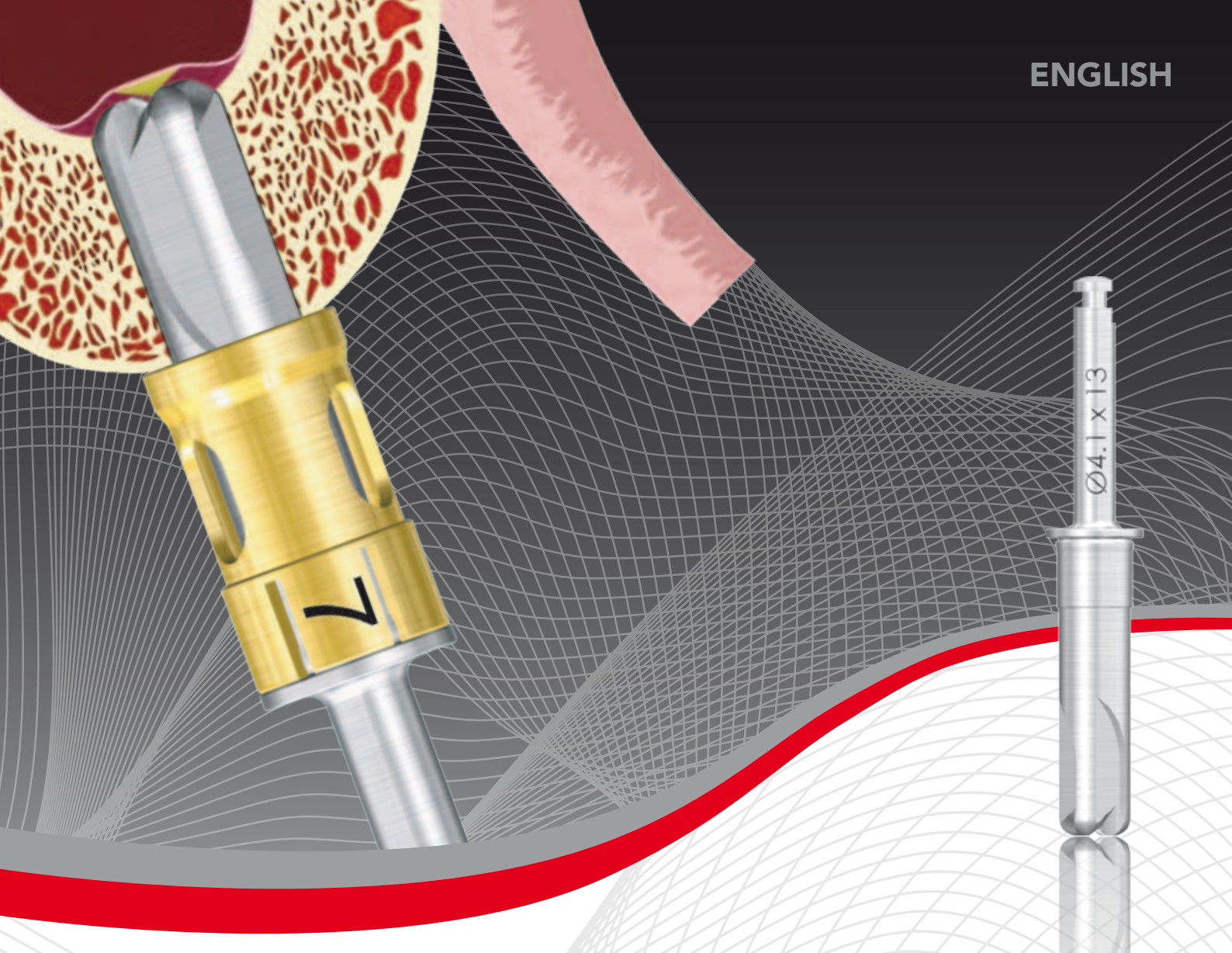
ENGLISH



HIOSSEN

OSSTEM IMPLANT

Qualität schafft Vertrauen

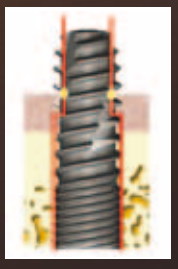
Crestal Approach Sinus-KIT

CAS-KIT

CAS-KIT

(Crestal Approach - Sinus KIT)

Contents



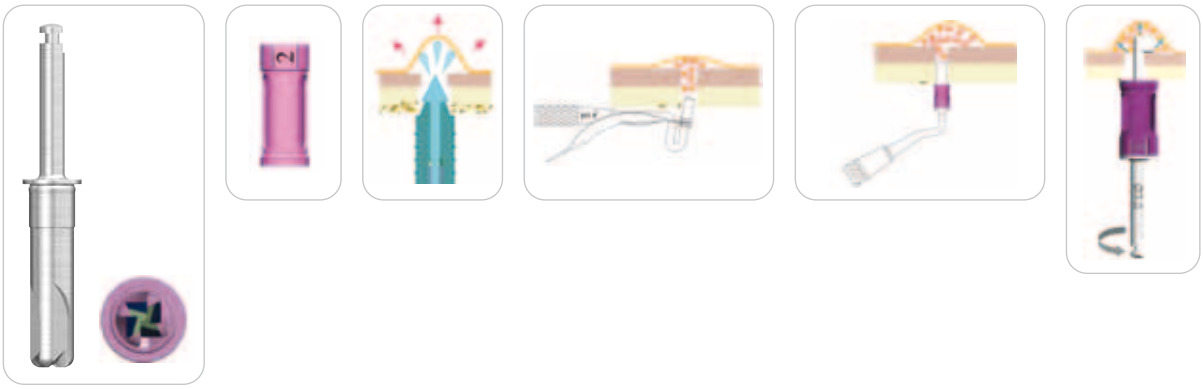
Introduction

• Hiossen's Crestal Approach Sinus KIT (CAS-KIT) is specifically designed to easily and safely lift the membrane in the maxillary sinus from a crestal approach.

The key component of the CAS-KIT is the CAS-Drill. The unique design of the CAS-Drill enhances convenience and safety of maxillary sinus surgery by; safely lifting the membrane while drilling, precision cutting, flexible cutting speed from low to high speed (800rpm), formation of conical shaped bone chip, generation of bone particles, smooth & stable insertion, easy path correction and septum surgery.

FEATURES of CAS-KIT

- Safely and rapidly lifts the sinus membrane while drilling
- Unique Stopper system that prevents over drilling into the sinus cavity
- Hydraulic Lift System that easily & safely lifts the membrane
- Bone Carrier System for transferring and filling bone material
- Bone Spreading System for spreading & compacting bone material
- Simple and intuitive surgical system
- The ability to combine Osteotome in surgery

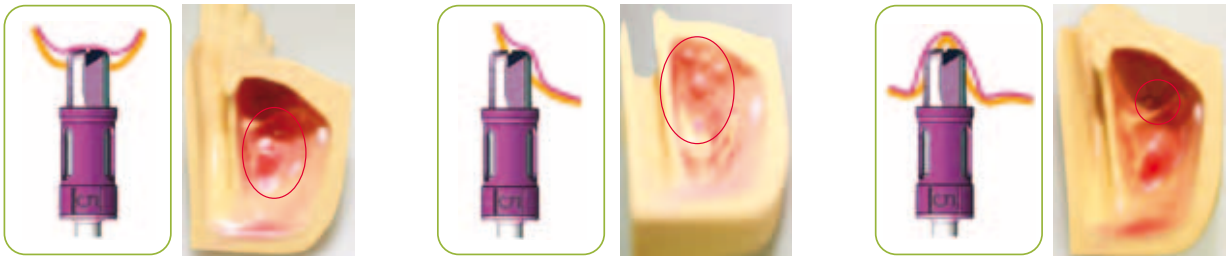


CAS-Drill SPECIFICATIONS & PERFORMANCE

• The CAS-Drill is designed to safely and rapidly lift the maxillary sinus membrane from a crestal approach. The CAS-Drill can be used for either general-straight or tapered fixtures. It is optimized for insertion torque, initial fixation strength, and tactile feedback when using Hiossen's HG III & OSSTEM's GS / TS III Fixtures.

The CAS-Drill:

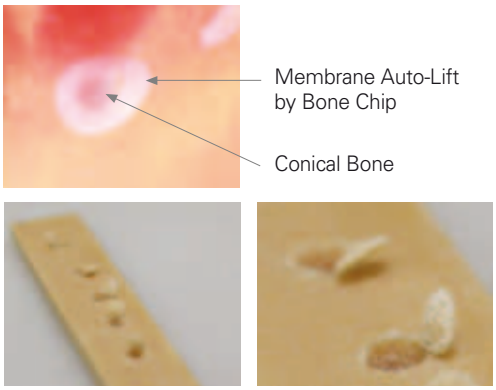
- The atraumatic design of the drill tip allows the user to perform sinus surgery even if the sinus floor is flat, incline, or septum.



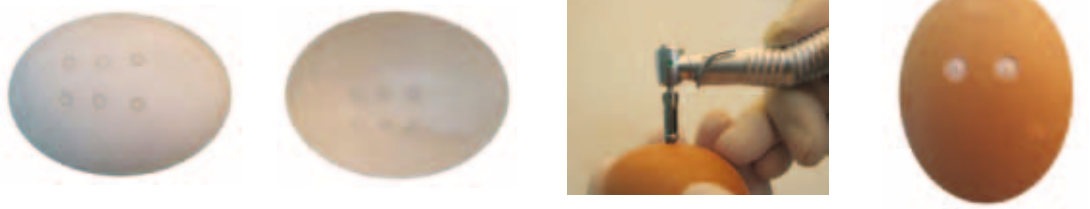
- It's design forms conical bone and bone chips.
- The CAS-Drill tip has an inverse conical shape. This shape will form a conical bone chip when drilling, which assists with safely lifting the membrane. In addition, bone particles generated when drilling discharge upwards, producing a Membrane Auto-Lift function.

Conical Bone
+
Bone Chip

Bone particles formation
between the cutting blades

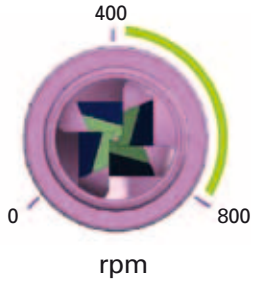


- Membrane can safely be lifted.



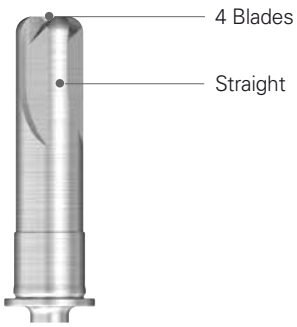
The CAS-Drill can:

- Drilling can be done at various speeds, from low to high speed (800rpm), allowing flexibility during surgery.

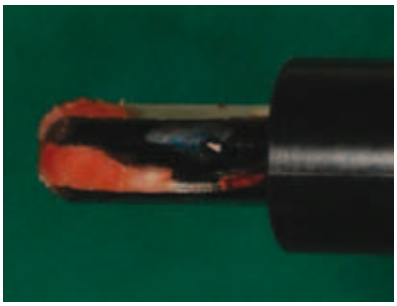


Guide : 400 ~ 800 rpm
However, 400 to 600rpm is recommended for first time users.

- The drill is designed with four blades which reduce deflecting off of the bone, and the straight sides dampen vibrations.



- Extraction of bone particles (at low speed of ~50rpm).



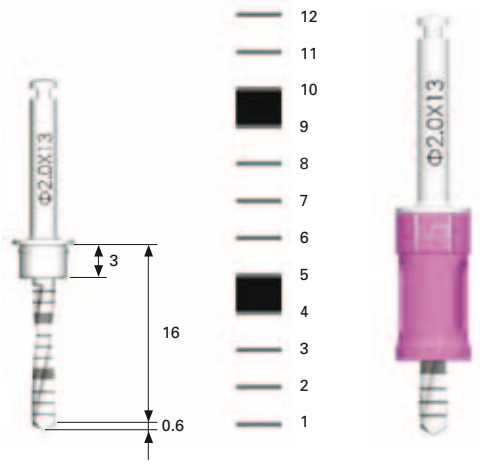
• Generally, the CAS-Drill can be used up to 50 times.

The number of uses may vary depending on the type of bone.

Components

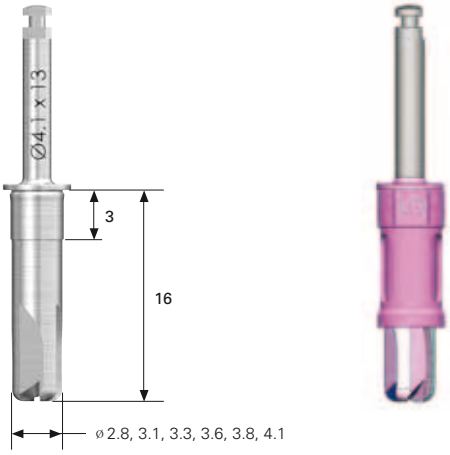
1) ø 2.0 Twist Drill

- The drill tip is 0.6mm and is 13mm long.
- Recommended drill speed: 1000~1500 RPM
  (Water Infusion + Pumping)
- 1mm spaced markers with wide bands at 4~5, 9~10
- Unique Stopper system
- It is recommended to stop drilling when there is about
  2mm of bone left, please calculate this beforehand
  when using CT images as a guide.



2) CAS-Drill

- Comes in six (6) diameters: ø 2.8 / ø 3.1 / ø 3.3 / ø 3.6 / ø 3.8 / ø 4.1
- Allows a 13mm Fixture to be implanted
- Drilling is dependent upon the fixture diameter and the how far
  the fixture protrudes into the maxillary cavity.
- Drilling speed ranges from low speed to high speed (800rpm)
  Experienced: 800rpm; Beginner: 400 to 600rpm is recommended
  (Water Infusion + Pumping)
- Unique Stopper system



■ An example of a CAS-Drill dependence on the Hiossen's HG III & OSSTEM's GS / TS III Fixture diameter and protrusion height
- Fixture protrusion height (mm)

Fixture	HG III, GS / TS III F ø 4.0		HG III, GS / TS III F ø 4.5		HG III, GS / TS III F ø 5.0	
Fixture Protrusion Height(mm)	0~3	3~6	0~3	3~6	0~3	3~6
	ø 2.8	ø 3.1	ø 3.3	ø 3.6	ø 3.8	ø 4.1
CAS-Drill						
Code	SNDR2813T	SNDR3113T	SNDR3313T	SNDR3613T	SNDR3813T	SNDR4113T

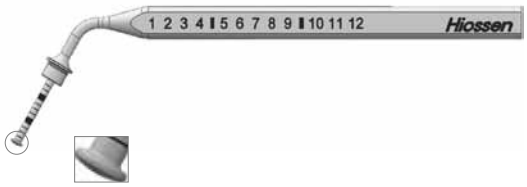
Components

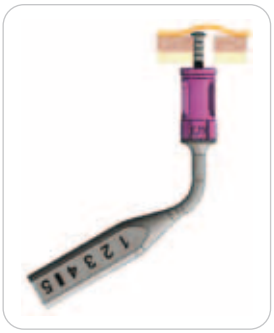
3) Stopper System

- A total of eleven (11) stoppers; labeled 2 to 12mm
- Labels indicate the remaining length of the drill (from drill tip to stopper top)
- Each stopper is anodized and color coded. Labels are laser etched.

4) Depth Gauge

- Measures the thickness of the remaining bone
- The atraumatic tip can be used to confirm membrane lifting
- Can be used with the Stopper system
- Caution: Do not use the Depth Gauge to lift membrane beyond 1mm.





5) Hydraulic Lifter

- The Hydraulic Lifter uses normal saline to raise the membrane
- Infuse 1cc with a syringe
- Required volume of saline

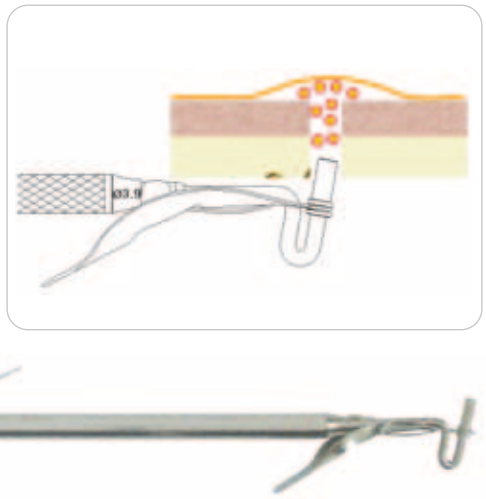
  To expand 3mm of the membrane, generally 0.2 to 0.3cc of saline is injected. Inject saline very SLOWLY.
- Contraindication
  - Not recommended for patients with inflammation of the maxillary Sinus (Sinusitis)
  - Not recommended for patients with complex morphology of the sinus floor (including the septum)

6) Bone Carrier

- Transplanting bone material to the grafting site
- Has dual diameters: ø3.5 and ø3.9

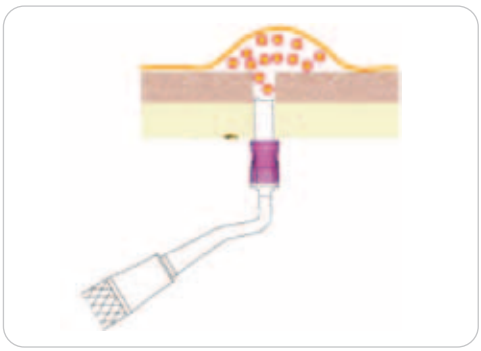
※ Bone graft material and filler (for reference)

Herry Y and Lee DY, 2005	
Lift heigh	Volume of bone matrix
3mm	0.36cc
4mm	0.5cc
5mm	0.7cc
6mm	0.9cc



7) Bone Condenser

- Assists compacting bone grafting material
- Has dual diameters: ø2.3 and ø3.3
- Can be used with the Stopper system
- Wide banded markers at 4-5 and 9-10mm
- Can also be used to confirm membrane lifting after using the CAS-Drill

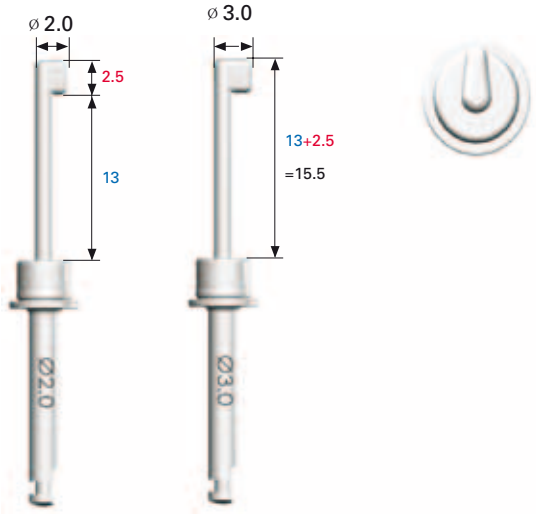


Components

8) Bone Spreader

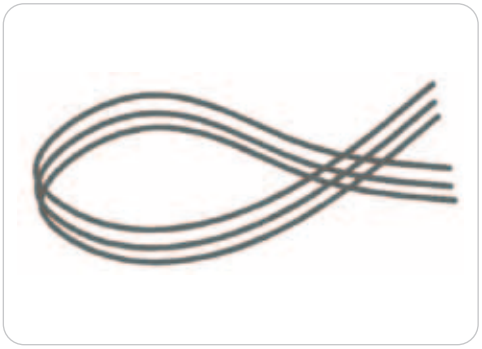
- Evenly spreads bone material after transplanting bone material to the site.
- After injecting 0.2 to 0.3cc use the spreader and add additional material
- Use at lower speeds: ~ 30rpm is recommended
- Comes in two diameters: ø 2.0 / ø 3.0
- Can be used with the Stopper feature
- The total length (head tip to stopper hilt) is 2.5mm longer other CAS-KIT tools

  Caution: When equipping this tool remember that the length is 2.5mm longer.



9) Hydraulic Lifter Tube

- Used with a syringe
- Reusable, sterilize in an autoclave.



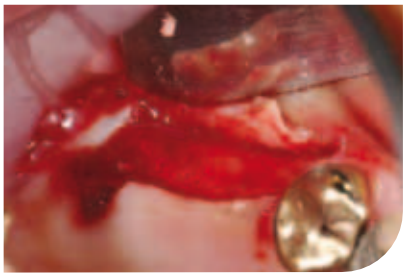
Clinical Indications & Case Study

1) #26, #27 Septum Case (F/36)

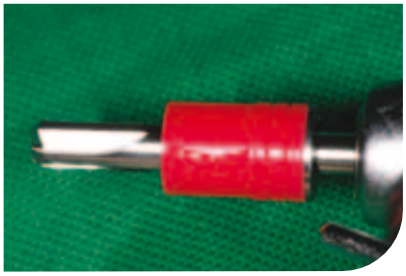
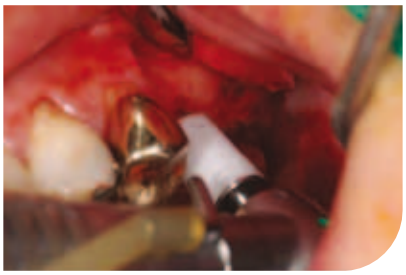
*Data source from: Professor Kim Gyeong-won from Chungbuk National Univ. Hospital

- #26 Septum Case
- The membrane is lifted 4~5mm and the remaining bone is about 5mm
  #26 GSII ø4.0 x 10mm
  #27 GSII ø4.5 x 10mm
  were implanted

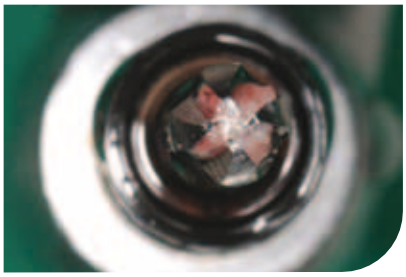

- ø2.0 Twist Drill
  Using a 3.0mm Stopper with the 2.0 Twist Drill, we are able to drill 3mm into the bone, confidently leaving 2mm of bone.




- ø2.8 → ø3.1 CAS-Drill (800rpm)
  A 5mm Stopper is used for the final drilling and lifting of the membrane.

- Membrane safely lifted
  A conical bone chip is formed and pushes up the membrane, with the assistance of bone particles formed during drilling.



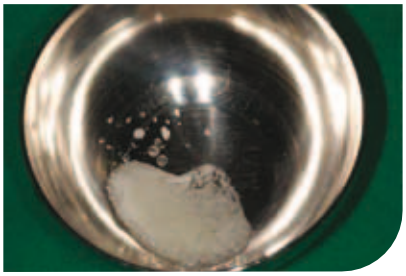

Clinical Indications & Case Study

1) #26, #27 Septum Case

• Depth Gauge
Confirm membrane lifting and measuring the bone thickness

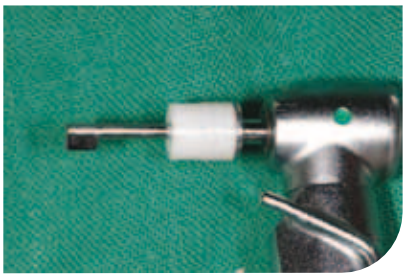
• Membrane Lift
The membrane is lifted by slowly injecting 0.30cc of saline solution using a 1cc syringe

• Bone Carrier
Osteoss Bone Powder 0.25cc is transplanted
A mix of Cortical 50%: Cancellous 50%



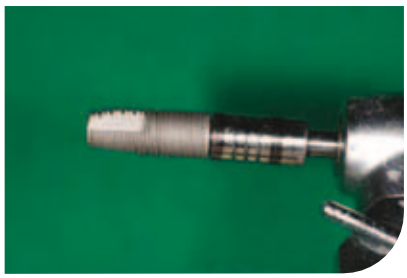
• Bone Condenser
Vertical compacting of the bone grafting material

• Bone Spreader
Evenly spread the bone grafting material at 10rpm of rotational speed

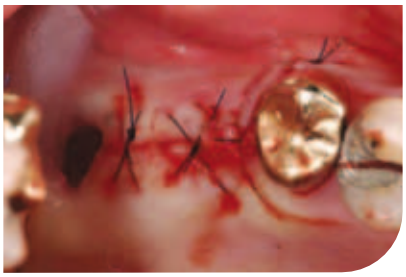


1) #26, #27 Septum Case

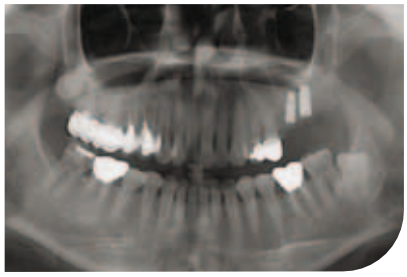
- Fixture implantation
  #26 GSII ø4.0 x 10mm implanted using 20 to 30Ncm

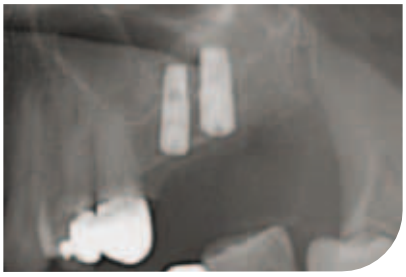


- Fixture implantation
  #27 GSII ø4.5 x 10mm implanted using 20 to 30Ncm



- Results
  #26, #27 Missing, a case with 6mm of bone remaining





Even though there was a Septum at #26, fixture implantation was successfully completed using the CAS-KIT to safely lift the membrane and establishing a secure implant site.

Clinical Indications & Case Study

2) #26 Missing Case

*Data source from: Dr. So, Gwang-seup; Mirae Dental Clinic

- USII ø4.0 x 11.5mm implant planning
  - Initiated using a ø2.0 Twist Drill
  - CAS-Drill at 800rpm
  - Membrane lifted with 0.25cc of saline solution
  - Bone Condenser 4~5mm lifting
  - Bone Spreader at 10rpm
  - Initial fixation force 36Ncm

3) #25 Hydraulic Lift Case

*Data source from: Dr. Jung, Gi-don; Bright Smile Dental Clinic

- TSIII ø4.5 x 10mm implant planning
  - Initiated using a ø2.0 Twist Drill
  - CAS-Drill at 800rpm
  - Membrane lifted with 0.30cc of saline solution
  - Bone Condenser: 4mm lifting
  - Bone Spreader at 30rpm

Surgical Procedure

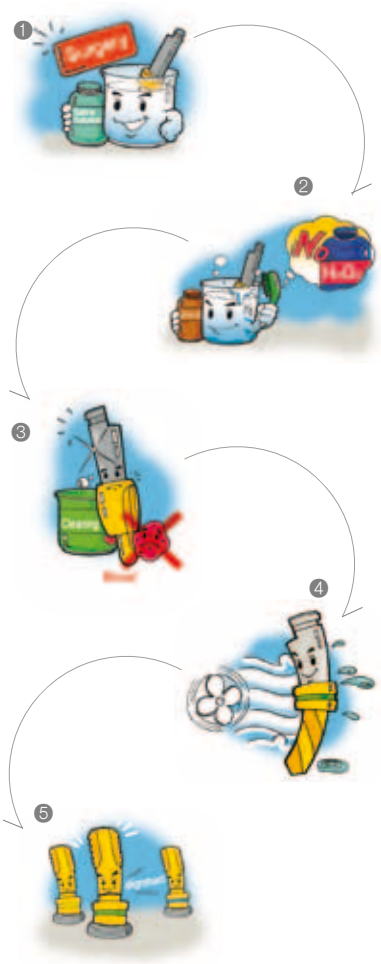
• The CAS-Drill design is optimized for Hiossen's HG III & OSSTEM's GS / TS III Fixtures. Use the matrix below to prepare for surgery. There are a few things that need to be taken into consideration; the diameter of the fixture, the height of the fixture apex protruding into the sinus floor, and the necessary force for a stable fixture. In the case of a general straight type fixture, use a CAS-Drill that is 1mm smaller in diameter than that of the fixture.

● : Required ● : Optional

Fixture selection		Twist Drill	CAS-Drill						Hydraulic Lift & Bone Condensing					CAS-Drill
			F ø 4.0		F ø 4.5		F ø 5.0							
Diameter(ø)	Fixture protruding height	ø 2.0	ø 2.8	ø 3.1	ø 3.3	ø 3.6	ø 3.8	ø 4.1	Depth Gauge	Hydraulic Lifter	Bone Carrier	Bone Condenser	Bone Spreader	Final
F ø 4.0	0~3 mm	●	●						●	●	●	●	●	● ø 3.3
	3~6 mm	●	●	●					●	●	●	●	●	–
F ø 4.5	0~3 mm	●	●		●				●	●	●	●	●	● ø 3.8
	3~6 mm	●	●	●		●			●	●	●	●	●	–
F ø 5.0	0~3 mm	●	●		●		●		●	●	●	●	●	● ø 4.1
	3~6 mm	●	●	●		●		●	●	●	●	●	●	–

CAS-KIT

CAS-KIT Care & Maintenance



① Prepare tools for surgery by soaking them in a “saline solution” or in “distilled water.”

② After surgery: All tools should be soaked in an “alcohol solution”.

Caution

- Avoid using Hydrogen Peroxide.
- Hydrogen Peroxide will discolor laser markings and anodized surfaces.

③ Tools should be cleaned thoroughly with distilled or tap water to wash away any remaining blood and foreign material.

④ Completely dry all tools using a dry cloth or warm air.

⑤ Dried tools should be stored in the KIT case.
(Please refer to the color coding when placing the tools back in the case)

⑥ After placing all the tools back into the kit, dry the entire kit in an Autoclave (132℃ for 15 minutes) and then store the kit at room temperature.

NOTES:
It is recommended to re-sterilize the surgical KIT right before surgery.
(132℃; for 15 minutes)
Immediately after surgery, all the tools should be cleaned and stored.
The CAS-KIT has a one year warranty on all parts & case.
The recommended usage of the drills is 50 times.

Crestal Approach Sinus-KIT

CAS-KIT

Edition 02/2013 EN

www.sinuskit.com

www.osstem.de

HIOSSEN

Manufacturer
HIOSSEN Inc.
85 Ben Fairless Dr
Fairless Hills, PA 19030, USA
TEL: 1-888-678-0001
FAX: 1-267-759-7004
www.hiossen.com

OSSTEM IMPLANT

Qualität schafft Vertrauen

Authorized Sales by
OSSTEM Germany GmbH
Mergenthalerallee 25
65760 Eschborn, Germany
Tel.: + 49 (0) 6196 777 550
Fax: +49 (0) 6196 777 5529
www.osstem.de • germany@osstem.de