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DIONavi. Surgical Instrument

DIONavi. surgical instruments guarantee superior cutting force and durability. It is fully optimized for flapless surgery.

**DIONavi. Master Kit**
Order Code: _UF(M) 05_
UF(M) Fixture Ø3.0 / Ø3.3 / Ø3.8 / Ø4.0 / Ø4.5 / Ø5.0
Exclusive kit for a flapless surgery

**DIONavi. Narrow Kit**
Order Code: _UF 14_
UF(M) Fixture Ø3.0 / Ø3.3

**DIONavi. Surgical Guide Fix / Anchor Kit**
Order Code: _SGF 02_
Connect Guide Fix on fixture after placing implant and insert Fix Pin after initial drilling or use Anchor Screw to fix surgical guide in edentulous cases or free-end case

**DIONavi. Flapless Crestal Sinus Kit**
Order Code: _SMK 02_
This kit supports flapless sinus surgery (Crestal approach only)
What is DIOnavi?

DIOnavi. Digital Implant System increases the accuracy of the implant placement through implant planning that considers both occlusion and stress diversion and it can also be useful in patient consultation with 3D simulation.

With the highest accuracy and the stability

DIOnavi. Digital Implant System increases the accuracy of the implant placement through implant planning that considers both occlusion and stress diversion and it can also be useful in patient consultation with 3D simulation.

Crown is designed first on the exact location, and then fixture is placed below; therefore the implant can withstand the high load, and it is advantageous for abutment selection and maintenance.

It may be difficult to disperse loading which may lead to fractured prosthetics or implant failure since it is difficult to line up the center of the implant and the crown.
DIOnavi. One-Step Protocol

Confirm diagnosis

CBCT DATA & TRIOS SCAN DATA transmission

SIMULATION DATA transmission

- 5 working days after confirmation -
**DIOnavi. Master Kit**  
Order Code_ UF(M) 05

Outstanding cutting forces and durability.  
Available for UF(II) System
1 **Tissue Punch**
Stable gingiva removal is possible with a fixed blade inside the tissue punch (Flapless Surgery)

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2 **Bone Flattening Drill**
Flattens uneven alveolar bone surface and removes gingiva residue

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<td>Code</td>
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3 **Guide Drill**
Forms a hole on the bone to facilitate initial drilling

4 **Initial Drill**
Forms a hole (ostectomy site) on the cortical bone

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<td>Code</td>
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5 **Final Drill**
Expands the drill hole until final drilling

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6 **Profile Drill**
Prevents excessive torque by expanding the cortical bone on the D1 and D2 bone

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* Optional items
**Tap Drill**
Prevents excessive torque on the D1 and D2 bone

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* Optional items

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**Abutment Profile Drill**
Forms an emergency profile after removing the cortical bone when placing the abutment

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<td>Unit: mm</td>
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**Implant Connector**
Place an implant in accordance with the pre-planned fixture depth and inner hex direction

- **UFII Narrow**: Recommended number of uses is 20 times.
- **Caution**: Do not make a torque value over 50Ncm

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**Drill Tube**
To fix the guide drill and the initial drill with stability

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* Optional items

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**Ratchet Wrench**
To place the fixture with an implant connector

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<td>CE 6508M</td>
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**Drill Extension**
To extend a neck of drill.

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**Connector Extension**
To extend the connector length during implant placement

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Unit: mm
Point Straight Drill & Drill Tube

This drill keeps the right drilling path when you use an initial drill on immediate extraction socket area.

※ Recommended drilling RPM is 1200 and must irrigate while drilling.

**Surgical Protocol**

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<thead>
<tr>
<th>Tissue Punch</th>
<th>Bone Flattening Drill</th>
<th>Guide Drill (Ø2.0)</th>
<th>Initial Drill (Ø2.0)</th>
<th>Final Drill</th>
<th>Profile Drill</th>
<th>Tap Drill</th>
<th>Abutment Profile Drill</th>
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Overcome the limitation of maxillary anterior placement through the plan.

Dr. Dong, Do-eun

After UF(H) HSA implant placement, with GBR grafting Bio-Oss and transplanting connective tissue at the same time it retains soft-tissue and hard-tissue of labio. SCRP type final prosthesis using full zirconia crown.

**DiOnavi. surgery procedure**

1) Patient visits after extraction of tooth at other clinic
2) Surgical guide placement
3) Zirconia Abutment tightening
4) Provisional restoration placement

Final prosthesis placement (after 3 months)
Immediate implant placement after extraction with minimal insicion and bone grafting

Dr. Lee, Hyang-ryeon

[75 years old, Female]
Maxilla #23, 24, 26 and 27 with 5 unit bridge. Patient was aware that #23, 24 should be extracted but mainly concerned about removal of the bridge and missing #23,24 for the duration of healing process.

DIOnavi. surgery procedure

1) Sitting of surgical guide and removal of soft tissue with tissue punch
2) Connect the healing abutment and proceed with bone grafting in the extraction socket.
3) Customized Abutment & provisional crown setting
4) Provisional crown setting
5) Provisional crown after 1 week of surgery
**DIONavi. Narrow Surgical Kit**  Order Code: UF 14

Outstanding cutting forces and durability.
Available for UF(II) Narrow system

- Tissue Punch
- Bone Flattening Drill
- Drill Tube
- 5mm Guide Drill
- Initial Drill
- Profile Drill
- Implant Connector
- Connector Extension
- Final Drill Ø2.5
- Final Drill Ø2.7
- Final Drill Ø3.0
- Profile Drill
- Abutment Profile Drill
- Ratchet Wrench
**Digital Implant No.1 DIO**

1. **Tissue Punch**
   Stable gingiva removal is possible with a fixed blade inside the tissue punch (Flapless Surgery)

   ![Tissue Punch Diagram](image1)

   - **Product Code**
     - Diameter: Ø3.0
     - Code: GTP 3430
     - Unit: mm

2. **Bone Flattening Drill**
   Flattens uneven alveolar bone surface and removes gingiva residue

   ![Bone Flattening Drill Diagram](image2)

   - **Product Code**
     - Diameter: Ø2.0
     - Code: UBD 33430
     - Unit: mm

3. **Guide Drill**
   Forms a hole on the bone to facilitate initial drilling

   ![Guide Drill Diagram](image3)

   - **Product Code**
     - Diameter: Ø2.0
     - Code: USD 2505N
     - Unit: mm

4. **Initial Drill**
   Forms a hole (osteotomy site) on the cortical bone

   ![Initial Drill Diagram](image4)

   - **Product Code**
     - Diameter: Ø2.0
     - Length: 7, 8.5, 10, 11.5, 13, 15
     - Unit: mm

5. **Tap Drill**
   Prevents excessive torque on the D1 and D2 bone

   ![Tap Drill Diagram](image5)

   - **Product Code**
     - Diameter: Ø2.0
     - Length: 7, 8.5, 10, 11.5, 13, 15
     - Unit: mm

6. **Final Drill**
   Expands the drill hole until final drilling

   ![Final Drill Diagram](image6)

   - **Product Code**
     - Diameter: Ø2.5
     - Length: 7, 8.5, 10, 11.5, 13, 15
     - Unit: mm
**Profile Drill**
Prevents excessive torque by expanding the cortical bone on the D1 and D2 bone

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<th>Diameter</th>
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**Abutment Profile Drill**
Forms an emergency profile after removing the cortical bone when placing the abutment

**Implant Connector**
To place an implant in accordance with the pre-planned fixture depth and inner hex direction

<table>
<thead>
<tr>
<th>Length</th>
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**Drill Tube**
To fix the initial drill without shaking motion

**Ratchet Wrench**
To place the fixture with the use of an implant connector

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**Surgical Protocol**

<table>
<thead>
<tr>
<th>Bone Density</th>
<th>Tissue Punch</th>
<th>Bone Flattening Drill</th>
<th>Guide Drill (Ø2.0)</th>
<th>Initial Drill (Ø2.0)</th>
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<td></td>
</tr>
<tr>
<td>Medium</td>
<td>▶</td>
<td></td>
<td>▶</td>
<td></td>
<td>▶</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hard</td>
<td>▶</td>
<td></td>
<td>▶</td>
<td></td>
<td>▶</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Minimally invasive implant placement with DIONavi.

Dr. Kang, Jaeseok

[Female, 49 years old]  Maxillary anterior bridge / Insufficient remaining bone / Scared at Implant surgery

After DIONavi. surgery, planning temporary prosthetic considering aesthetic factor on the day of surgery.

#12 Extraction and Implant placement / Bone width 4.5mm → UF(II) Narrow Ø3.3 Fixture

#21 Implant placement and fitting temporary prosthetic / Bone width 4.5mm → UF(II) Narrow Ø3.3 Fixture

DIONavi. Surgery procedure

1) Removal of bridge and extraction #12 tooth

2,3) Surgical guide, customized abutment and provisional crown are designed based on CT scan data & Trios scan data

4) Use bone flatter drill after fitting surgical guide for the narrow alveolar bone

5) UF(II) 3313S fixture (insertion)

6) Customized abutment (tightening)

Completed prosthetics on the day of surgery
Flapless Crestal Sinus Kit Order Code: SMK 02
This kit enables flapless maxillary sinus surgery by crestal approach.

- Ø2.0 Initial Drill
- Ø2.7 Straight Drill
- Ø3.2 Sinus Drill
- Membrane Lifter (One time use only)
- Square Wrench
- Depth Gauge & Bone Condenser
- Stopper
- Syringe
- Tube
1 **Ø2.0 Initial Drill**
Forms a guide hole for an initial drill penetration. Always use with stopper.

2 **Ø2.7 Straight Drill**
Expands a drill hole before using a round drill. Always use with stopper.

3 **Membrane Lifter**
Water pressure method with a saline solution. 
- One time use only

4 **Ø3.2 Sinus Drill**
The end of the drill is designed in a round shape not to damage the maxillary sinus membrane. Always use with stopper, and low speed (50rpm).

5 **Depth Gauge & Bone Condenser**
- Checks if sinus membrane has been opened
- To insert bone grafting materials to the sinus through the drill hole. Always use with stopper.

6 **Stopper**
Must use stopper to adjust drill depth. Stopper depth is laser marked and color coded with anodizing color per length.

**Syringe**
Capacity: 5ml/cc,
Gradation in size: 0.2ml/cc
- One time use only

**Tube**
Translucence silicone.
Outside(Ø4.0), Inside(Ø2.0), Length(300mm)
- One time use only

▶ Buy syringe and tube considering surgery case
**Cleaning and anesthesia**

Spit out the 0.12% chlorhexidine solution after holding it in the mouth for about a minute. Rub the surgery area and the surrounding area with gauze dipped in 0.12% chlorhexidine solution and rinse off.

**Important** It must be cleansed because the implant surface touches the tissue during placement.

**Caution** Do not sterilize the surgical guide in an autoclave because it can be mutated by heat but by leaving it in the solution of 70% alcohol and 0.12% chlorhexidine mixed in a 9:1 ratio for 20 minutes. It may mutate the resin if it is left in the solution for too long.

**Surgical guide sitting**

Correctly sit the surgical guide/ guide sleeve in mouth

**Gingiva removal** Tissue Punch

Remove the gingiva using the tissue punch until it reaches the bone level

**Bone Flattening**

Use bone flattening Drill on uneven alveolar bone to ease next drilling process.

**Important** Drilling in accordance with sleeve offset value.

**Drilling** Initial Drill / Straight Drill

After early drilling with initial drill. Expand the drill hole with straight drill. The depth of the drill is based on the bone thickness below the maxillary sinus. Drill just before puncturing the maxillary sinus.

**Caution** Always use stopper with low speed drilling (50rpm)

<table>
<thead>
<tr>
<th>Section Length (mm)</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stopper Marking</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Drill Ø2.0 / Ø2.7</td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Sinus Drill Ø3.2</td>
<td>5</td>
<td>4</td>
<td>3</td>
</tr>
</tbody>
</table>

* please refer to page 20 for a detailed protocol

**Maxillary sinus puncture** Sinus Drill

Drill 2mm deeper

**Important** Always use a stopper when adjusting the depth. Low speed drilling (50rpm)

**Note** For a sinus drill, you can adjust the depth by both the stopper and the drill length.
Sinus membrane lift  Membrane Lifter

Remove the surgical guide and inject the saline solution into the drill hole using the membrane lifter.

**Caution**
Inject 0.4cc after you feel the pressure.
(excluding the initial amount of 0.2~0.5cc)

**Note**
※ Case where sinus bone(A) is opened well
You can feel the pressure when injecting the saline solution and after the membrane is lifted, the pressure drops and saline is injected in the space.
※ Case where sinus bone(A) is not opened well
After you feel the pressure, the nozzle is pushed out and no more pressure can be forced.
→ Make a second attempt after drilling 1mm deeper with a sinus drill & Stopper.
Perform saline aspiration with a nozzle still in the hole.
If negative pressure can be felt after the injected saline and blood mix together to form an aspiration, the membrane is safely lifted.

Sinus bone expansion  Sinus Drill (2nd)

After lifting the sinus membrane, drill 1mm deeper with a sinus drill to expand the entrance to the sinus.

**Caution** Always use a stopper to adjust the depth

**Note**
Spongy type bone graft material recommended for DIOnavi.
In the case of immediate placement after bone graft, implant helps to keep the space inside the sinus with the spongy type bone graft material and promotes bone formation.

### Decide on the volume of bone graft material

<table>
<thead>
<tr>
<th>Sinus membrane lift height</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone graft GBR (CC)</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3</td>
<td>0.4</td>
<td>0.5</td>
<td>0.6</td>
<td>0.7</td>
<td>0.8</td>
<td>0.9</td>
<td>1.0</td>
</tr>
<tr>
<td>For immediate implant placement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For delayed implant placement</td>
<td>0.3</td>
<td>0.6</td>
<td>0.9</td>
<td>1.2</td>
<td>1.5</td>
<td>1.8</td>
<td>2.1</td>
<td>2.4</td>
<td>2.7</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Inject bone graft material  Bone condenser

By using only a bone condenser without the use of a surgical guide, inject the bone graft materials into the drill hole up into the sinus.

**Caution** Always use a stopper to adjust the depth

**Note**
Spongy type bone graft material recommended for DIOnavi.
During this process, bone materials are diffused.

Final Drilling  Final Drill

After lifting the sinus membrane, drill 2mm deeper with a sinus drill and expand the entrance of the sinus bone.

**Note**
During this process, bone materials are diffused.

Implant placement

Place the implant using a surgical guide
The implant that entered the sinus, disperses the bone graft materials.
If the amount of remaining bone is more than 4mm, initial fixation can be achieved, and temporary prosthetic can be placed after immediate placement.

**Caution**
If the remaining bone is very thin – less than 3mm – and initial fixation cannot be achieved, only perform sinus bone graft and do not proceed immediate implant placement.
Surgical protocol up to sinus bone expansion based on the length from the top of the sleeve to the sinus.

**Caution**: Please check the planning file closely before surgery and follow the protocol guide during surgery.

<table>
<thead>
<tr>
<th>Length (mm)</th>
<th>10.5mm</th>
<th>11.5mm</th>
<th>12.5mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sinus Bone</td>
<td>Approach to inferior border</td>
<td>Opening</td>
<td>Penetrating</td>
</tr>
<tr>
<td>Gingiva</td>
<td>12mm</td>
<td>13mm</td>
<td>14mm</td>
</tr>
</tbody>
</table>

**Additional Drilling**

- When it is not opened (Stopper 3mm)

---

**Tissue Punch**

You should be aware of offset value when drilling.

**Initial Drill Ø2.0×17mm + Drill Tube**

- Straight Drill Ø2.7×17mm
- Sinus Drill Ø3.2×17mm

**Membrane Lifter**

Inject 0.4-0.5cc of saline.

**Bone Condenser**

Inject bone materials.

**Flapless Crestal Sinus Kit Protocol**

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**Surgical protocol up to sinus bone expansion based on the length from the top of the sleeve to the sinus.**

- **Sinus Bone**
- **Gingiva**
- **Surgical guide + Guide sleeve**

---

**Note:**

- Please check the planning file closely before surgery and follow the protocol guide during surgery.

---

**Additional Drilling**

- When it is not opened (Stopper 3mm)

---

**Bone Flattening Drill**

You should be aware of offset value when drilling.
Edentulous implant surgery with maxillary sinus lift
Dr. Hyunrak Son

[ Male, 66 years old] Complete denture on maxilla, and it has been in use for more than 10 years. Placed 6 implants and planned the over-denture which doesn’t cover the plate. Reason being, there can be an esthetic issue with soft tissue due to absorption of anterior bone cause by the fixed prosthesis.

#16, 26 UF(II) ø5.0 X 10.0 mm Fixture Insertion, #26 is done with maxillary sinus lift
#14, 24 UF(II) ø4.5 X 10.0 mm Fixture | #12, 22 UF(II) ø3.8 X 11.5 mm Fixture

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DIONavi. Flapless Crestal Sinus KIT I Clinical Case

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DIONavi. Surgery procedure

#26 Flapless maxillary sinus lift surgery
- Sinus Drill 15mm
- Bone Condenser 11mm
※ CT data: Surgery Plan vs After Surgery

- #16: UF(II) HSA ø5.0 X 10.0 mm
- #14: UF(II) HSA ø4.5 X 10.0 mm
- #12: UF(II) HSA ø3.8 X 11.5 mm
- #22: UF(II) HSA ø3.8 X 11.5 mm
- #24: UF(II) HSA ø4.5 X 10.0 mm
- #26: UF(II) HSA ø5.0 X 10.0 mm

※ Right after surgery
Connect **Guide Fix** or fixture after placing implant and insert **Fix Pin** after initial drilling or use **Anchor Screw** to fix surgical guide in edentulous cases or free-end case.
1 Surgical Guide Fix Pin
Use Guide Fix Pin after drilling ø2.0 to fix the surgical guide.

- Product Code
  Code: SGFP 2008

Subject of advice
※ Using Bone Flattening Drill can reduce interference between bone and gingiva.
※ Regardless of offset, it is used after ø2.0x8.5mm drilling.

2 Surgical Guide Fix
This is connected with implant fixture to fix the surgical guide. Color coded with offset value.

- Product Code
  Offset | Code
  9     | SGF 6309
  10.5  | SGF 6310
  12    | SGF 6312
  Unit: mm

3 Drill Tube
Drill tube minimizes deviation during the guide/initial drilling process.

- Product Code
  Code: UDT 20

4 Anchor Drill
Make a hole for an anchor

- Product Code
  Code: AD 2015

5 Anchor Screw Driver
Use only for anchor screw

- Product Code
  Code: ASD 2513

6 Anchor Screw
Anchor screw directly fix the surgical guide to gingiva

- Product Code
  Length | Ø1.5
  11     | ASC 1511
  13     | ASC 1515
  Unit: mm
Edentulous & immediate loading case considering final prosthesis overbite

Dr. Chung, Dong-keun

He has been wearing dentures for quite a long time. #34, #35 was affected by bone resorption and periodontitis. After extraction of #42, 34, 35, total of 8 implant fixtures were placed on the positions. Provisional crowns were delivered.

Use of Fix Guides in edentulous cases and check the accurate initial drilling.

By using Fix Pins, make sure the surgical guides are “FIXED” well and also check the accuracy of initial drilling. When the upper part of Fix Pin does not contact with lower part of the guide, it means that the path of initial drilling is inaccurate. By modifying the initial drilling, it will increase not only the accuracy of the surgery but also will increase the predictability.

In this case, place the Fix Pin (tripodism) after initially drilling on the anterior (#31,#41) and on the molar (#36,#46) and proceed with fixture placements on premolars (#34,#44), and molars (#36,#46) and connect the Guide Fix on the fixture for more accurate procedure.
Immediate implant placement with consideration of final prosthesis.

Dr. Lee Dong-ho

He was suffering from periodontitis on maxillary anterior site. There’s extraction of #12–#22, and placed 3 implants on #13, #11, #22. Provisional crowns are connected on the day of surgery.

**Pre-operational panorama**

**Extraction of #12, 11, 21, 22 and implant placement on #12, 11, 22.**

**Implant Planning**

**#13 UFIIHSA Implant 3.8×11.5mm**

**#11 UFIIHSA Implant 3.8×11.5mm**

**#22 UFIIHSA Implant 3.8×11.5mm**

**Procedure using Surgical Guide Fix / Anchor**

1) With mobility of adjacent teeth, do initial drilling on #13 which has healed ridge and fix the surgical guide with Fix Pin.

2) Place a fixture on #11

3) Connect the Guide Fix with implant fixture on #22

4) Removed Fix Pin on #13 and place the implant

5) Provisional crowns are connected
General Principles of surgical tool management

01 Because all surgical tools are provided in a non-sterile condition, they must be cleansed and sterilized before using.

Caution
Wrong cleansing and sterilizing process causes corrosion and damage to the tools and if used directly, it may be the cause of 2nd infection.

02 The recommended number of use of a drill is 20~30 times based on the bone status, and it must be replaced if the blade has been damaged or transformed.

Caution
If damaged drill is used, Heat Necrosis may occur

03 When managing the surgical tool, one must wear a mask and a glove to prevent infection.

Before sterilization

01 To prevent contaminants such as blood, tissue cell or bone residue from attaching to the surface of the instruments, the instruments must be immersed in an antiseptic solution right after use.

02 When using antiseptic solution, to prevent corrosion or bronzing, one must follow directions given by the manufacturer of the concentration of the antiseptic and the duration of the instrument immersion in the antiseptic.

Check
Concentration: completely liquefy the concentrate before placing the instruments in the antiseptic solution.
Immersion Duration: The instruments must not be immersed more than a day

03 The instruments must be fully immersed in the antiseptic solution.

04 For a decrease in sterilizing power and to prevent corrosion, the antiseptic solution must be replaced every day.

Before rinse

To prevent protein from clotting in 45 degrees temperature Celsius, the instruments must be rinsed in running cold water.

Caution
Cleanse the instruments right after preliminary rinse

1 Sterilization

01 Must only use antiseptic solution that is FDA and CE approved, and you must follow the manufacturer's directions

02 When cleansing metal instruments, corrosion free antiseptic solution and cleansing product use is recommended.

03 For safety, one must always wear personal protection gear such as gloves, glasses, and masks.

04 The user has an obligation to be responsible for the sterilization and management of the instrument.

05 Restriction and limitation of the instrument reuse:
- With repetition of cleansing, the life expectancy of all instruments will decrease. If the instruments show corrosion, transformation or discoloring of the marking area, it means that they have exceeded the safety criteria that is required for use.
- Product with a disposable mark cannot be reused.
- Tungsten carbide burs, plastic composition and NiTi instruments can be damaged with hydrogen peroxide, and aluminum material instruments can be damaged by caustic soda solution.
- Acid solution (pH < 6) and alkaline solution (pH > 8) must not be used.

2 Cleanse / Dry

01 Contaminants must be completely removed using a soft brush. Do not use a wire brush or stainless material brush, and do not put too much pressure.

02 Immerse the products in the antiseptic solution of their characteristics and clean with an ultrasonic cleaner. However, do not clean the different materials together. Also, when immersing the instruments in the ultrasonic cleaner, make sure that the instruments do not touch each other.

03 Make sure that debris is not seen with the naked eye.
- Products that are fractured or transformed must be discarded.
- One should follow the recommendations for the level of concentration or the length of time provided by the manufacturer.
- The antiseptic solution must not include aldehyde, di- or tri-ethanolamines component to control the corrosion.
01 Contaminants must be completely removed using a soft brush. Do not use a wire brush or stainless material brush, and do not put too much pressure.

02 Immerse the products in the antiseptic solution of their characteristics and clean with an ultrasonic cleaner. However, do not clean the different materials together. Also, when immersing the instruments in the ultrasonic cleaner, make sure that the instruments do not touch each other.

03 Make sure that debris is not seen with the naked eye.
- Products that are fractured or transformed must be discarded.
- One should follow the recommendations for the level of concentration or the length of time provided by the manufacturer.
- The antiseptic solution must not include aldehyde, di- or tri-ethanolamines component to control the corrosion.

04 After cleaning, the products must be rinsed with distilled water or deionized water for at least a minute. If the antiseptic solution contains corrosion inhibitor, rinsing before placing in the sterilizer is recommended.

05 To prevent corrosion or water stain on the instruments, completely dry with a dryer or filtered compressed air.

06 To prevent corrosion, decrease in sterilizing power, and contamination, antiseptic must be supplemented every day.

\[\text{Check}\]
Check on the instruments for faults (fracture, transformation, or corrosion). If necessary, assemble the instruments.
Contaminated instruments must be cleansed or disinfected. Transformations that may affect the safety, performance or tolerance of the instruments; in other words, bent, damaged (fractured, corroded), or faulty products (discoloration of marking area, Loss) must be destroyed.

\[\text{Packaging}\]
01 Check on the dry status of the instruments and pack in the sterilized wrapping paper.

02 On the sterilized wrapping paper, attach a direction tape to check the date of sterilization. Check on the expiration date on the sterilized wrapping paper. Wrapping paper must be able to withstand up to 141 degrees that coincides with the EN ISO 11607.

\[\text{Pasteurization}\]
01 Pasteurization process must follow the sterilizer equipment manufacturer. ◉ 4 – 18 minutes in 134°C for autoclave sterilization

02 Instruments and plastic components must be sterilized based on their packaging label.
- Sterilizer must coincide with the requirements of EN 13060 and EN285.
- Sterilization process must regard the ISO 11607.
- One must follow the sterilization process and maintenance process of the sterilizer provided by the manufacturer.
- Efficiency management (Proper packaging, no humidity, change in color of the sterilization dashboard)

\[\text{Caution}\]
If the instruments are not properly rinsed, residue is left behind, or is not properly dried, the sterilization process might discolor or corrode the instruments, and therefore the whole process must be gone through again.

\[\text{Caution}\]
Corrosion may start if debris such as blood stain or bone residue is not completely removed. They must be cleansed right after use and the debris must be completely removed when cleaning.