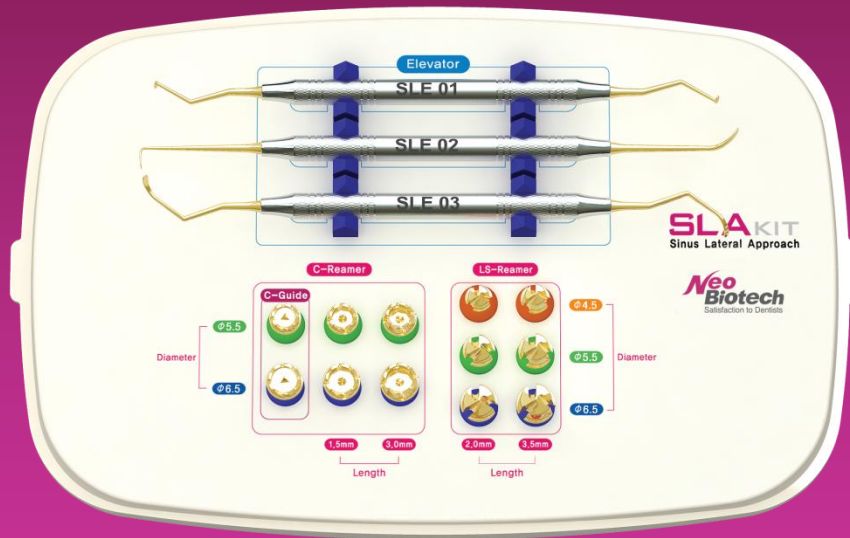


SLA Kit Sinus Crestal Approach Kit



Introduction

3S advantage of SLA Kit

SLA Kit Composition

Component(LS-Reamer)

Component(C-Guide)

Component(C-Reamer)

Component(Elevator)

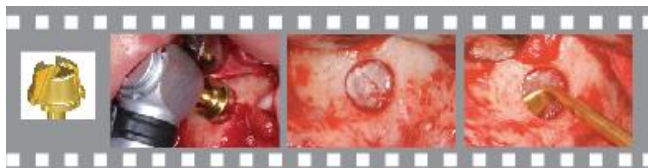
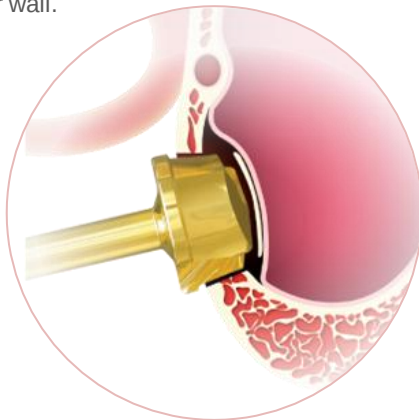
User Guide

Case Report 01

Case Report 02

Introduction

SCA Kit Lateral window technique is the formation of the access to the maxillary sinus through its lateral wall. The process using this tool is simpler and much comfortable than any other techniques. Above all, this surgical kit provides ultimate solutions for the cases of only having with a thin residual bone height which is difficult to approach with a crestal technique, membrane rupture by a sinus crestal approach or placing a multiple implants. In addition, Sla reamers can be easily adapted for the case of formation of minimum flap size on the inferior wall.



SLA technique resolves seven burdens of the existing sinus lateral approach.

1. Burden in having to extensively open flap
SLA-KIT allows surgical operation through small opening of flap.
2. Fear of forming a very large window
A safe approach is possible without forming big window.
3. Burden of having to use straight handpiece and round bur
There is no burden of having to use straight handpiece or round-bur and minimizes membrane damage while forming window.
4. Fear of artery bleeding when forming window
It's safe as surgical operation can be performed while observing whether or not there is an artery.
5. Fear of tearing membrane when forming window
Minimized the risk of membrane damage through the forming of special blade of reamer.
6. Concern for swelling and pain from extensive surgery
Swelling and pain drastically reduces through the minimization of operational time and scope.
7. Lack of confidence in membrane elevation
The self-developed three types of elevator safely and effectively lift membrane.

SLA kit is a product that's been developed to resolve these burdens.



3S Advantages of SLA Kit

Speedy

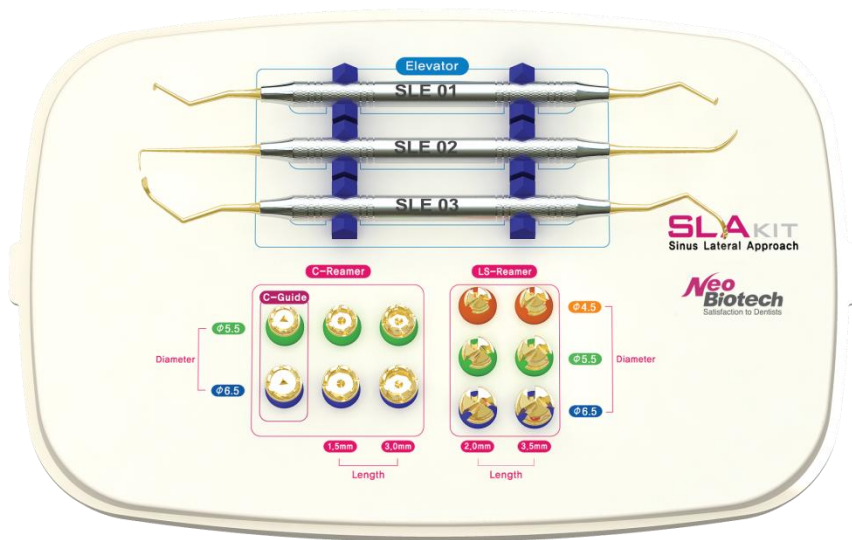
Using SLA, we can make $\varnothing 4\sim 6$ hole at once.

Safer

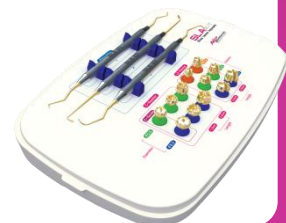
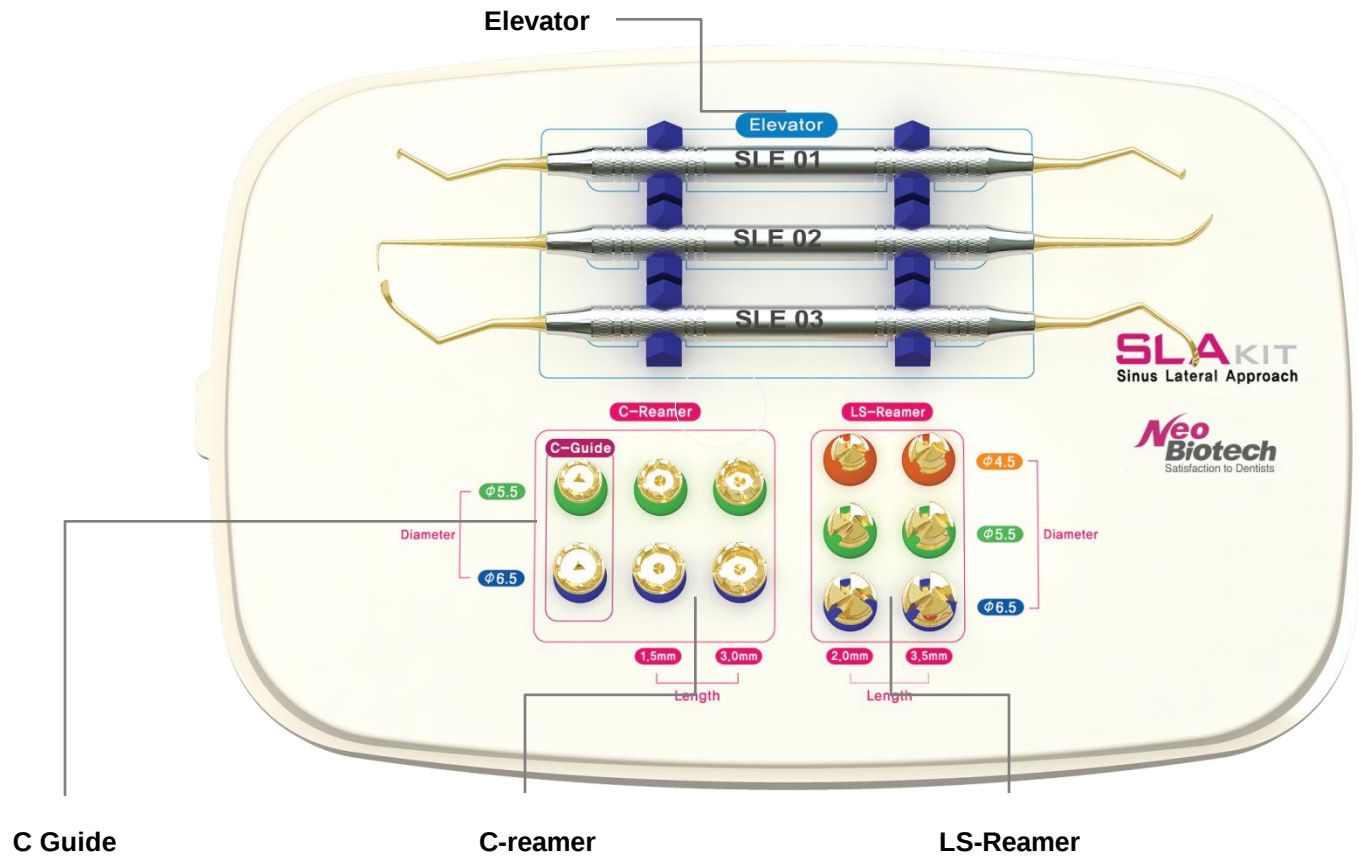
There is little possibility of tearing membrane by mistake..

Simpler

It is a very simple tool for everyone to operate on lateral wall.



SLA Kit Composition



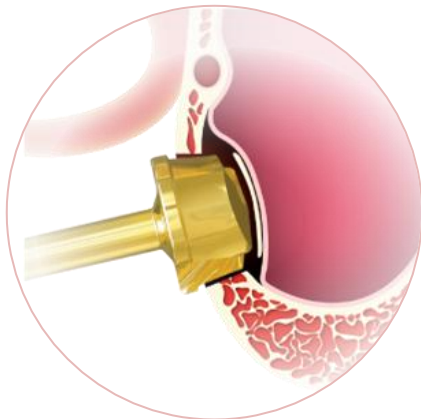
SLA Kit components

1. LS-Reamer

LS-Reamer is a kind of drill which approach lateral wall. It makes thin bone disk between reamer and sinus membrane. There are 6 types as shown in the table below.

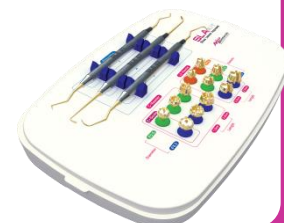
Length(mm)	Diameter(Φ)	product Name
2.0	4.5	SLS 420L
	5.5	SLS 520L
	6.5	SLS 620L
3.5	4.5	SLS 435L
	5.5	SLS 535L
	6.5	SLS 635L

Speed : 5,000RPM with 1:1 contra angle
2000RPM with 20:1 contra angle



◆ LS-Reamer's Merits & Features

1. It is very safe, because the tapered trunk of LS-reamer is designed to control the drilling depth without stopper.
2. The LS-reamer mounted on a handpiece can be operated with high speed at 2,000 ~ 5,000 rpm under the sufficient irrigation.
3. It protects sinus membrane, because LS-Reamer makes thin bone disk between reamer and sinus membrane.
4. The reamer filled with bone chip protects the membrane from tearing.
5. It provides the safe surgery because it is able to check an artery or septum etc. during the drilling through the lateral hole..



SLA Kit components



2. C-guide & C-reamer

* C-guide

It is a guide drill to make a position to use C-reamer.

Diameter(Φ)	product Name
5.5	SCG 510L
6.5	SCG 610L

Speed : 5,000RPM with 1:1 contra angle
2000RPM with 20:1 contra angle

• C-Reamer

The hollow spaced and tapered C-reamer can save the circular bone core disk from the lateral wall and to limit any abrupt movement of the reamer to forward direction, respectively. It is designed to provide a safe, speedy recovery, fast surgery and quick bone formation in the lateral hole..

Length(mm)	Diameter(Φ)	product Name
1.5	5.5	SLS 420L
	6.5	SLS 620L
3.0	5.5	SLS 435L
	6.5	SLS 635L

Speed : 5,000RPM with 1:1 contra angle
2000RPM with 20:1 contra angle



◆ C-Reamer's Merits & Features

1. The bone core disk can be saved after drilling being used as the window cover before suturing.
2. With the tapered trunk of the C-reamer, the drilling depth can be controlled without using stopper.
3. The C-reamer cutting edges are positioned on the head and side of the C-reamer. therefore, it provides the high drilling efficiency. Typically, C-reamer can be operated a speed at 2,000 rpm. It is recommended that the bone core disk should be removed using elevators not to be excessively stuck to the C-reamer hollow space.
4. The four holes formed on the side of C-reamer are to provide irrigation line not to overheat during the drilling process.



SLA Kit components

3. Sinus Membrane Elevator

The three elevators provided are designed to obtain a best angle and length for membrane elevation in buccal. These tools are used one after another in number.

1. Elevator 1

The elevator #1 is designed as the initial membrane elevation of mesial and distal, after making a lateral hole.



2. Elevator 2

The elevator #2 has two functions. At the one end, the "L" shape is used to detach the sinus membrane from a lower part of lateral wall. At the other end, another shape is used to elevate the sinus membrane from sinus floor, medial wall and posterior wall.



3. Elevator 3

This is designed to detach the membrane from the remaining part and deep site in sinus.



product Name

SLE 01

SLE 02

SLE 03

◆ Simultaneous applications with LS-reamer and C-reamer

As the LS & C-reamer was designed for maximum 3.5mm drilling depth of the lateral wall, the required drilling depth may have been thicker than the reamer's length. In this case, it is required to remove a 2 ~ 3mm thickness bone core disk with C-reamer with Ø6.5 in diameter 3.0mm in length, first. After removing the bone core disk by the chisel or periosteal elevator, then LS-reamer with Ø4.5 in diameter can be used to make a lateral hole to all the way to the sinus.



User Guide

1. Radiography : Get an accurate X-ray image of the residual bone height of the maxillary posterior area. It is necessary to get a CT image to obtain the detailed structure, artery status, and lateral wall thickness.

2. Choice of SLA : The SLA Kit is easily adapted to the cases of only 1 ~ 4mm of residual bone height, membrane tearing by the crestal approach, convex sinus floor or a number of implants placement.

3. Flap formation : It is often required to make only limited size of the lateral flap and vertical incision without forming a large flap. When approach the flapless surgery, a semilunar incision is good enough to form a lateral hole.

4. Choice of LS-Reamer : The LS-reamer can be used when it is required to care for the artery bleeding, septum existence on the drilling path or to make a lateral hole in the overlapped region of inferior cortical wall and cancellous bone layer. After bone grafting, the additional membrane may be needed to cover the hole.

5. Choice of C-reamer : The C-reamer's main purpose is to get the bone core disk from the lateral wall and to use as a cover of the lateral hole. If the bone core disk is not needed, you may select the LS-reamer to drill on the lateral wall.

6. Position of Lateral hole : A formation of lateral hole is preferred to be positioned on the most anterior and inferior site as possible to prevent the membrane tearing and to elevate the membrane effectively. If there is no possibility to reduce the residual bone strength caused by drilling, it is recommended to make a lateral hole on the spot containing about 1mm inferior cortical wall.

7. Rotation Speed : To take an initial drilling position on the lateral wall, the drilling speed with 5,000 ~ 10,000rpm is required by the 1:1 contra-angle. If the reamer is mounted on 20:1 contra angle, drilling should be performed with a firm grip and vertical force on a handpiece to get a good stability.

8. Hole formation with LS reamer : The LS-reamer is requested to drill until the lateral wall is completely perforated. At this moment, the remaining thin bone layer, called Residual Bone Shield, will be formed, which may prevent the membrane tearing. When the artery appears during drilling in sinus, the other lateral approach at the lower site is recommended to make another lateral hole.

9. Hole formation with LS reamer : The C-reamer is designed to be safe when it is in contact with sinus membrane. However, since C-reamer has the blade on the head of the reamer, it is relatively less safe than the LS-reamer. Therefore, when the thickness of the perforated lateral wall is more than 3mm, the bone core can be removed by chisel or periosteal elevator through lever action. Then the remained portion of the lateral wall can be finished by the LS-reamer.
No attempt should be made to remove the bone core disk by C-reamer all the way to the sinus. Keep the bone core in the wet gauze or saline solution and cover the hole after finishing the graft.

10. Sinus Membrane Elevator : As mentioned on the above, use the elevator #1 ~ 3 in order to achieve membrane elevation.

11. Graft material insertion & implant insertion : Graft the bone material and place implant into the hole.

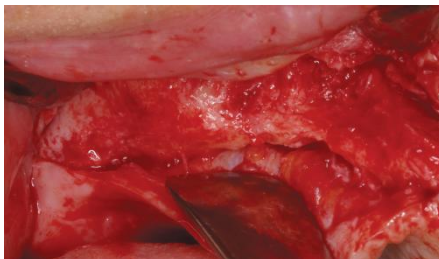


Case reports

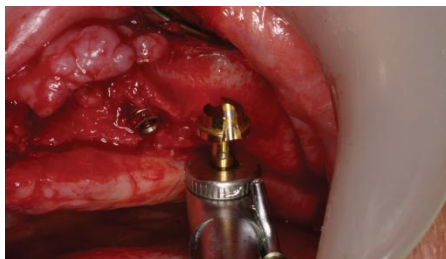
Case 1. Residual bone height of 2~3mm



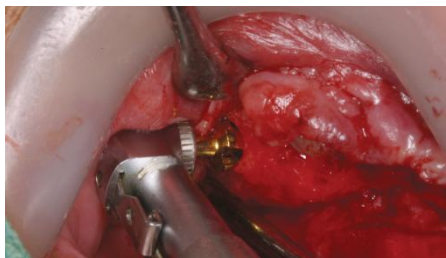
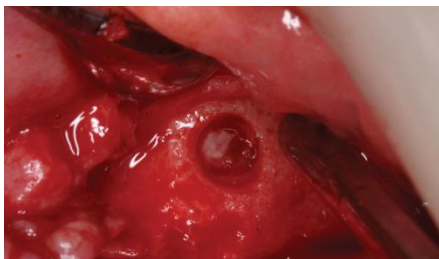
1. The residual bone height was approximately 2~3mm on #15, 16 & 26 sites. The six implants will be placed by lateral approach.



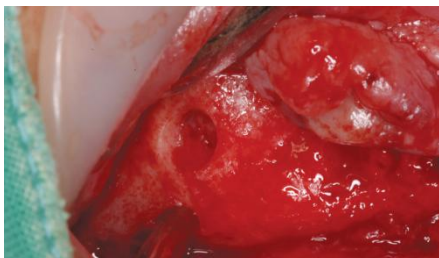
2. Make a minimal flap that is good enough to perform lateral window opening.



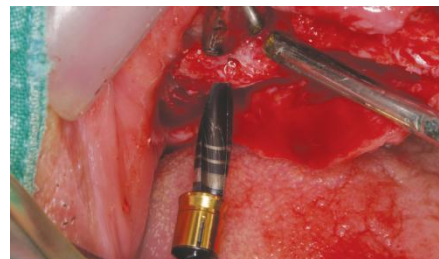
3. The lateral hole was made by LS-reamer on the upper side of inferior cortical wall on the #26 site. The thin bone disk formed was separated from the membrane..



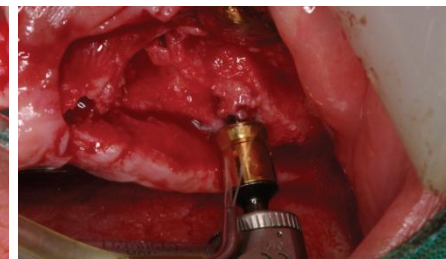
4. The lateral hole was also made by LS-reamer on the #16 site.



5. After elevating the membrane, place the bone graft material with a ratio 1:1 of Regenoss and Calpore using a syringe



6. If the bone density is D3 - D4, the underdrilling is required.

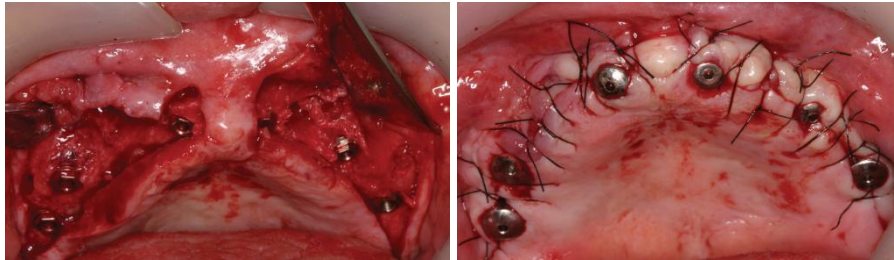


7. Place the Neo CMI Implant EB511 of an external implant which has a good initial stability.

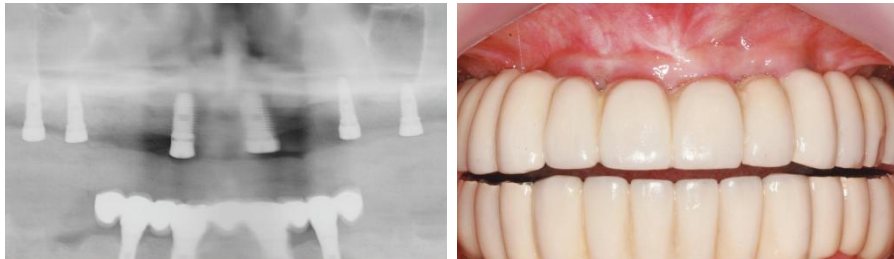


Case reports

Case 1. Residual bone height of 2~3mm



8. After implantation of six fixtures with 30Ncm initial stability the one stage approach will be applied.



9. Complete prosthetics.

10. Finished loading prosthesis

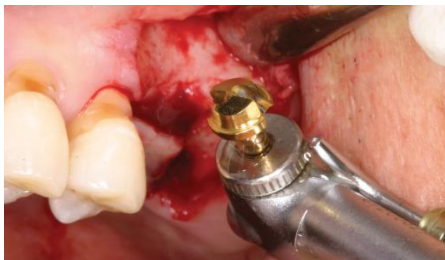


Case reports

Case 2. Extraction of Second molar and lateral approach



1. Picture about the implant of maxilla molar on the left side and picture of patient required bone graft in maxillary sinus.



2. Picture after the formation of gingival incision.



3. Formation of bone hall with LS-reamer.



4. Lifting maxillary sinus membrane through the bone hall with LS-reamer and bone disk.



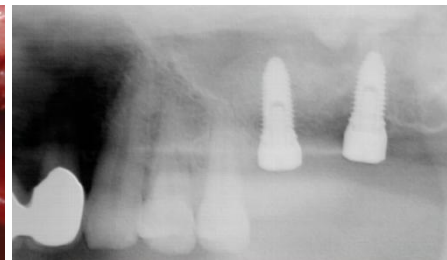
5. Picture after lifting maxillary sinus membrane with micro elevator. Instrumentation is very safe due to bone disk.



6. Bone graft into the sinus through the bone hall.



7. Process of implant after the bone graft. Neo CMI Implant 5x10 was implanted.



8. Picture after implant in the maxillary sinus..



9. Picture after installation of prosthetics.



10. Complete prosthetics.