

# PROSTHETIC PROCEDURE

Surgical & Prosthetic Components of IS System  
Impression Technique  
IS Abutments & Prosthetic Procedure

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## Chapter 1. Surgical & Prosthetic Components of IS System- 5

- I. IS Fixture
- II. IS Cover Screw
- III. IS Healing Abutment
- IV. IS Impression Coping
- V. Lab Analog

I. IS Fixture

1. IS

Classification	Dia.(Ø)	Length				
		7.3 mm	8.5 mm	10 mm	11.5 mm	13 mm
Narrow	Ø 3.5		IS308	IS310	IS311	IS313
Regular	Ø 4.0	IS407	IS408	IS410	IS411	IS413
	Ø 4.5	IS4507	IS4508	IS4510	IS4511	IS4513
Wide	Ø 5.0	IS507	IS508	IS510	IS511	IS513
S-Wide	Ø 5.5	IS5507	IS5508	IS5510	IS5511	IS5513
	Ø 6.0	IS607	IS608	IS610	IS611	IS613
	Ø 7.0	IS707	IS708	IS710	IS711	IS713

2. IS-II

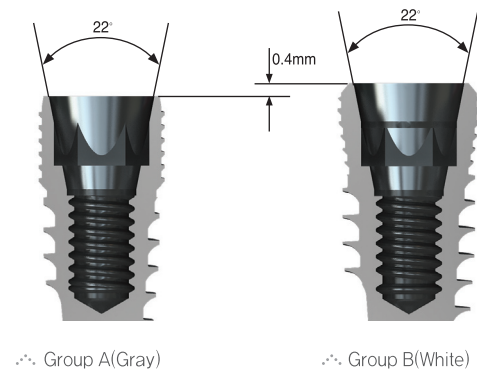
Classification	Dia.(Ø)	Length				
		7.3 mm	8.5 mm	10 mm	11.5 mm	13 mm
Narrow	Ø 3.5		BIS3508	BIS3510	BIS3511	BIS3513
Regular	Ø 4.0	BIS4007	BIS4008	BIS4010	BIS4011	BIS4013
	Ø 4.5	BIS4507	BIS4508	BIS4510	BIS4511	BIS4513
Wide	Ø 5.0	BIS5007	BIS5008	BIS5010	BIS5011	BIS5013
S-Wide	Ø 5.5	BIS5507	BIS5508	BIS5510	BIS5511	BIS5513
	Ø 6.0	BIS6007	BIS6008	BIS6010	BIS6011	BIS6013
	Ø 7.0	BIS7007	BIS7008	BIS7010	BIS7011	BIS7013

3. IS-II active

Classification	Dia.(Φ)	Length				
		7.3 mm	8.5 mm	10 mm	11.5 mm	13 mm
Narrow	Ø 3.5		BIS3508A	BIS3510A	BIS3511A	BIS3513A
Regular	Ø 4.0	BIS4007A	BIS4008A	BIS4010A	BIS4011A	BIS4013A
	Ø 4.5	BIS4507A	BIS4508A	BIS4510A	BIS4511A	BIS4513A
Wide	Ø 5.0	BIS5007A	BIS5008A	BIS5010A	BIS5011A	BIS5013A

\* Group A : Narrow, Regular, Wide, S-wide 7.3 mm  
\* Group B : Regular, Wide, S-wide 8.5, 10, 11.5, 13 mm

4. Inner structure comparison



\* All IS abutments are compatible to IS fixtures but with a difference of 0.4mm in height.  
\* Narrow fixture's body is thin and regular, wide, s-wide 7.3 mm fixture's body is short, so for the fixture's inner durability and fracture prevention, the abutment is designed to go 0.4mm above normal height.

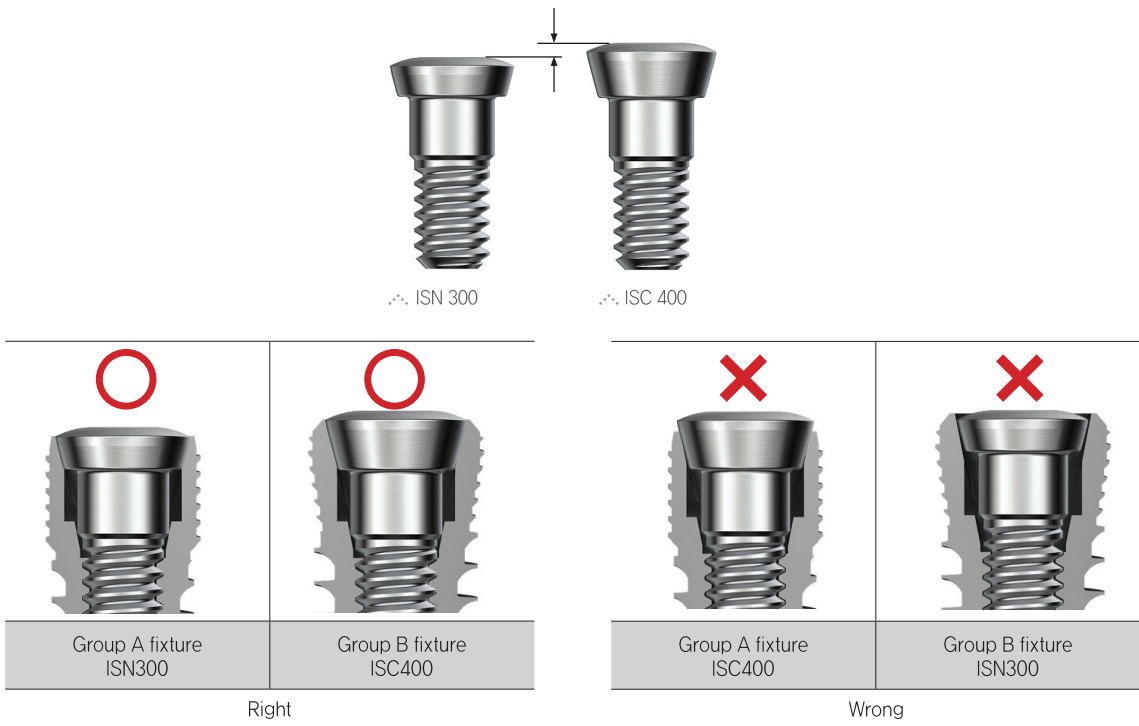
II. IS Cover Screw

1. Cover screw types and applicable fixture

Type	Code	Fixture
	ISN300	Group A Narrow, Regular, Wide, S-wide 7.3 mm
	ISC400	Group B Regular, Wide, S-wide 8.5, 10, 11.5, 13 mm

① Cover screw will be hand tightened using 1.2Hex driver with 10 Ncm of force.  
② Adequate cover must be chosen for placed fixtures. cover screws, exclusive for each fixture, are enclosed in the package. In case of simultaneous placing, beware of misplacement.

2. Connection structure comparison




\* In case of cover screw, it is applicable to connect all fixture types but it must be connected with the stipulated fixture. if it connected different type of fixture, it isn't able to connect with fixture.



III. IS Healing Abutment

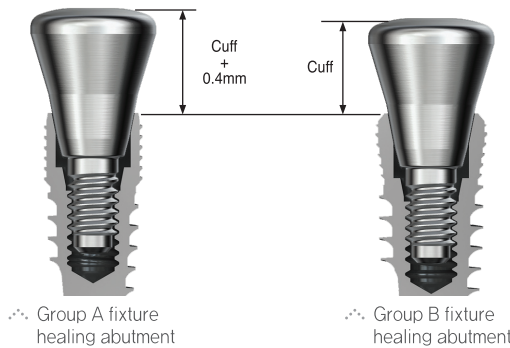
1. Healing abutment types

	Dia.(Ø)	Cuff.	Fixture
	Ø 4.8	2, 3, 4, 5, 6 mm	Φ 4.5
	Ø 5.5	2, 3, 4, 5, 6 mm	Φ 5.2
	Ø 6.0	2, 3, 4, 5, 6 mm	Φ 5.7
	Ø 6.8	2, 3, 4, 5, 6 mm	Φ 6.5

- ① Healing abutment must be chosen under the consideration of the tooth size and the space between teeth. 1~2mm of visibility over the soft tissue should also be considered.
- ② Fabricated 0.3mm bigger than the abutment diameter, relieving pain during abutment connection.
- ③ Healing abutment should be hand tightened using 1.2Hex driver with 10 Ncm of force. must not, with the use of torque ratchet, tighten over 10Ncm.

2. Connection structure comparison

Healing abutment's unity section with the fixture is fabricated identical to that of the fixture's and height varies depending on the fixture. Group A fixture mounts on 0.4mm over the indicated cuff height.

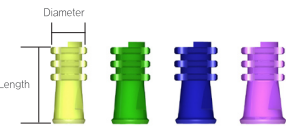


IV. IS Impression Coping

1. Abutment level plastic impression cap(Close tray)

- ① Used on abutment level impression, also on solid, hex, SCRP® multi and non-hex abutment.
- ② Regardless of the abutment length, same impression cap is used and depending on the diameter of the abutment being used it is distinguished by color. record the length of the intraoral abutment and must connect lab analog of the same length.
- ③ Impression cap is a snap-on type.
- ④ When abutment has been polished, this impression type can't be connected.
- ⑤ Prior to the impression, unwind and tighten the abutment with 30 Ncm twice.



↳ Line-up of abutment level plastic impression cap

	Dia.(Ø)	Length	Color
	Ø 4.5	11.5 mm	Yellow
	Ø 5.2	11.5 mm	Green
	Ø 5.7	11.5 mm	Blue
	Ø 6.5	11.5 mm	Purple

2. Pick-up type impression coping(Open tray)

- ① Used on fixture level impression. except for solid abutment, it is applied to all abutments types.
- ② Fabricated 0.3mm bigger than the abutment diameter.
- ③ In case of Impression coping screw, an extra screw with an extended length of 3mm is additionally provided for various intraoral conditions.
- ④ For pick-up type impression coping, with the use of 1.2 hex driver, hand tighten with approximately 10Ncm of force.

↳ Pick-up type impression coping line-up


	Dia.(Ø)	Cuff.	Connection	Option
	Ø 4.8	3 mm	Hex SCRP® multi Non-hex	 Long screw
	Ø 5.5	3 mm		
	Ø 6.0	3 mm		
	Ø 6.8	3 mm		

\* Option – In case of impression coping screw, an extra screw with an extended length of 2mm is additionally provided for various intra oral conditions.

3. Transfer type impression coping(Close tray)

- ① Used on fixture level impression. except for solid abutment, it is applied to all abutment types.
- ② Fabricated 0.3mm bigger than the abutment diameter.
- ③ Hex or non-hex is decided depending on the abutment type. coping screw consists of non-hex and hex coping screw.
- ④ For non-hex coping screw, impression coping positioner can be used.
- ⑤ By using impression coping positioner, impression coping's hex set-up and screw mounting is possible with one hand.
- ⑥ Using friction driver instead of hex driver can delete the block-out process of hex driver hole, simplifying the whole procedure.

↳ Transfer type impression coping line-up

	Dia.(Ø)	Cuff.	Connection	Option
	Ø 4.8	3 mm	Hex Non-hex	 1.2 hex screw
	Ø 5.5	3 mm		
	Ø 6.0	3 mm		
	Ø 6.8	3 mm		

\* Option – Coping screw, that is applicable with 1.2 hex driver, is provided

# Chapter 1

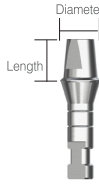
## Surgical & Prosthetic Components of IS System

### V. Lab Analog

#### 1. For abutment level

- ① Used on abutment level impression.
- ② When connecting lab analog to plastic impression, must use lab analog with not only the same diameter of the intraoral abutment but with the same length as well. so during the impression, abutment length (4.5, 5.5, 7mm) must be recorded in order to connect the abutment lab analog with the appropriate length.


⚙ Abutment level impression coping line-up

	Dia.(Ø)	Length
	Ø 4.5	4.5, 5.5, 7 mm
	Ø 5.2	4.5, 5.5, 7 mm
	Ø 5.7	4.5, 5.5, 7 mm
	Ø 6.5	4.5, 5.5, 7 mm

#### 2. For fixture level

- ① Used on fixture level impression coping.
- ② Used on all IS fixtures.
- ③ Analog and coping is mounted with 10 Ncm of force.

⚙ Fixture level lab analog line-up

	Model	Dia.(Ø)	Fixture
	ISLA500	Ø 4.3	All IS, IS-II, IS-II active

#### 3. Ball abutment

- ① Ball abutment level: Used during modeling after Impression.
- ② After repositioning on the 'Processing O-ring'-connected impression, start modeling by pouring plaster on top.



### Chapter 2. Impression Technique - 11

- I . Abutment Level Impression
- II. Fixture Level Impression

I. Abutment Level Impression

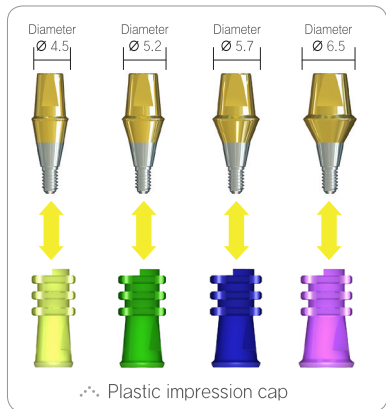
1. Abutment selection

- ① Solid abutment: A typical example of abutment level impression it is a known principle that once mounted, it is not to be removed.
- ② Hex abutment: This abutment is for single crown and during screw loosening, screw hole can be formed and removed or go through a process of retightening.
- ③ SCRP® multi abutment: This abutment is to be chosen for fabrication of two or more multi-unit bridge. SCRP® prosthesis or general cement type prosthesis can be fabricated. even after connection it is possible to remove and reconnect freely.
- ④ Non-hex Abutment: Abutment for multi-unit bridge fabrication. once mounted, it can not to be removed.
- ⑤ Abutment crown margin for SCRP® chooses sub gingival margin but abutment for cement type prosthesis chooses equi or supra gingival margin.

2. Impression procedure

- ① Choose from solid, hex, SCRP® multi or non-hex abutment and connect intraoral with 30Ncm of force. charge screw with gauge ball and gatta percha.

Components



- ② Uses one-touch (snap-on) method and apply impression cap with the same diameter of the connected abutment. when connecting impression coping the direction of the D-cut must be right and during the connection must feel and acknowledge the 'Click', after impression the diameter of the connected abutment can be verified by the color of the impression cap.
- ③ When using "Impression cap", abutment must not be polished, if needed, use the model or apply directly on impression.
- ④ Must record the length of the abutment and inform the lab.



Applied abutment



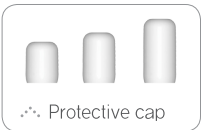
Applied impression cap



Completed impression

3. Protective cap

Components



Dia.(Ø)	Length
Ø 4.5	4.5, 5.5, 7 mm
Ø 5.2	4.5, 5.5, 7 mm
Ø 5.7	4.5, 5.5, 7 mm
Ø 6.5	4.5, 5.5, 7 mm

After impression setting, to protect the intraoral abutment and the gingiva, use a snap-on type protective cap.



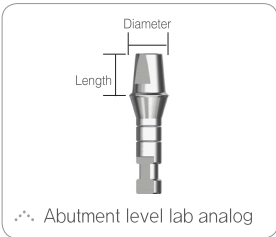
Completed impression



Applied abutment protective cap

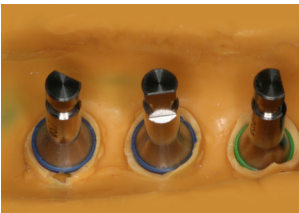
4. Production of models

Components

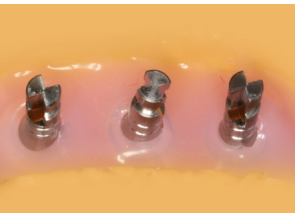


Dia.(Ø)	Length
Ø 4.5	4.5, 5.5, 7 mm
Ø 5.2	4.5, 5.5, 7 mm
Ø 5.7	4.5, 5.5, 7 mm
Ø 6.5	4.5, 5.5, 7 mm

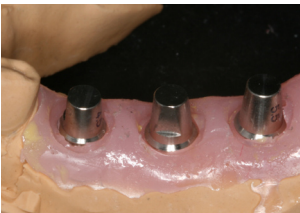
- ① Connect lab analog with the same diameter size of impression coping and same length of the intraoral abutment. Check direction of D-cut and connect with "Snap-On" type.
- ② In order to duplicate the gingiva spread separating medium around analog and with the designated material build up to the first line of the analog.
- ③ Proceed with modeling through general method using modeling plaster.



Lab analog application



Duplication of gingiva



Modeling

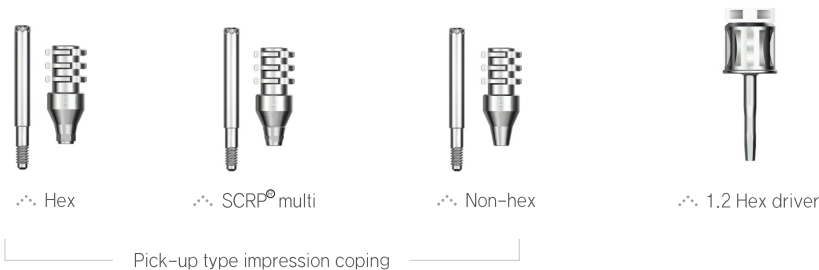


## II. Fixture Level Impression

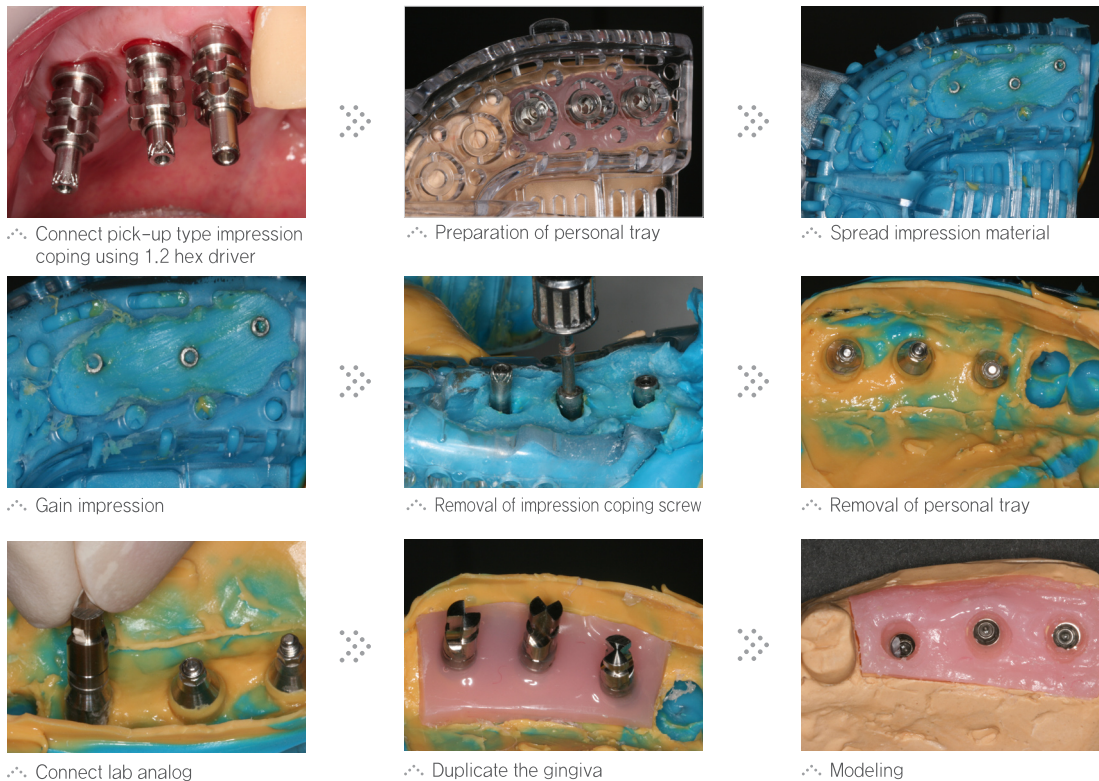
### 1. Pick-up type impression

Open tray method, since there is no need to separate impression coping from impression material, is considered as a precise impression method. Used mostly when achieving impression with especially unparallel implants.

#### Components & Tools



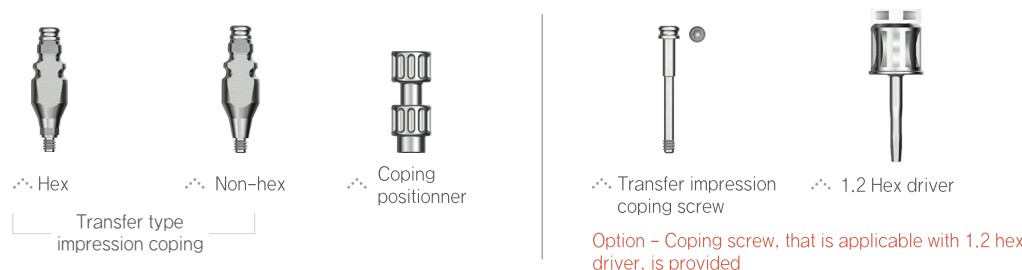
- Choose a pick-up type impression coping with same diameter of the separated Healing abutment. Use 1.2 hex driver to connect and proceed impression with personal tray.
- In case of severely slanted fixture, applying SCRP<sup>®</sup> multi coping instead of Hex is essential to minimize deformation.
- Coping torque should be 10 Ncm. (Sufficient hand tightness)
- It is a fundamental principle to fabricate personal tray with hole but can use stock resin tray instead after drilling a hole.
- When impression setting is finished untighten screw and remove tray
- When connecting Lab analog to prevent deformation with analog and screw driver lift impression material and connect with 10 Ncm of force.
- Duplicate gingiva then with plaster finalize modeling.



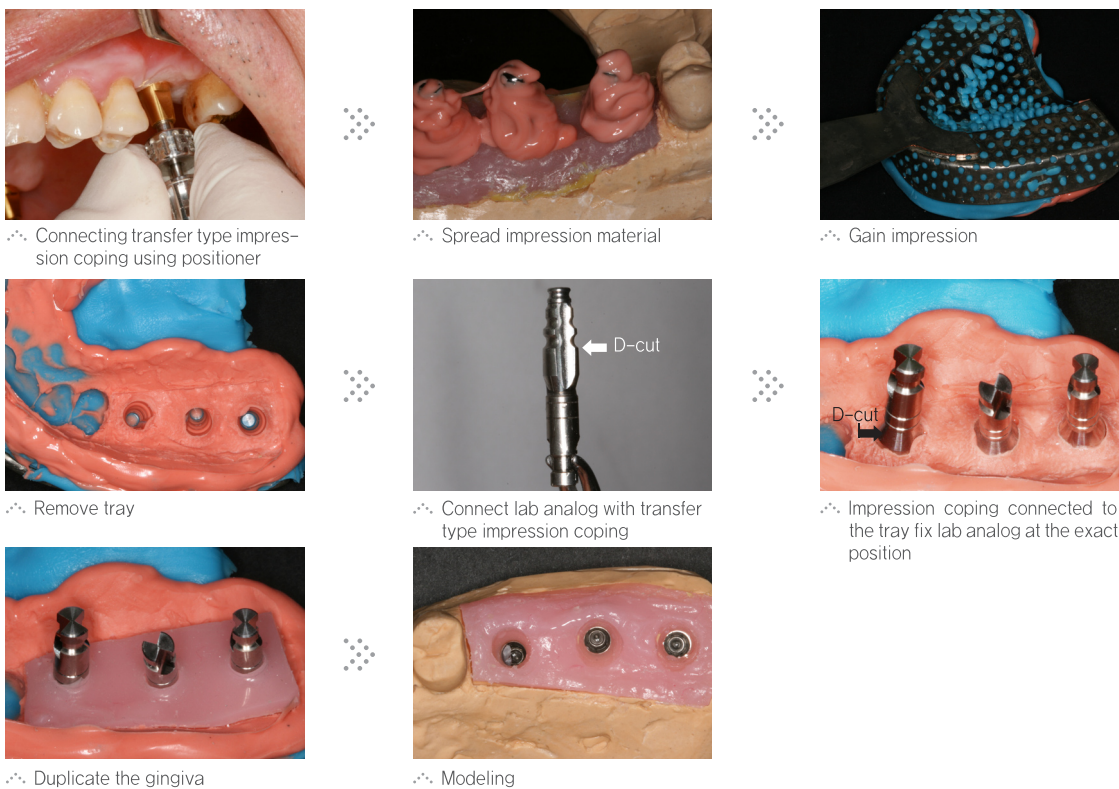
### 2. Transfer type impression

As a close tray method, metal stock tray usage is possible which is a clinically comfortable method but on severely slanted implants or gingiva with too much thickness could cause inaccurate impression results.

#### Components & Tools



- Choose a transfer type impression coping with the same diameter of the healing abutment.
- Hand tighten with the use of Impression coping positioner. (Impression coping positioner is a tool designed to reposition coping's hex with ease, with one hand.)
- Remove impression coping and connect lab analog with 10 Ncm.
- According to the D-cut direction, reposition coping on impression material.
- Duplicate gingiva then with plaster finalize modeling.



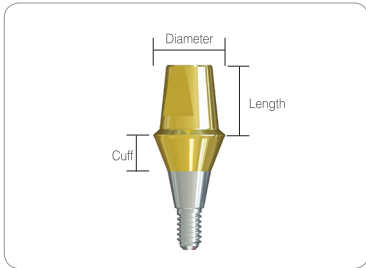
### Chapter 3. IS Abutments & Prosthetic Procedure - 18

- I. IS Solid Abutment
- II. IS Cemented Abutment
- III. IS SCRP Multi Abutment
- IV. IS UCLA Abutment
- V. IS Ball Abutment

I. IS Solid Abutment

1. Solid abutment

IS solid abutment is a one piece, non-hex abutment, used only on cement type prosthesis.



❖ Solid abutment line-up

Dia.(Ø)	Cuff.	Length
Ø 4.5	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 5.2	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 5.5	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 6.0	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm

❖ Abutment: Choice and direction.

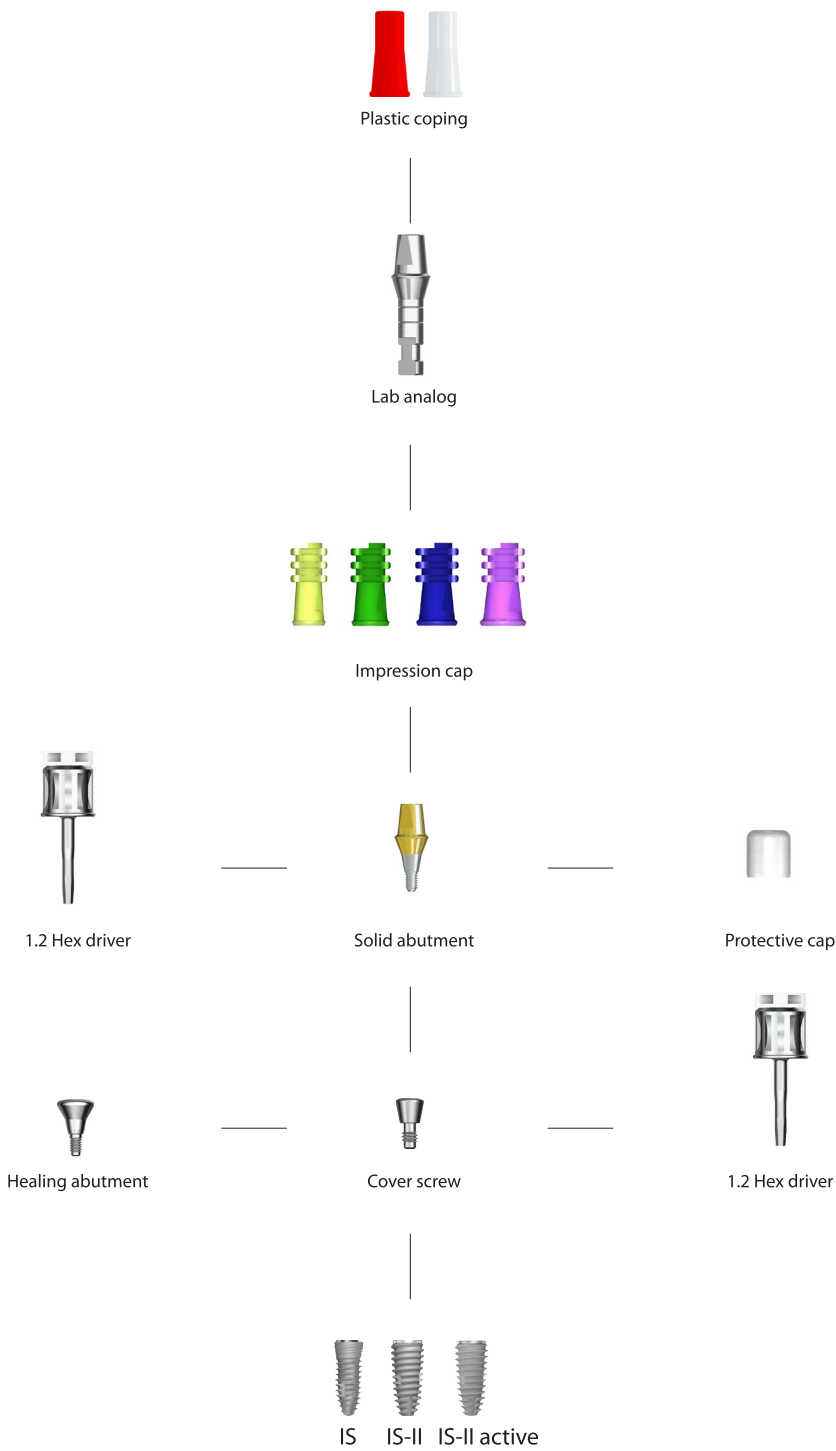
- ① Abutment is chosen under the consideration of relations between the gingiva height, Normally 5.5 diameter or 6.0 Diameter is implanted, equi or supra gingival margin can be selected.
- ② Impression: After connecting the abutment, commence "Abutment level impression".

❖ Caution

- After impression, solid abutment must not be removed nor relocated.
- When cutting the abutment, if maximum of 1.5 mm is exceeded, Hex for abutment connection will be damaged. Choose adequate length abutment with inter dental space in consideration.

- ③ Material : Ti-6Al-4V
- ④ Surface : TiN coating
- ⑤ Tightening torque : 1.2 hex driver, 30 N·cm (Repeat 3times.)
- ⑥ When preparation for abutment is not done intraoral, achieve impression after connecting plastic impression coping.
- ⑦ When preparation for abutment is done intraoral achieve impression without impression coping.

● Flow chart for IS solid abutment





I. IS Solid Abutment

2. Lab procedure

1) Application of plastic coping and wax-up

❖ Components



❖ Plastic coping

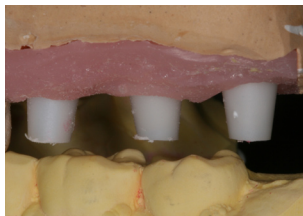
Dia.(Ø)	Color
Ø 4.5	Single : Red Bridge : White
Ø 5.2	
Ø 5.7	
Ø 6.5	

❖ Without abutment cutting

- ① Plastic coping is connected by friction and for single, connect under the consideration of the hole direction. When connecting two or more use white color coping for bridge.
- ② After the connection of plastic coping, proceed wax-up with general method, after cutting adequate height by considering the occlusion.
- ③ After removing from lab analog and casting, complete the wax up process.



❖ Connecting and polishing of plastic coping



❖ Deletion of plastic coping



❖ Wax-up



❖ Casting



❖ Completed prosthesis

❖ With abutment cutting

- ① If abutment's direction and length is in needed of adjustment, cut as much as needed and proceed fabrication guide for prosthesis polishing.
- ② Complete prosthesis with the same method.



❖ Remove lab analog



❖ Produce prosthesis cutting guide



❖ Wax-up



❖ Casting



❖ Completed prosthesis

3. Clinical procedure

❖ With abutment cutting

- ① Once the prosthesis is complete, remove protective cap or temporary prosthesis.
- ② Apply final prosthesis and remove excess cement.
- ③ Can not fabricate SCRP® prosthesis.
- ④ To enable detachability use temporary cement.



❖ Install completed prosthesis

❖ With abutment cutting

- ① Once the prosthesis is complete, remove protective cap or temporary prosthesis.
- ② Connect Abutment removal guide to the designated abutment and then remove intraoral abutment.
- ③ Cement final prosthesis and remove the excess cement afterward.



❖ Install guide intraoral



❖ Abutment removal

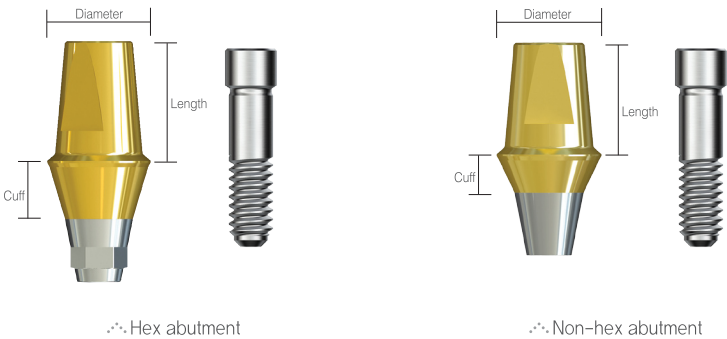


❖ Install completed prosthesis

II. IS Cemented Abutment

1. IS cemented abutment

Cement abutment and screw is separated so, it is known as 2 piece abutment. In the Cement abutment there are hex and non-hex and SCRP<sup>®</sup> which also called Prosthetics.

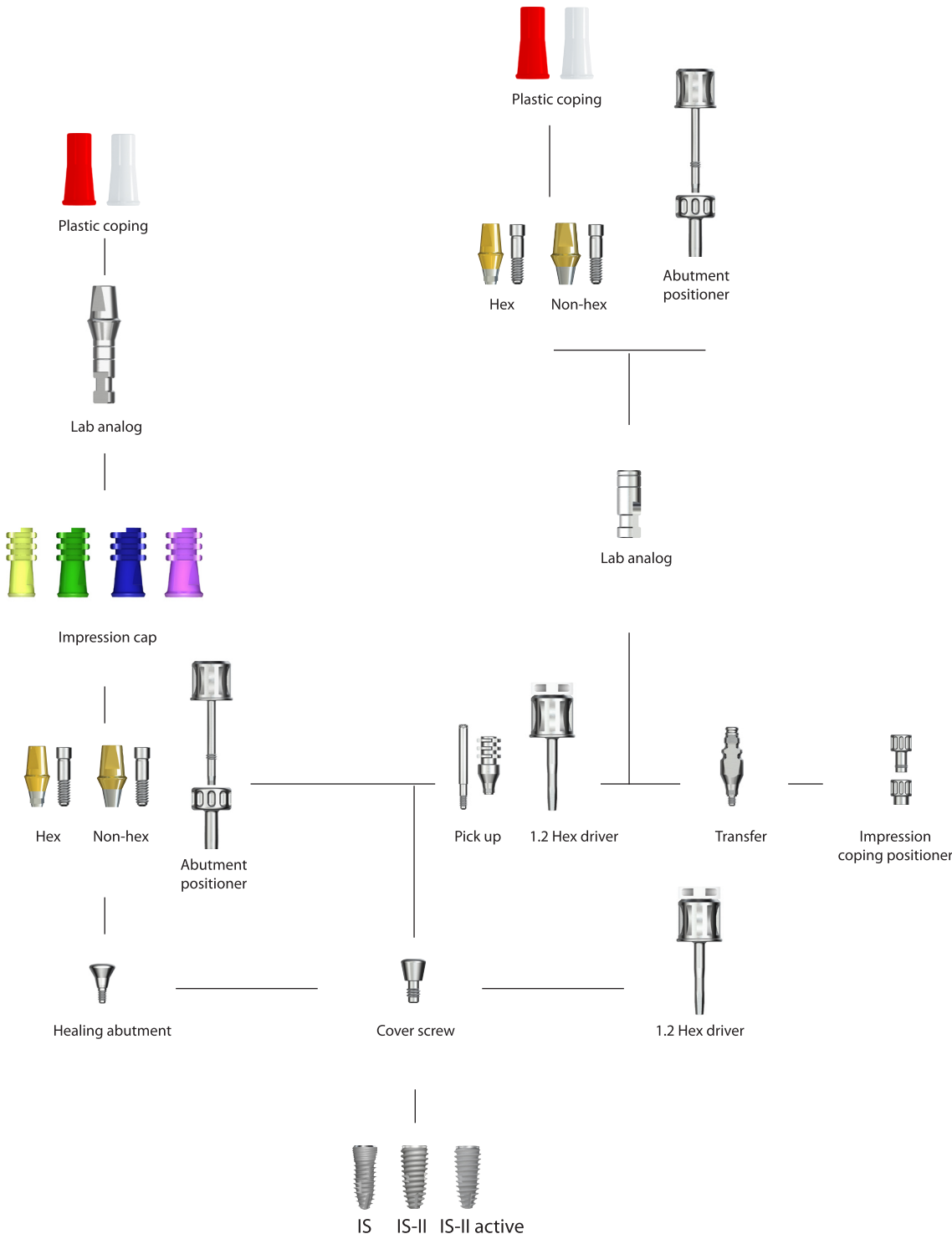


Cemented abutment line-up

Dia.(Ø)	Cuff.	Length
Ø 4.5	1, 2, 3, 4 mm	4.5, 5.5, 7 mm
Ø 5.2	1, 2, 3, 4 mm	4.5, 5.5, 7 mm
Ø 5.7	1, 2, 3, 4 mm	4.5, 5.5, 7 mm
Ø 6.5	1, 2, 3, 4 mm	4.5, 5.5, 7 mm

- ① Abutment selection
- Regarding to the Gingival high and tooth high have to be relevance in order to choose the right choose.
  - For single crown be sure to choose hex abutment. At this moment it is possible to fabricate cement type or SCRP<sup>®</sup> type crown.
  - For multi-unit cement type prosthesis it is possible to choose from either hex or non-hex
- ② Impression : Abutment level or fixture level impression
- ❗ Caution
- During the cutting of the abutment, to avoid the abutment screw damage, the abutment must be remained minimum of 3mm from top of the fixture.
- ③ Material :
- Abutment : Ti-6Al-4V
  - Screw : Ti-6Al-4V
- ④ Surface : TiN coating
- ⑤ Screw tightening torque : 1.2 hex driver, 30 N·cm  
(Loosening and tightening repeated up to 3 times)

● Flow chart for IS cement abutment



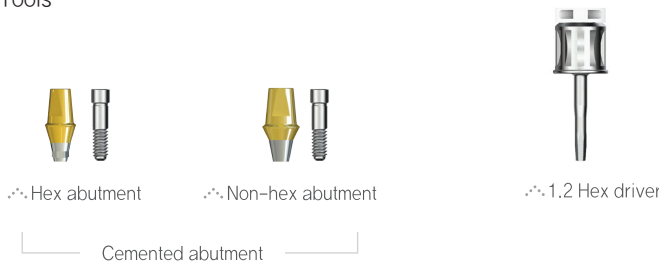


II. IS Cemented Abutment

● Abutment level impression

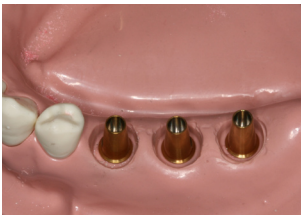
1. Abutment selection and connection

❖ Components & Tools



❖ Prosthetic procedure

- ① Choose adequate abutment according to the intraoral status and tighten up to 30Ncm with 1.2 hex driver and torque ratchet. For hex abutment, when connected with the use of abutment positioner, hex areal connection is much easier.
- ② After connecting with procedures of loosening and tightening repeated up to 3 times, check the abutment connection accurately through radiograph. There is no need to check for Non-Hex but for Hex, check screw hole's apex space height.



❖ Applied abutment



❖ Applied impression cap



❖ Completed impression

※ After connecting the abutment, proceed abutment level impression and complete modeling.

2. Lab procedure

1) Plastic coping connection and wax-up

❖ Components

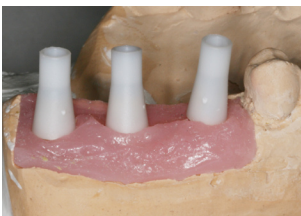


❖ Plastic coping

Dia.(Ø)	Color
Ø 4.5	Single : Red Bridge : White
Ø 5.2	
Ø 5.7	
Ø 6.5	

❖ Case without abutment cutting

- ① Plastic coping is connected by friction and for single, connect under the consideration of the hole direction. When connecting two or more use white color coping for bridge.
- ② After the connection of plastic coping, proceed wax-up with general method.
- ③ After removing from lab analog and casting, complete the wax up process



❖ Plastic coping connection and removal



❖ Plastic coping removal



❖ Wax-up



❖ Casting



❖ Complete prosthesis

❖ Case in need of abutment cutting

- ① In order to make the adjust with the length and direction of the abutment, mill the abutment by using the guide.
- ② Complete prosthesis with the same method.



❖ Lab analog removal



❖ Produce prosthesis cutting guide



❖ Wax-up



❖ Casting



❖ Complete prosthesis

II. IS Cemented Abutment

3. Clinical procedure

❖ Case without abutment cutting

- ① Once the prosthesis is complete, remove protective cap or temporary prosthesis.
- ② Cement final prosthesis and remove the excess cement afterward.
- ③ For Single crown case, after the use of non-hex abutment SCRP® prosthesis(adhesion areal screw hole formation) is applicable on hex abutment and multiple unit prosthesis.
- ④ To enable detachability use temporary cement.



❖ Installation of final prosthesis

❖ Case with abutment cutting

- ① Once the prosthesis is complete, remove protective cap or temporary prosthesis.
- ② Cut the abutment in oral cavity by using abutment cutting guide.
- ③ Install final prosthesis and then remove remaining cement.



❖ Install guide intra oral



❖ Abutment removal



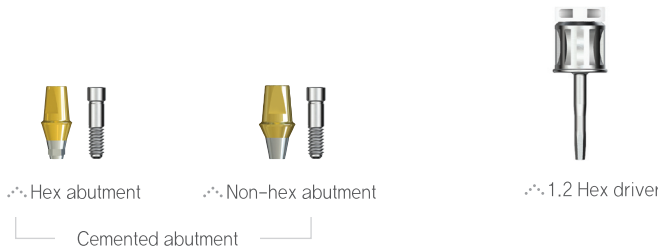
❖ Install final prosthesis

● Fixture Level Impression

1. Lab procedure

1) Abutment connection

❖ Components & Tools



- ① For final model, choose an adequate abutment. For cement type, choose hex abutment. but for multi-unit without the need of abutment preparation, non-hex can be chosen.
- ② Apply each abutment on final model with 30Ncm of force. If connected with approximate force of 10ncm, intra oral adhesion can be 10~30μm lower.
- ③ Preparation for abutment can be done if needed.
- ④ For intraoral repositioning of abutment fabrication of repositioning jig can be done.



❖ Connect abutment



❖ Abutment removal (when needed)



❖ Repositioning jig fabrication

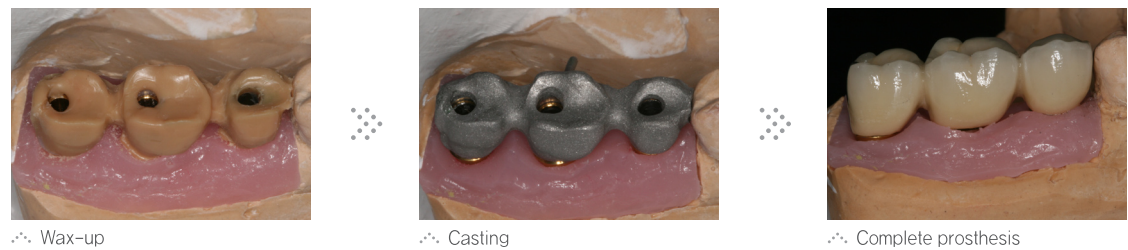
# Chapter 3

## IS Abutment & Prosthetic Procedure

### II. IS Cemented Abutment

#### 2) Prosthesis fabrication

- ① Under the universal law, fabricate cement type or SCRP® type prosthesis.
- ② Gold, PFM or Zr prosthesis is possible.



### 2. Clinical procedure

#### 1) Abutment connection

- ① Using Hex abutment, make the connection using the wing to the outlook center buccal with out repositioning jig. In case of multiple, using repositioning jig would not be connected because of the path.
- ② Non-hex abutment have to use jig in order to make the right direction. If jig is not correct, abutment can not be re-placed at the exact place and Prosthetics cannot be made.
- ③ For repositioning of hex it is much easier with Neobiotech's abutment positioner.
- ④ Check hex's placement through x-ray and with 30Ncm repeat tightening and loosening up to 3 times.

#### 2) Prosthesis connection

- ① Make the measurement by prosthetics and occlusal
- ② Screw hole is filled with gauze ball and gatta percha.
- ③ Adhesion with temporary or permanent cement.

❖ Single crown : Hex abutment

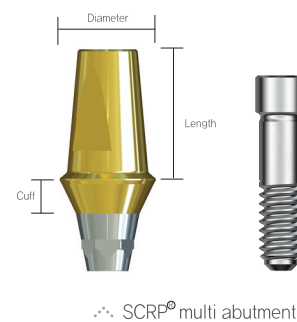


❖ Bridge crown : Non-hex abutment





III. SCRP® Multi Abutment



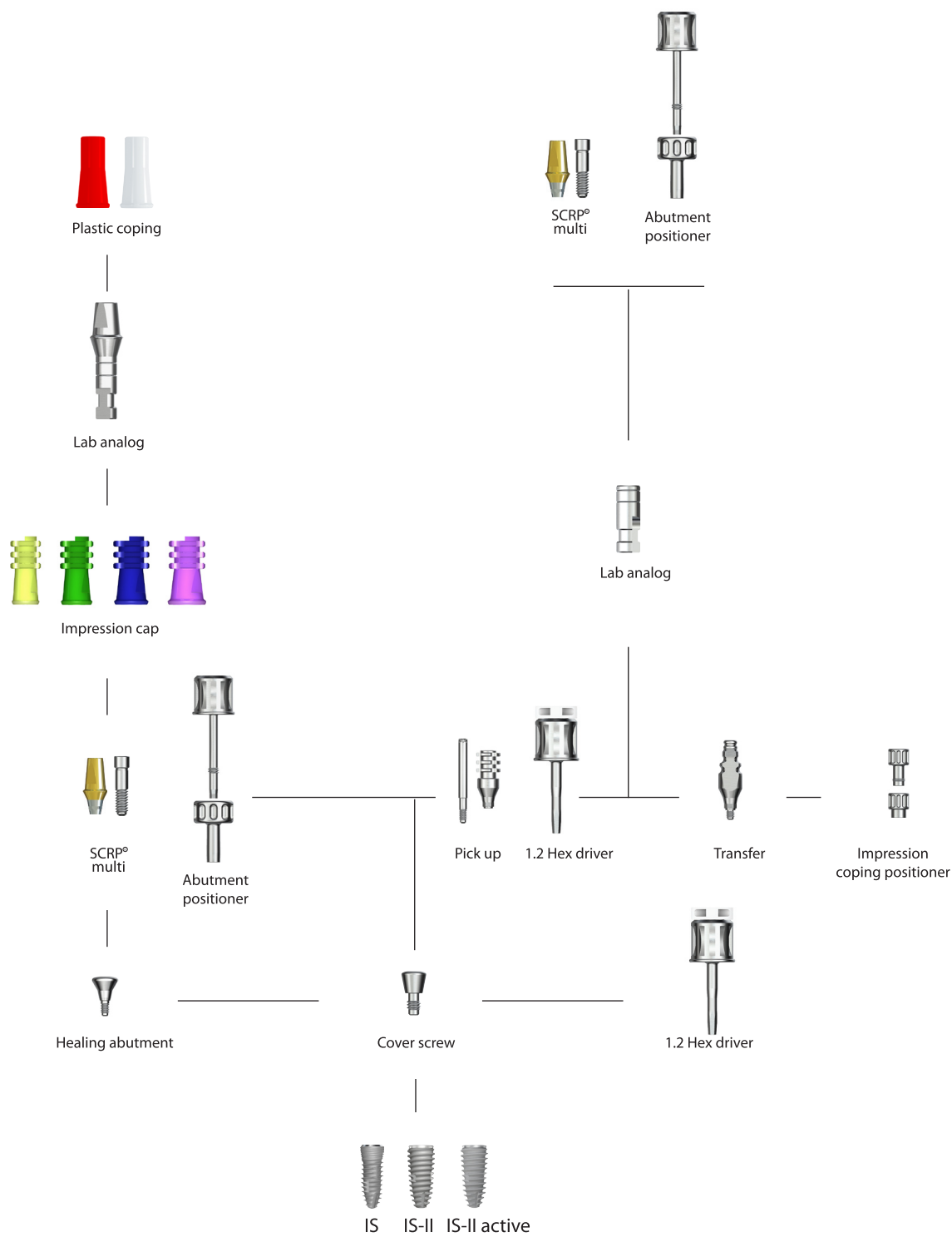
1. The characteristics of SCRP® multi abutment

- ① Its uniqueness is that it has a short hex allowing abutment's repositioning possible and alike non-hex it also has a distinctive feature of separating from fixture within 20°.
- ② Although being a cement type prosthesis it has a screw hole built in.
- ③ Always use permanent cement for bonding.
- ④ After bonding of prosthesis with permanent cement, remove the screw through the screw hole, SCRP® multi abutment and prosthesis become one piece separating from the implant.
- ⑤ After removing excess cement and polishing, reposition the intraoral prosthesis and then tighten the abutment screw. Finally, complete the process by blocking the screw hole.
- ⑥ Any time the prosthesis needs separation, it can be removed by opening the screw hole and unwinding the screw.
- ⑦ Applicable when the angle between the implant is within 20°
- ⑧ **Caution**
  - Since the SCRP® multi implant system is a mixed structure of screw type and cement type, the screw hole is visible on the crown. so, just apply the screw type procedure.
  - SCRP® multi system can be used with either pick-up type impression technique or transfer type impression technique.
  - SCRP® multi type or hex type impression coping should be used in order to recognize the direction of the hex.
  - During the preparation of the abutment, to avoid the abutment screw damage, the abutment must be remained minimum 3mm from top of the fixture.
  - Screw tightening torque : 1.2 hex driver, 30 N·cm
- ⑨ **Material :**
  - Abutment : Ti-6Al-4V
  - Screw : Ti-6Al-4V
- ⑩ **Surface :** TiN coating(connection piece is coating excludeed)

❖ SCRP® multi abutment line-up

Dia.(Ø)	Cuff.	Length
Ø 4.5	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 5.2	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 5.7	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm
Ø 6.5	1, 2, 3, 4, 5 mm	4.5, 5.5, 7 mm

● Flow chart for IS SCRP® multi abutment



### III. SCRP® Multi Abutment

#### 2. Lab procedure

##### 1) Abutment: choice and connection

- ① For single crown use hex cemented abutment instead of SCRP® multi abutment.
- ② Sub-gingival crown margin can be chosen for abutment used for SCRP® prosthesis.
- ③ Connect abutment with 30 Ncm.
- ④ Preparation for abutment can be done as occasion demands.
- ⑤ Repositioning jig can be fabricated.

Choose adequate abutment according to the oral condition. Tighten up to 30 Ncm by using abutment positioner



Abutment connection



Abutment preparation



Transfer jig production

##### 2) Prosthesis fabrication

- ① Connect waxing screw and process wax-up and casting. Depend on the screw hole direction and occlusion the hole can be correctly made.
- ② In case of PFM, make metal chemistry surrounding the hole, in order to prevent the fracture.



Wax-up



Casting



Complete prosthesis

#### 3. Clinical procedure

##### 1) Prosthesis setting



Connect with pressure on Abutment positioner



Connected view



Connect screw first



Fully tighten the screw and then loosen a little



Rotate abutment holder to connect hex



When both are rotated with pressure the screw will be connected



Prosthesis adhesion with permanent cement



Prosthesis will be removed when unscrewed



Cement removed view



Intraoral reconnected view, connect with 30Ncm



Sutured view of the screw hole with gauze ball and gatta percha

- ① Reposition intraoral with abutment positioner.
- ② Connect abutment with 30Ncm.
- ③ Try-in prosthesis under the universal law.
- ④ Adhesion with permanent resin cement after filling screw hole with gauze ball.
- ⑤ Remove gauze ball before cement solidifies.
- ⑥ After cement solidification untighten the screw to remove prosthesis.
- ⑦ After removing excess cement and polishing connect with 30Ncm of force.
- ⑧ Finalize with composit resin after filled with gauze ball and gatta percha.

IV. UCLA Abutment(Gold / CCM / Plastic)

● UCLA gold abutment



Dia.(Ø)	
Φ 4.5	Hex SCRPF multi Non-hex

- ① Impression : Fixture level impression
- ② Material :
  - Abutment : Gold alloy, Acetal
  - Screw : Ti-6Al-4V
- ③ Surface : N/A
- ④ Scrwe tightening torque : 1.2 hex driver, 30 N·cm  
(Loosening and tightening repeated up to 3 times)

● UCLA CCM abutment



Dia.(Ø)	
Φ 4.5	Hex SCRPF multi Non-hex

- ① Impression : Fixture level impression
- ② Material :
  - Abutment : (Chrome + Cobalt + Molybdenum), Acetal
  - Screw : Ti-6Al-4V
- ③ Surface : N/A
- ④ Scrwe tightening torque : 1.2 hex driver, 30 N·cm  
(Loosening and tightening repeated up to 3 times)

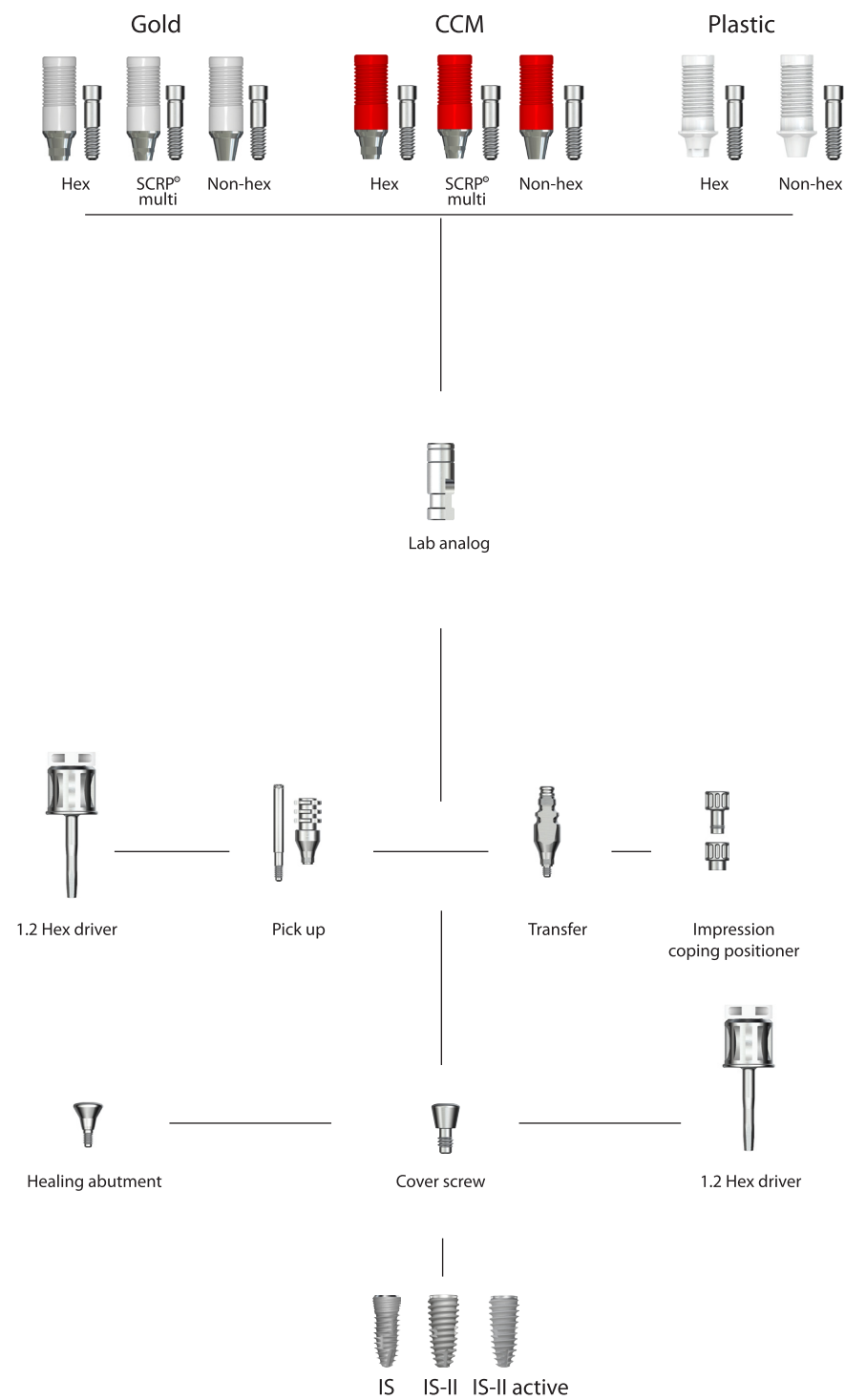
● UCLA plastic abutment



Dia.(Ø)	
Ø 4.5	Hex Non-hex
Ø 5.2	
Ø 5.7	

- ① Impression : Fixture level impression
- ② Material :
  - Abutment : Acetal
  - Screw : Ti-6Al-4V
- ③ Surface : N/A
- ④ Scrwe tightening torque : 1.2 hex driver, 30 N·cm  
(Loosening and tightening repeated up to 3 times)

● Flow chart for IS UCLA abutment





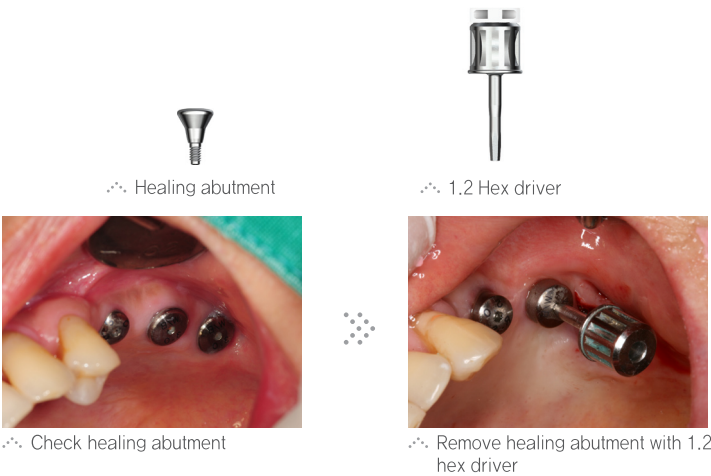
IV. UCLA Abutment(Gold / CCM / Plastic)

1. Clinical procedure

1) Healing abutment removal

❖ Components & Tools

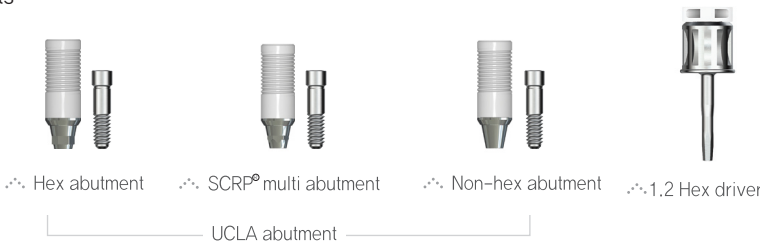
- After removing healing abutment, proceed with pick-up type or transfer type impression.



2. Lab procedure

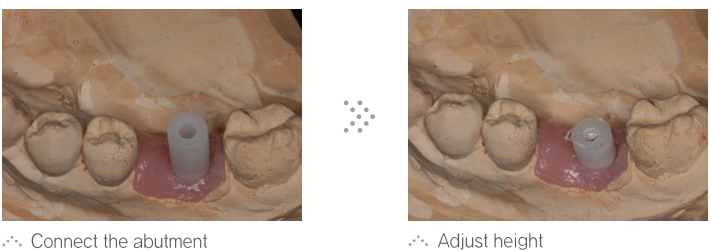
2) Abutment connection

❖ Components



- ① Hex UCLA abutment is used for screw-retained single crown.
- ② SCRP® multi UCLA abutment is used for SCRP® multi FPD.
- ③ Non-hex UCLA abutment is used for screw-retained FPD.

- Connect the abutment which is chosen under the consideration of oral condition with 1.2 hex driver.

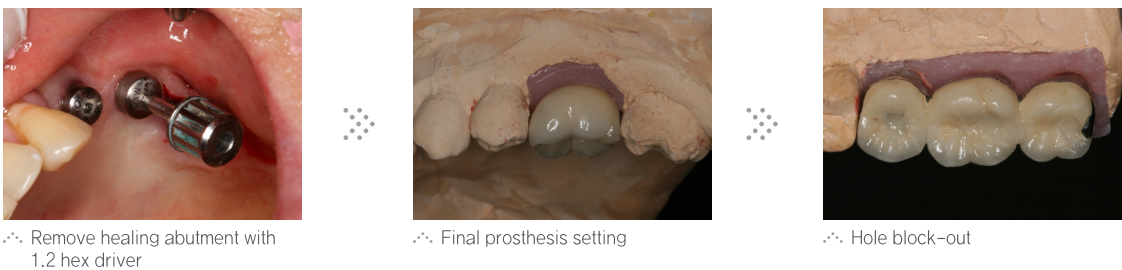


3) Wax-up



3. Clinical procedure

4) Prosthesis setting



V. Ball Abutment

1. Ball abutment



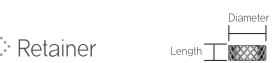
Dia.(Ø)	Cuff.
Ø 3.5	1, 2, 3, 4 mm

2. Housing & retainer



Dia.(Ø)	Length
Ø 5	4 mm

\* Use when satisfactory vertical space is provided.



Dia.(Ø)	Length
Ø 5	2 mm

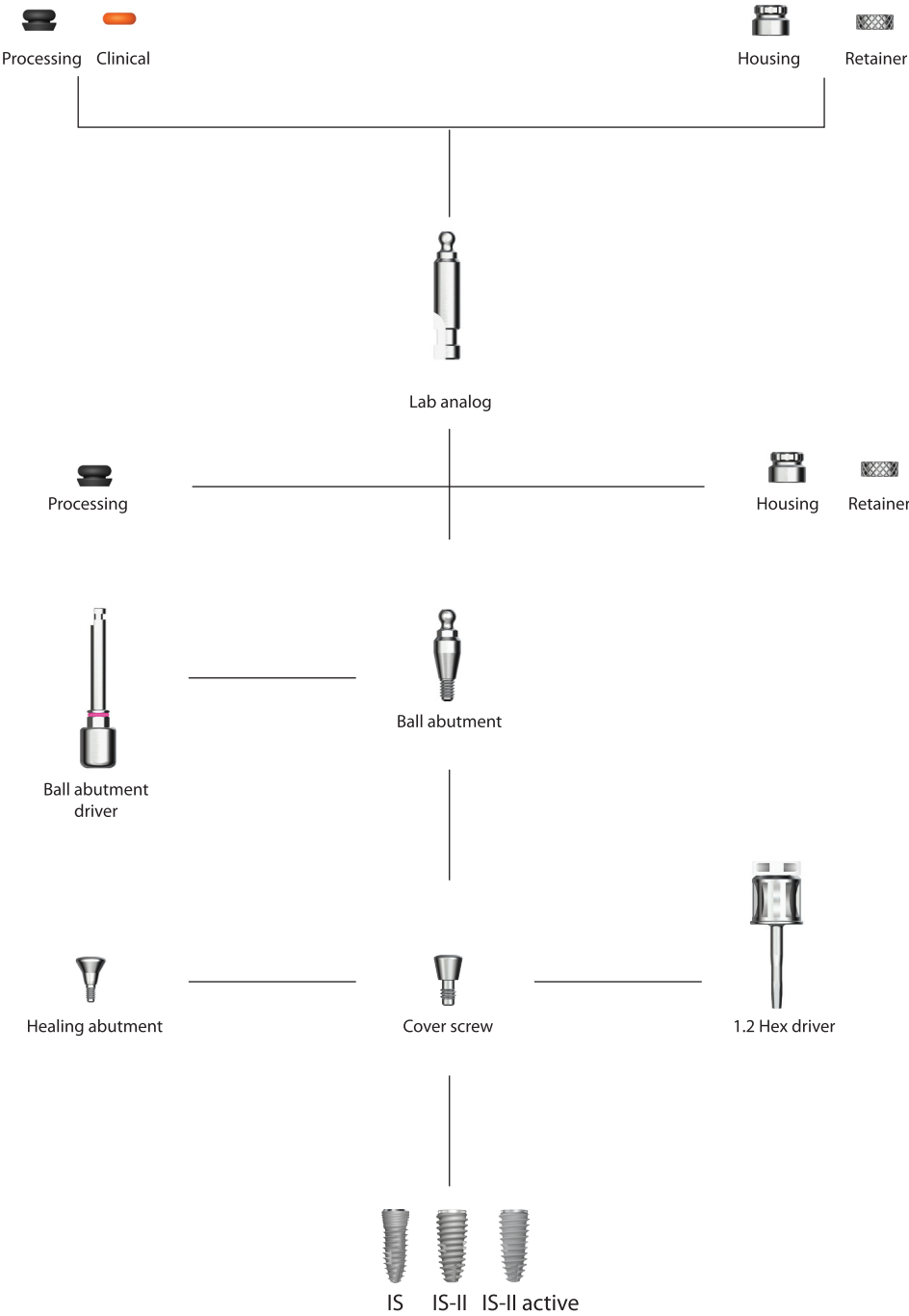
\* Utilize during cases of insufficient space.

3. O-ring



- ① There are 2 types of o-ring : Clinical and processing which is used to connect with either housing or retainer.
- ② Processing o-ring
  - Prevents resin from leaking into the housing or the retainer during the resin denture curing and relining in laboratory.
  - Prevents resin from leaking into the housing or the retainer during the relining of housing or retainer in denture in clinic.
- ③ Surface : N/A
- ④ Screw tightening torque : Ball driver, 30 N·cm

● Flow chart for IS ball abutment





V. Ball Abutment

1. Clinical procedure

1) Healing abutment removal

❖ Components & Tools



❖ Healing abutment

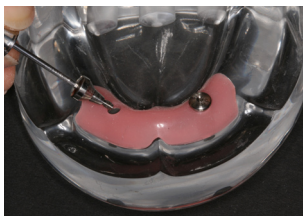


❖ 1.2 Hex driver

❖ Prosthetic procedure



❖ Check healing abutment



❖ Remove healing abutment with 1.2 hex driver

2) Abutment connection

❖ Components



❖ Ball abutment



❖ Ball abutment driver

❖ Prosthetic procedure  
– Connect abutment with ball abutment driver.



❖ Abutment connection

3) Impression

❖ Components



❖ Housing



❖ Retainer

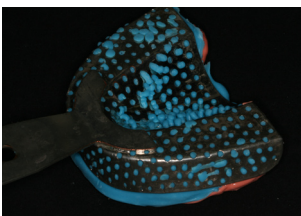


❖ Clinical O-ring

❖ Prosthetic procedure



❖ Connect housing or retainer with o-ring



❖ Impression



❖ Remove tray

2. Lab procedure

1) Denture fabrication

❖ Components



❖ Housing



❖ Retainer

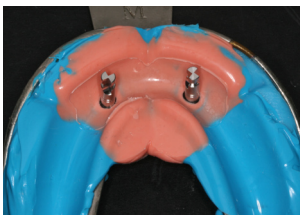


❖ Processing O-ring



❖ Lab analog

❖ Prosthetic procedure



❖ Connect lab analog



❖ Modeling



❖ Connect housing or retainer with processing o-ring



❖ Denture fabrication

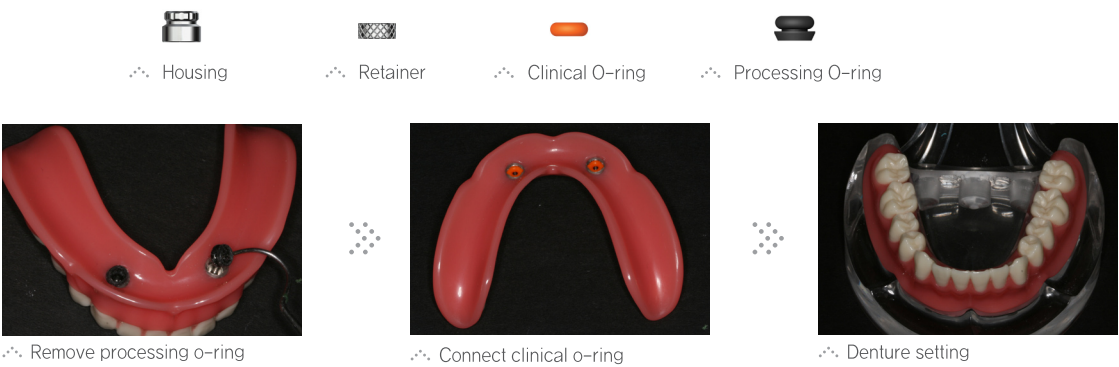
# Chapter 3

## IS Abutments & Prosthetic Procedure

### V. Ball Abutment

#### 3. Clinical procedure

##### 1) Denture setting



##### ❖ Direct relining in the intraoral

- ① Connect housing or retainer with processing o-ring intra orally.
- ② Trim inner parts of the denture without touching the housing or the retainer.
- ③ Inject resin in denture and have the patient bite while placed correctly.
- ④ Polish separated denture after resin setting and replace processing o-ring with clinical o-ring.

