforation and sinus membrane was elevated sufficiently with hydraulic lifting.

Crestal Approach with Hydraulic Lift System Using SAVE SINUS KIT

Dr. Kim, Yongjin I Ilsan Apsun Dental Clinic

Patient Information

Placement Implant Area	5 6	**Sex / Age**	Male / 40
C.C.	#25, #26 pain and mobility		
Treatment Plan	#25, #26 extraction and implant installation with sinus op		
Materials and Methods	1. #25, #26 extraction 2. Crestal approach sinus lifting with SAVE SINUS KIT 3. Ø4.5 X 12mm & 5.0 x 10mm SQ implant placement 4. Connect #25 cover screw, #26 healing abutment		

Pre-operation



Fig.1 Pre-op panorama



Fig.2 Pre-op clinical view

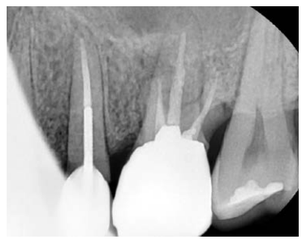


Fig.3 Pre-op P.A.

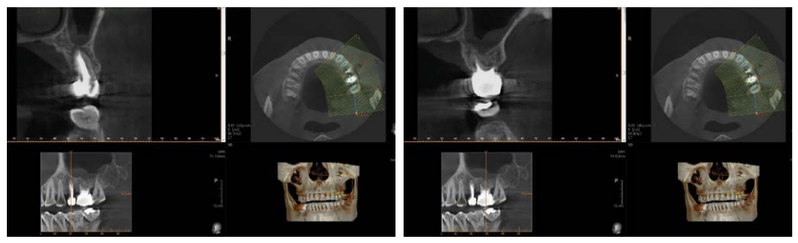


Fig.4a-b Pre-op CT. #25 (right), #26 (left)

Treatment

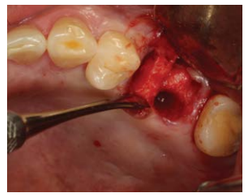


Fig.5 #25, #26 extraction , incision and flap elevation



Fig.6a-b Connect crestal stopper to the lindemann drill and initial drilling



Fig.7a-c The hole was expanded by changing the reamer drill. Advancement of drill was done by changing the crestal stopper

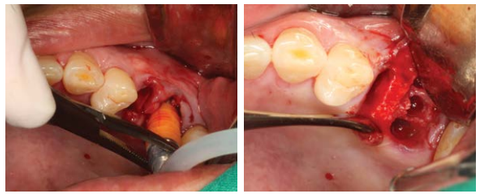


Fig.8a-b Hydraulic lifting



Fig.9 SQ implant placement



Fig.10 Primary closure

Post-operation



Fig.11 Post-op panorama

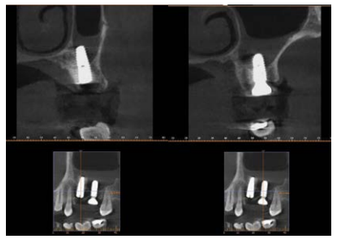


Fig.12 Post-op CT



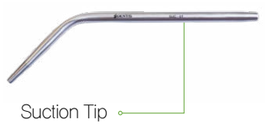
Fig.13 Delivery final prosthesis

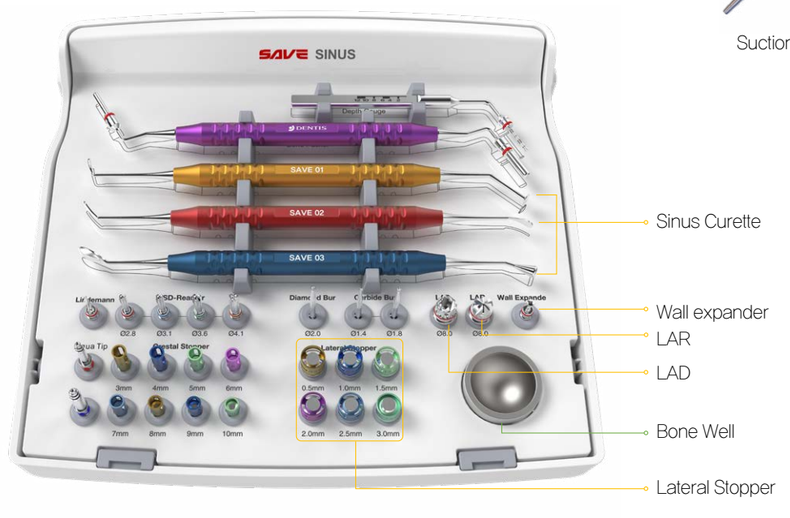
Conclusion

By using SAVE SINUS KIT. Sinus floor was penetrated without sinus membrane perforation and sinus membrane was elevated sufficiently with hydraulic lifting.

Ⅵ. Lateral Approach

1. Components of Lateral Approach





2. Suggested Lateral Approach Protocol

Window open			Expanding	Sinus Elevation			Bone Condensing		
Round bur	LAD	LAR	Ø 2.0	SAVE 01	SAVE 02	SAVE 03	Depth Gauge	Ovis Bone	Bone Packer
●	○	○	○	●	●	●	●	○	○
○	●	○	○	●	●	●	●	○	○
○	○	●	○	●	●	●	●	○	○

● Required ○ Crestal Approach

3. Surgical Procedure

1) Incision & flap elevation



Make an incision and separate the periosteum by using a periosteal elevator or something similar

2) Lateral window preparation & opening

• Open the lateral window by using round bur, lateral approach reamer, drill etc.

① Open window using round bur





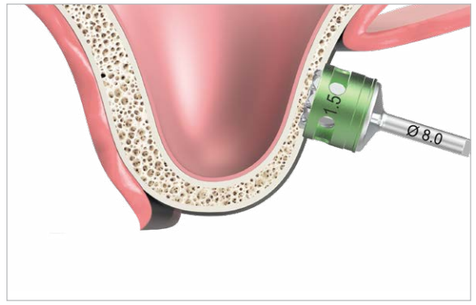
Carbide Bur Diamond Bur

Start with lateral window preparation by using carbide round bur and finish by using the round bur.

Tip When forming lateral window on the lateral wall of maxillary sinus, use the lateral surface of the round bur.
*Do not use it vertically.

Note Use angled approach with finger rest.

② Open window using LAD (Lateral Approach Drill)



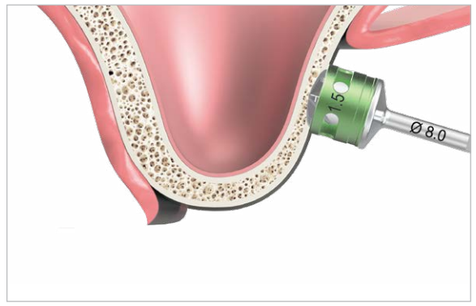


LAD Lateral Stopper

After the lateral stopper is connected to a Ø 8.0 LAD (Lateral Approach Drill), drill into the lateral wall at 800–1200 RPM to form window. Proceed by increasing the lateral stopper in 0.5mm increments until penetrating the sinus wall.

Tip Use the LAD when forming a wide window

③ Open window using LAR (Lateral Approach Reamer)





LAR Lateral Stopper

After the lateral stopper is connected to a Ø 8.0 LAR (Lateral Approach Reamer), drill into the lateral wall at 800–1200 RPM to form window. Proceed by increasing the lateral stopper in 0.5mm increments until penetrating the sinus wall.

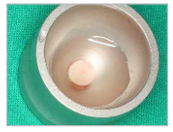
3) Remove the sinus bony window





Sinus Curette 02

Remove sinus bony window using periosteal elevator of Sinus Curette 02.



Tip Store the detached bony window in saline, and relocate it after bone grafting.

4) Enlarge the wall





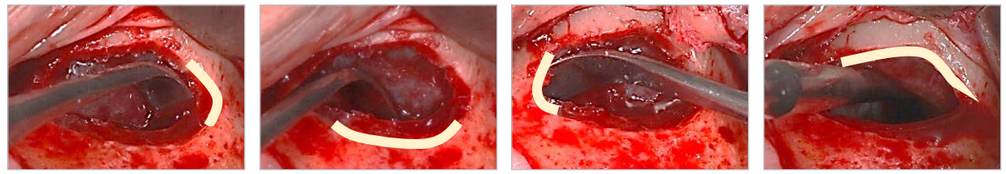
Wall expander Crestal stopper

If needed, connect the crestal stopper to wall expander and widen the lateral window.

5) Membrane elevation

Use sinus curettes in sequential order to gradually elevate the sinus membrane.

Tip Sinus Membrane Process : Posterior → Floor → Anterior → Media (Palatal)



Posterior → Floor → Anterior → Media (Palatal)

Note
- Tip of the sinus curette must be in contact with the inner bony wall of sinus at all times.
- Do not directly push the sinus membrane to elevate it.
- Gradually elevate the sinus membrane.

① Sinus Curette 01–1 : Membrane separator

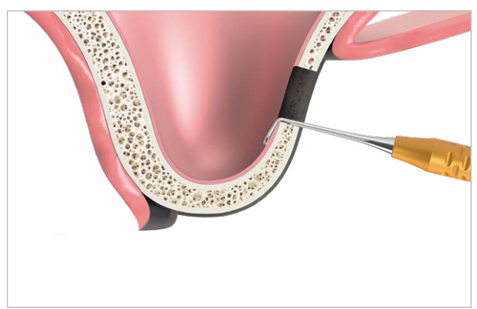




Sinus Curette 01

By using membrane separator of Sinus Curette 01, safely perform initial separation of maxillary sinus membrane.

② Sinus Curette 01–2 : Membrane elevator

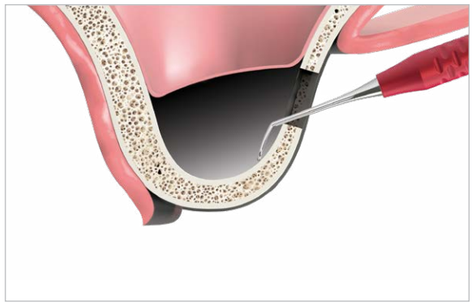




Sinus Curette 01

By using membrane elevator of Sinus Curette 01, separate the maxillary sinus membrane and elevate it.

③ Sinus Curette 02–1 : Membrane elevator

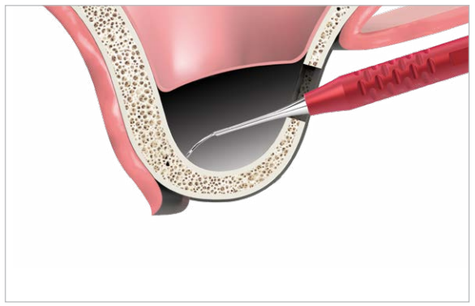




Sinus Curette 02

Use the angled part of the SAVE curette 02 to elevate the maxillary sinus membrane

④ Sinus Curette 02–2 : Periosteal elevator

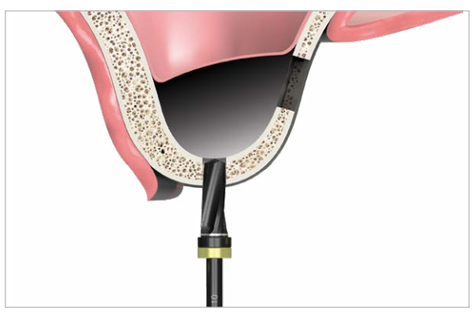




Sinus Curette 02

By using periosteal elevator part of Sinus Curette 02, separate the sinus membrane from the medial wall of maxillary sinus and elevate the membrane.

6) Surgical drilling





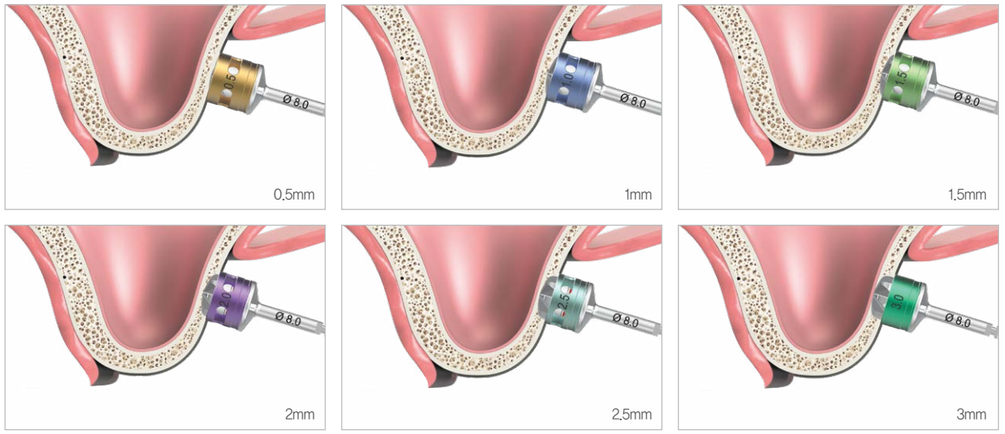
Surgical Drill

Drill according to the implant manufacturer's recommended drilling sequence.

Stopper System

① Lateral approach reamer / drill

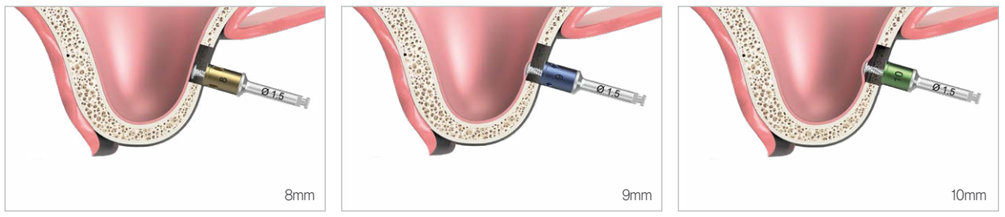




Later stoppers range from 0.5 – 3mm. Drill by increasing the lateral stopper in 0.5mm increments until penetrating the sinus wall.

② Wall expander





Expand window by connecting the crestal stopper to the wall expander. Use the appropriate size crestal stopper according to the lateral wall thickness.

7) Bone graft application

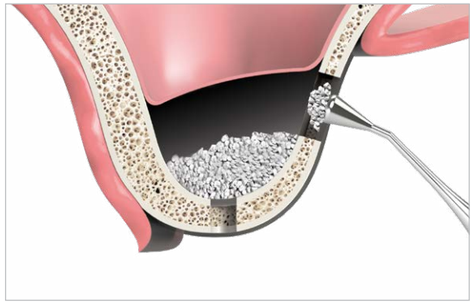
① Sinus Curette 03–1 : Bone graft carrier





Use the bone carrier to transfer bone graft material

② Sinus Curette 03–2 : Plugger





Use the plugger to pack bone into the sinus cavity.

Ovis ALLO
Allograft Material



- Osteoconduction and osteoinduction
- The used human anatomy with passed strict guidelines of FDA and KFDA
- Priority of domestic donor
- Production process by a single donor to prevent cross infection
- Ideal combination of cortical and cancellous bone powder
- Easy and simple syringe type

Ovis XENO
Xenograft Material



- Bovine bone grafting material of natural mineral cancellous bone composed of double coated Ca–P
- Natural mineral bone obtained through strict manufacturing process
- No immunologic rejection
- Biocompatibility and great bioactivity
- Easy revascularization of the bone graft site
- Well–formed Macro/Micro porous similar to human's cancellous bone

OVIS XENO-B
Xenograft Material



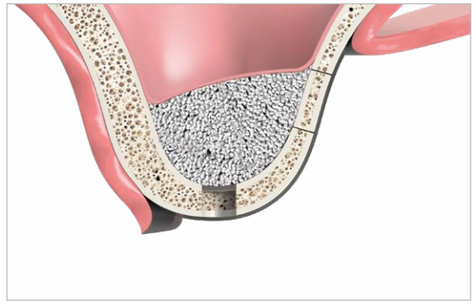
- Ovis XENO–B has excellent volume and wettability with a pore structure similar to human bone.
- Excellent hydrophilicity and transparency
- Biocompatible and excellent bone regeneration ability.
- Surface void form of natural bone is maintained due to special processing technique.

Ovis Bone BCP
Synthetic Material



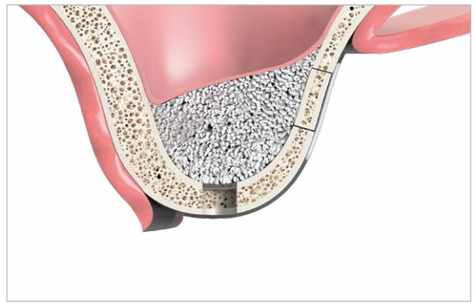
- Osteoconductive synthetic bone graft with higher β–TCP content
- Excellent wettability
- Easy manipulation
- Biocompatibility and great bioactivity
- Well–formed Marco/Micro porous
- Porosity : 70%

8) Recover bony window (In the case when detached bony window)



When using LAR, apply resorbable membrane on the window.

9) Reattach bone wall (Optional)

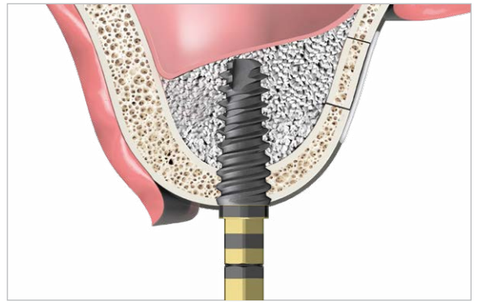


When using LAD, reattach the bony window to cover the graft site.



Ovis Membrane

10) Implant placement

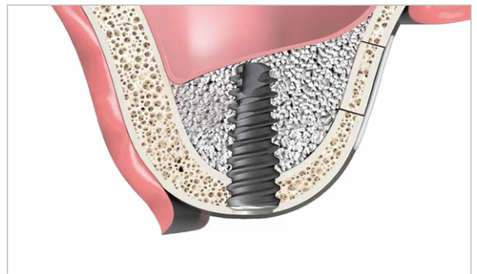


Fixture installation with fixture driver.



(Machined) Mount Driver | (Ratchet) Mount Driver | Fixture

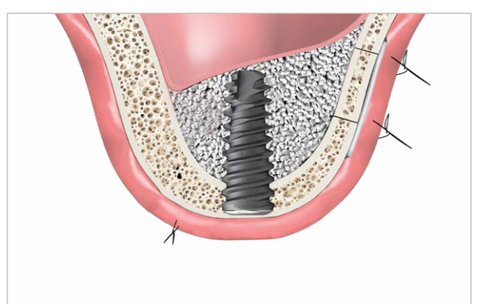
11) Connect cover screw or healing abutment





Cover Screw | Healing Abutment | Hex Driver

12) Suture



4. Clinical Case

Lateral approach with SAVE SINUS KIT

Dr. Kim, Yongjin I Ilsan Apsun Dental Clinic

Patient Information

Placement Implant Area	6	**Sex / Age**	Female / 55
C.C.	Maxillary molar missing		
Treatment Plan	Implant placement with lateral approach sinus bone grafting		
Materials and Methods	1. Lateral approach sinus bone grafting with SAVE SINUS KIT 2. Bone graft material application and closing bone window with bone lid 3. Ø 5.0X10 implant placement 4. Healing abutment 5. Suture		

Pre-operation



Fig.1 Pre-op panorama



Fig.2 Pre-op clinical view

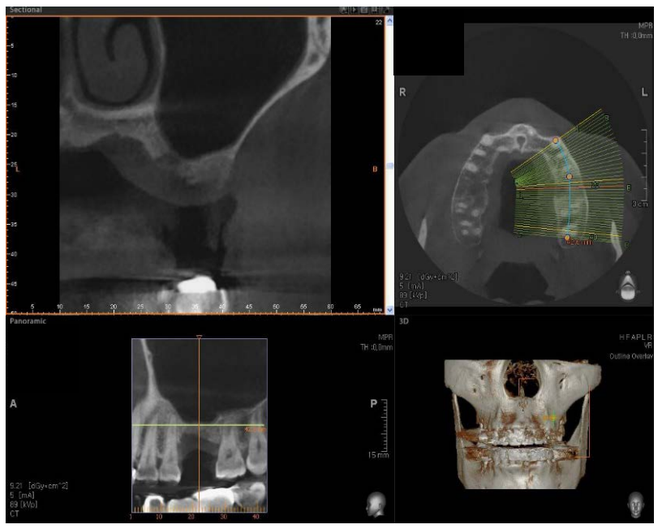


Fig.3 Pre-op CT

Treatment



Fig.4 Incision



Fig.5 Flap elevation



Fig.6a-c Connect lateral stopper to the Ø8.0 lateral approach drill and create the bone lid

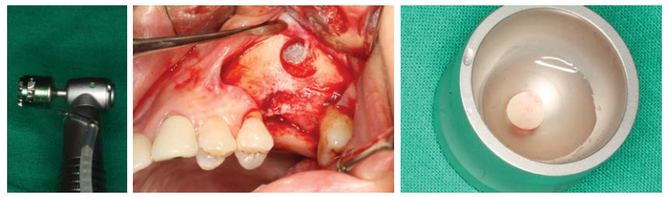


Fig.7a-c Change lateral stopper step by step and advance the drill

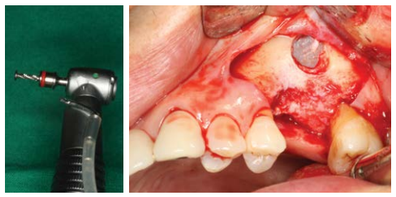


Fig.8a-b Wall expander for widening the lateral window



Fig.9 Detach the sinus membrane with membrane separator

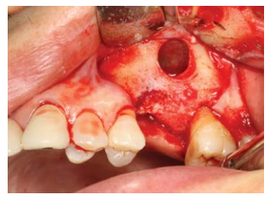


Fig.10 Sinus membrane elevation



Fig.11 Bone grafting



Fig.12 Bony window repositioning

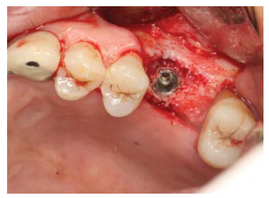


Fig.13 Implant placement



Fig.14 Connect healing abutment and suture

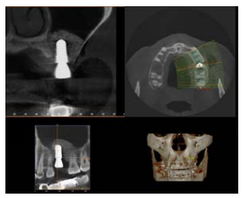


Fig.15 Post-op CT



Fig.16 Final prosthesis was delivery

Conclusion

Sinus floor was penetrated without sinus membrane perforation and sinus membrane was elevated sufficiently with lateral approach technique