PROSTHETIC PROCEDURE

TS SYSTEM

OSSTEM IMPLANT

CONTENTS

PROSTHETIC PROCEDURE
TS SYSTEM

-

FOR
OSSTEM IMPLANT
SYSTEM

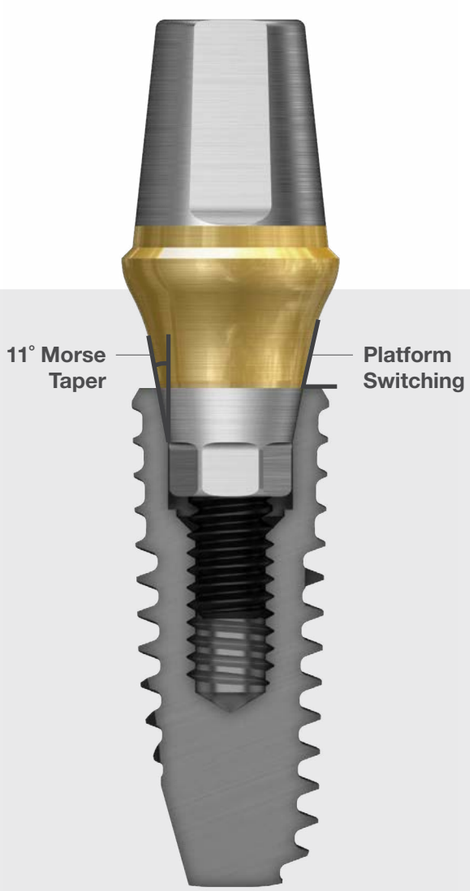
Restoration Introduction

Restoration Procedure

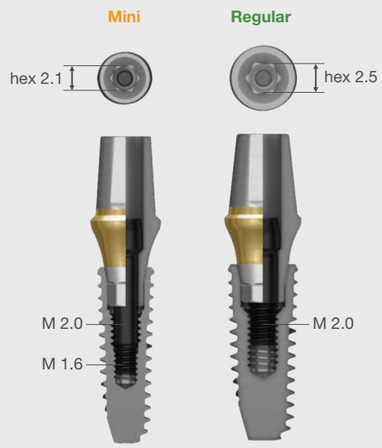
TS SYSTEM

Transcendent Solution

· Submerged type fixture with internal hex and 11˚ morse taper structure
· Internal 11˚ morse taper structure is stable against external force
· Less bone resorption with platform switching and natural emergence profile
· 1-stage (skip 2nd stage) is possible with healing abutment and 2-stage is also possible

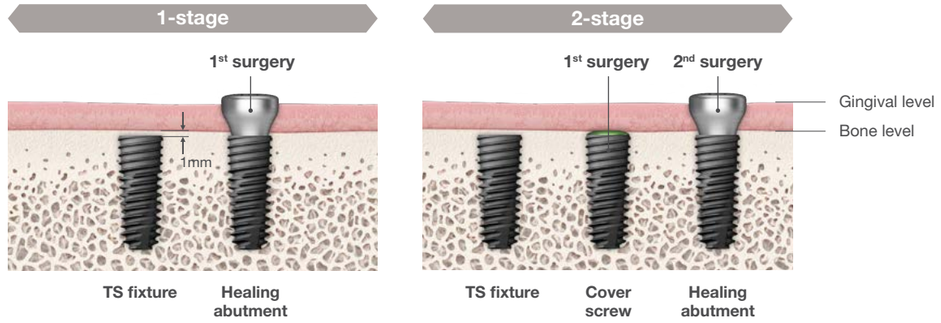


Platform (Internal Hex)



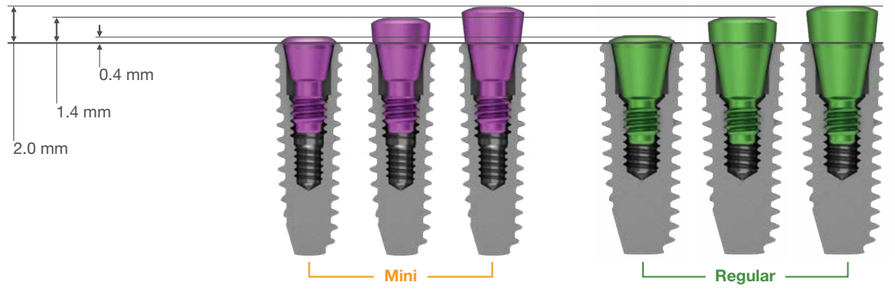
* Divided into mini or regular depending on the size of Hex and screw

Stage



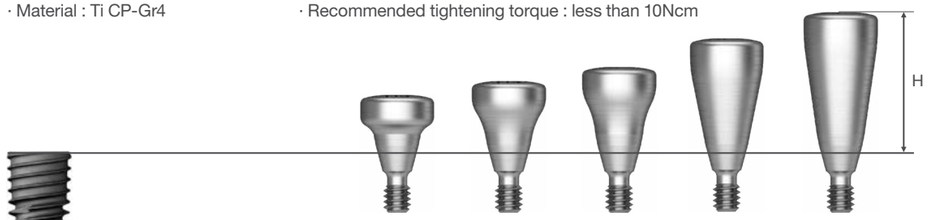
Cover Screw

· Color coding (anodizing) for checking placement position in second surgery
· Different specifications for different fixture placement depth
· Material : Ti CP-Gr4
· Connect with 1.2 hex driver by hand
· Recommended tightening torque : less than 10Ncm



Healing Abutment

· Largely applicable and easy emergence profile formation
· Check inter-occlusal space and select height with 1~2 mm exposure from gingiva
· Same diameter as abutment
· Material : Ti CP-Gr4
· Connect with 1.2 hex driver by hand
· Recommended tightening torque : less than 10Ncm



Healing Abutment	H	3.0	4.0	5.0	7.0	9.0
Abutment	G/H	1.0	2.0 or 3.0	2.0 or 3.0	Larger than 5.0	
Impression Coping	Type	Short	Short	Long	Long	

TS Abutment Overview

Single / Bridge Case

	 Rigid	 Transfer	 Angled	 FreeForm ST	 GoldCast	 NP-Cast	 SmartFit	 Link	 ZioCera	 Temporary	 Quick Temporary	 Multi	 Multi Angled	 Convertible
	1-Piece	2-Piece					2-Piece					3-Piece		
Prosthetic Type														
Screw					●	●		●	●	●	●	●	●	●
Cement	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Combination		●	●	●	●	●	●	●	●	●	●	●	●	●
Impression Type														
Abutment Level	●	●										●	●	●
Fixture Level		●	●	●	●	●	●	●	●	●	●			

Overdenture Case

	 Multi	 Multi Angled	 Convertible	 Stud	 Locator	 Port Angled
Prosthetic Type						
Retentive Anchor				●	●	●
Bar Frame	●	●	●			
Impression Type						
Abutment Level	●	●	●	●	●	●
Fixture Level						

Note.

Single / Bridge Case

1-piece	Rigid is standard, only cement type prosthesis is possible with abutment level impression
2-piece	Transfer is standard, both cement or combination type prosthesis is possible with fixture level impression (abutment level with rigid impression components is also possible)
	Angled / FreeForm ST: cement or combination type prosthesis is possible with fixture level impression, Can be customized depending on oral environment and prosthesis type
	GoldCast / NP-Cast / ZioCera : screw or cement or combination type prosthesis is possible with fixture level impression (need caution with casting, firing in screw type prosthesis fabrication)
	SmartFit / link : CAD/CAM product, fabricate customized abutment for patient using S/W in different oral environment and prosthesis type
3-piece	Multi / convertible: screw or cement or combination type prosthesis is possible with abutment level impression and effective in bridge case with unfavorable path

Overdenture Case

1-piece	Stud type o-ring / locator are standard, removable overdenture fabrication is possible with abutment level impression
3-piece	Multi / convertible : effective in the fabrication of overdenture using bar frame in abutment level impression

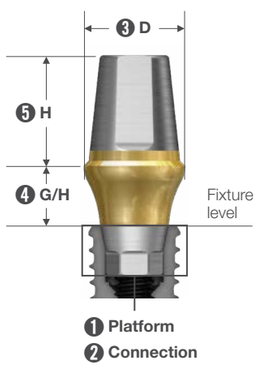
* Contents above are general guideline from the company and products must be selected in consideration of oral environment, habits, fixture placement condition, clinical experience and aftermath.

Prosthetic Guide

Abutment Selection

❶ Surgery procedure	Anterior Area		Posterior area	
❷ Fixture placement condition	Position and Angle (space between adjacent and occlusal teeth)			
	Favorable	Unfavorable	Favorable	Unfavorable
Single 	Rigid Transfer Angled ZioCera SmartFit Link	Transfer FreeForm ST GoldCast NP-Cast SmartFit Link	Rigid Transfer SmartFit Link	Transfer FreeForm ST GoldCast NP-Cast SmartFit Link
Bridge 	Rigid Transfer Angled ZioCera SmartFit Link	Transfer FreeForm ST SmartFit Link Multi Multi Angled Convertible	Rigid Transfer SmartFit Link	Transfer FreeForm ST SmartFit Link Multi Multi Angled Convertible
Overdenture 	Solitary type overdenture		Bar type overdenture	
	Stud Locator Port Angled		Multi Multi Angled Convertible	

Abutment Specification Selection



Order	Consideration	Select Option
❶ Platform	Fixture platform	Mini / regular
❷ Connection	Fixture Angle (path) / single, bridge selection	Hex / non-hex
❸ D	Space between adjacent teeth, Diameter of cervical area (Mesio-Distal, Bucco-lingual)	Ø 4.0 / 4.5 / 5.0 / 6.0 / 7.0
❹ G/H	Fixture Depth / margin position	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm
❺ H	Height of adjacent teeth, Distance to occlusal teeth	4.0 / 5.5 / 7.0 mm

Guide Tip.

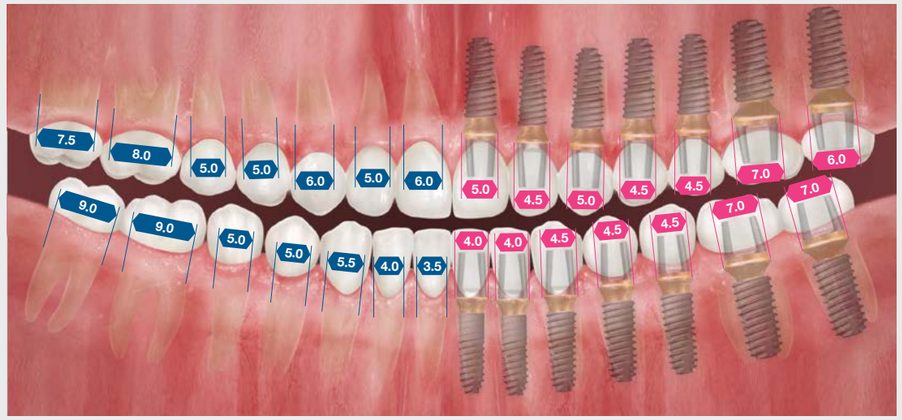
Emergence Profile Formation Tip

· Pre surgery planning is important since fixture depth decides abutment's G/H and H

· It is important to select abutment diameter similar to natural tooth's cervical area

Abutment Diameter Selection

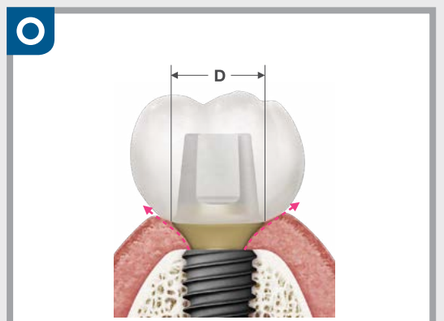
※Natural teeth cervical area mesial-distal / buccal-lingual: Based on smaller specification among standard specification



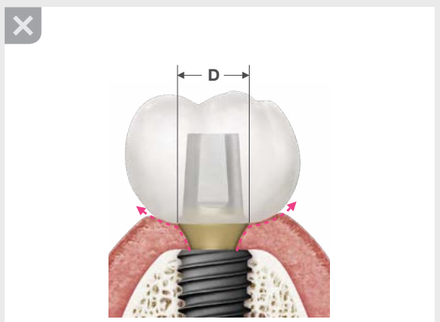
Diameter in cervical area　　Abutment Diameter

· When appropriate abutment specification for restoration was not selected

· Impossible to create natural prosthesis contour like below



TSIII SA Fixture	D Ø 4.5 H 10mm
Transfer Abutment	D Ø 6.0 H 5.5mm G/H 2.0mm



TSIII SA Fixture	D Ø 4.5 H 10mm
Transfer Abutment	D Ø 4.5 H 5.5mm G/H 2.0mm

Tightening Torque

Recommended to use the tightening torque below

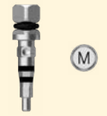
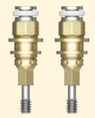
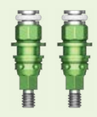
(Need regular maintenance for the abrasion, damage and functionality of components such as driver, torque wrench etc)

Type	Mini	Regular
 Cover Screw  Healing Abutment  Impression Coping  Bite Index  Protect Cap	Manual (5~8)	Manual (5~8)
 Rigid Abutment  Convertible Abutment  Stud Abutment  Locator / Port Abutment  Multi Abutment	30	30
 Transfer Abutment  Angled Abutment  FreeForm ST Abutment  GoldCast Abutment  NP-Cast Abutment	20	30
 ZioCera Abutment  ZioCera Angled Abutment  SmartFit Abutment  Link Abutment  Multi Angled Abutment		
 Temporary Abutment  Quick Temporary Abutment	20	20
 Convertible Cylinder	20	20

Platform Color Coding

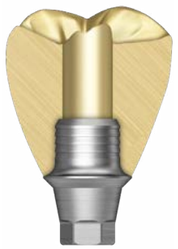
Mini / regular both have laser marking and color coding

(In regular platform, Ø 6.0 / 7.0 are called ultra-wide)

Type	Mini	Regular
Fixture Diameter	Ø 3.5	Ø 4.0 / 4.5 / 5.0 (6.0 / 7.0)
Instrument		
Fixture		
Mount		
Cover Screw		
Healing Abutment		
Impression Coping		
Lab Analog		
Abutment		
Abutment Screw		

Prosthetic Type

Screw



- **Combined with abutment through casting and firing in fabrication process**
- Screw hole is exposed above occlusal surface, therefore esthetics and occlusion have to be considered
- Prosthesis can easily be removed with screw, therefore there is no side effects from cement
- Errors can occur in bridge fabrication in casting or firing process
- Setting is affected severely by the fixture angle and adjacent teeth

Cement

- **Casted or fired separately from abutment in the fabrication process, and combined by cement**
- There is no screw hole, therefore esthetic surface can be created
- Difficult to remove prosthesis
- Cement is difficult to remove and has chances for inflammation
- Passive fit in bridge is easy
- Relatively easy setting, only affected by adjacent teeth

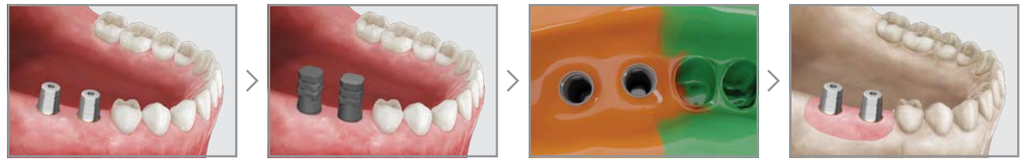
Combination

- **Casted or fired separately from abutment in the fabrication process, and combined by cement (same as cement type)**
- Screw hole is exposed above occlusal surface, therefore esthetics and occlusion have to be considered
- Maintenance is easy because prosthesis can easily be removed with screw
- After connecting prosthesis with cement, cement can be removed completely outside the mouth, so there is no side effect from cement
- Passive fit in bridge is easy
- Setting is affected by the fixture angle and adjacent teeth but relatively easy compared to screw type

Impression Type

Abutment Level Impression

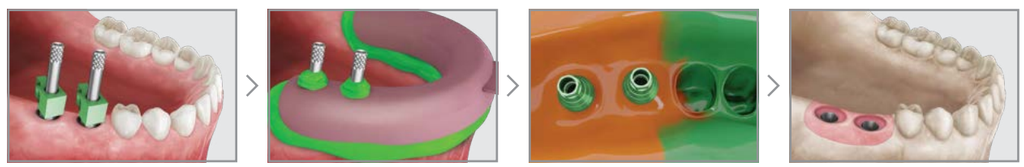
- Similar impression taking as natural teeth
- Bring abutment shape/position to working model (Impression taking is based on abutment information)
- Prosthetic process is relatively easy and convenient
- Close tray (ready made / stock tray) used
- Exclusive impression coping for each abutment is recommended



Oral Model | **Impression Coping** | **Impression Body** | **Working Model**

Fixture Level Impression Pick-up Type

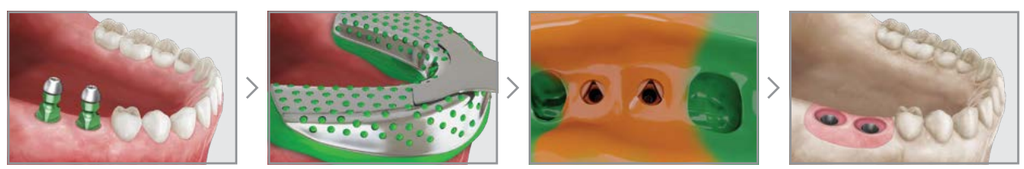
- Bring fixture's connection/position to working model (impression taking is based on fixture information)
- Impression taking is relatively complicated but accuracy is better than transfer type
- Impression coping moves as one body with impression body
- Open tray (custom / individual tray) used



Impression Coping | **Impression Taking** | **Impression Body** | **Working Model**

Fixture Level Impression Transfer Type

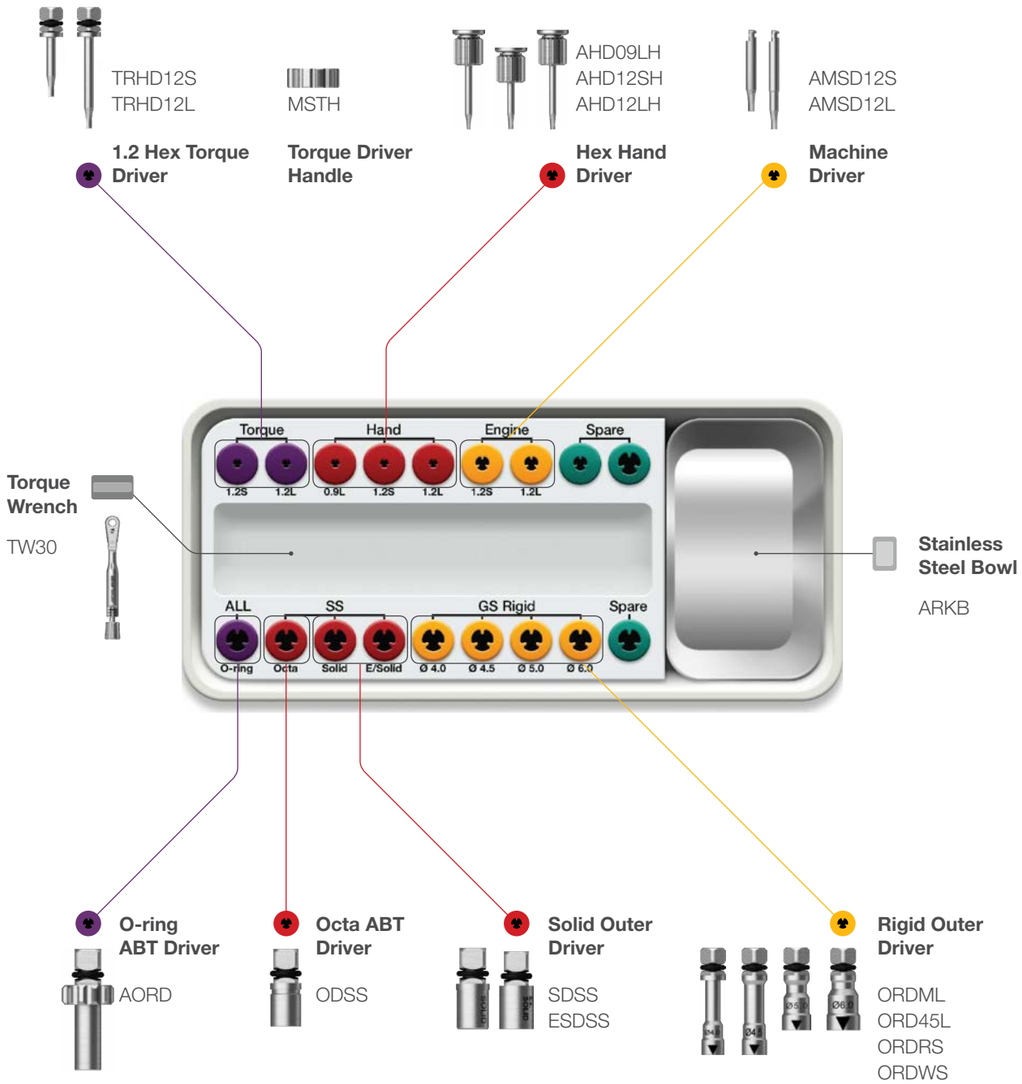
- Bring fixture's connection/position to working model (impression taking is based on fixture information)
- Convenient in posterior area with limited mouth opening
- Impression coping moves separately from impression body
- Close tray (ready made / stock tray) used



Impression Coping | **Impression Taking** | **Impression Body** | **Working Model**

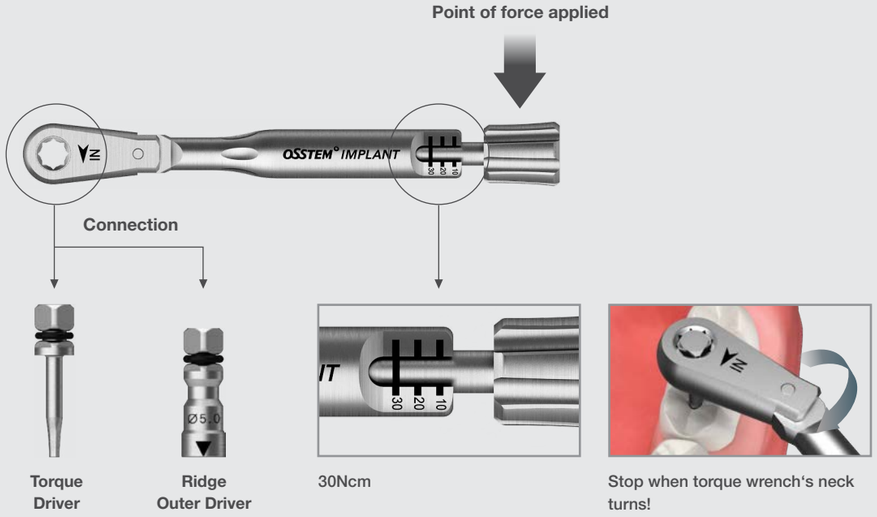
Component & Instrument

Prosthetic KIT



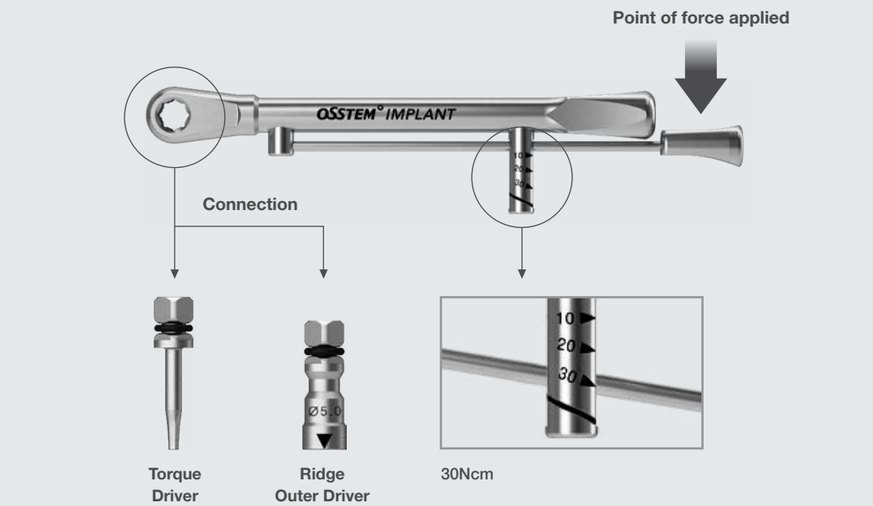
Torque Wrench

Spring Type



※ Set torque at 0Ncm for storage (check especially when autoclaving the equipment)

Bar Type



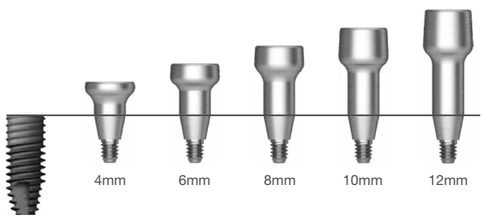
Driver

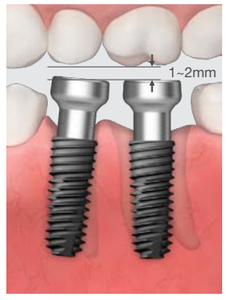
Hand Driver	Torque Driver	Machined Driver	Outer Driver	O-ring Abutment Driver
				
Rough connection (Mouth/Model)	For final tightening with Torque wrench	For final tightening with Engine	For Rigid abutment Connection	For O-ring abutment Connection

※ Normally, perform rough connection with hand driver first and tighten in final torque with torque driver

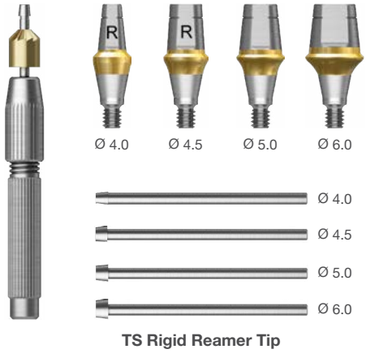
Bite Index

· Bite can be taken after fixture level impression taking
· Additional jig fabrication not needed with Bite
· Easy connection regardless of gingiva limitation
· 4, 6, 8, 10, 12mm : applicable for various situations

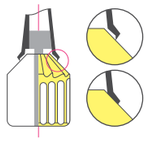




Reamer



TS Rigid Reamer Tip

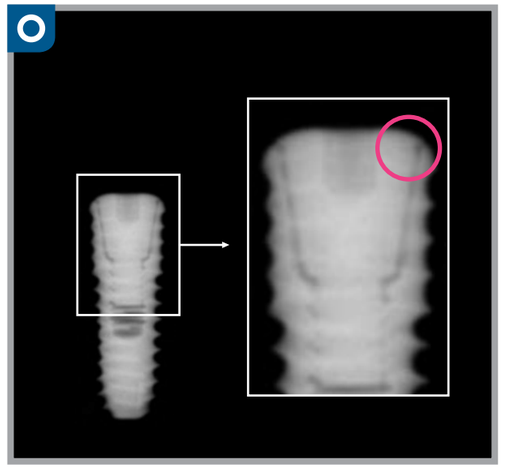


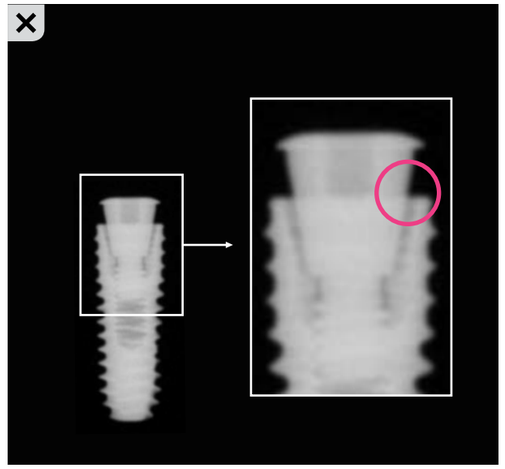
1. Prepare reamer tip with same diameter as abutment
2. Fix reamer tip to the prosthesis and turn reamer bite to blade direction and remove tip
3. Perform reaming until the tip of casting body is removed completely.

※ Reamer cannot be used for non-precious metal, therefore remove tip with bur and rubber point

Right Connection Checking Guide

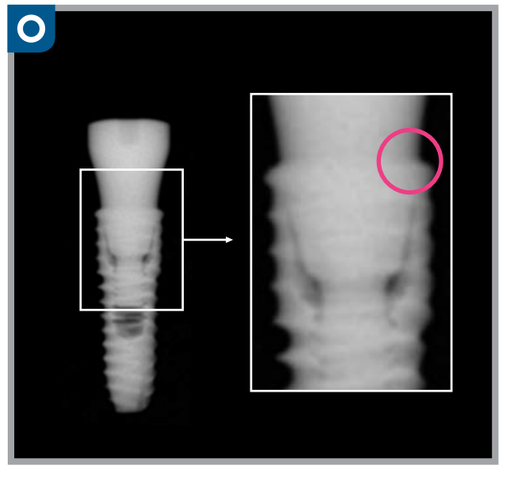
Cover Screw

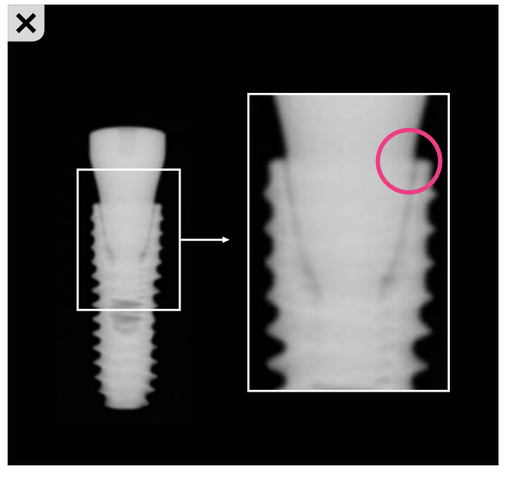




· Misconnection happens by the bone near fixture or adjacent tissue and foreign substance
· Check right connection after removing interfering area with bone profiler

Healing Abutment

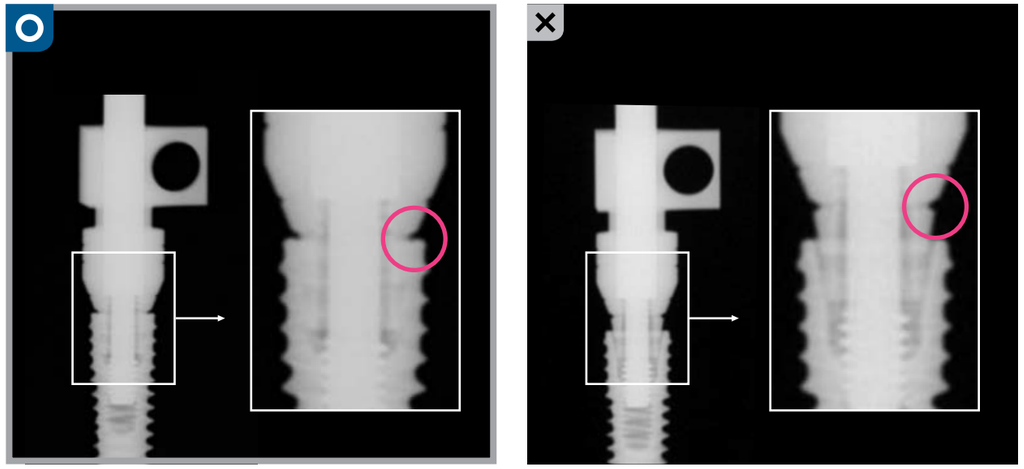




· If healing abutment and fixture has right connection, there is sealing on the top of taper area inside
· Misconnection happens by the bone near fixture or adjacent tissue and foreign substance
· Fixture failure can happen with plague and bacteria proliferation in gap
· Check right connection after removing interfering area with bone profiler

Impression Coping

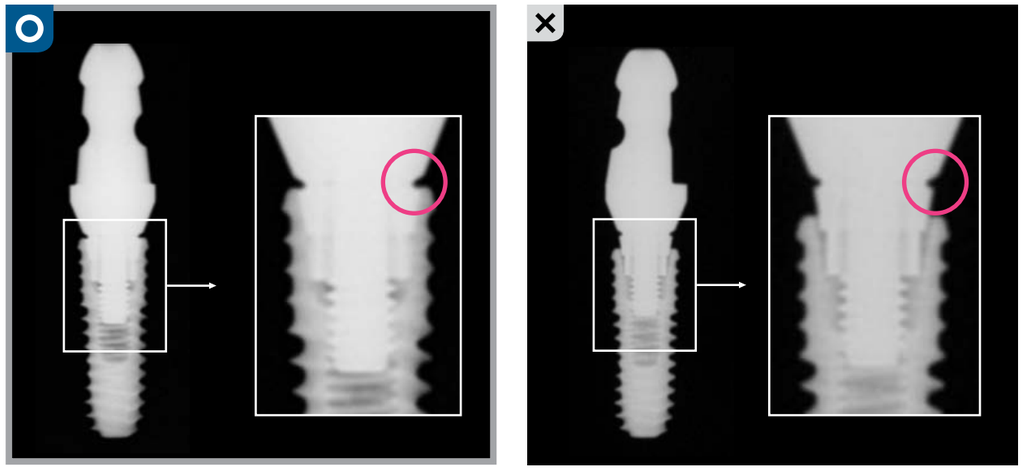
Pick-up Impression Coping



· Misconnection occurs when fixture and hex do not connect accurately, or with interference from bone and tissue around fixture

· Check right connection by checking if coping body notch(A) matches with top of fixture or if there is gap inside the 11° taper area

Transfer Impression Coping

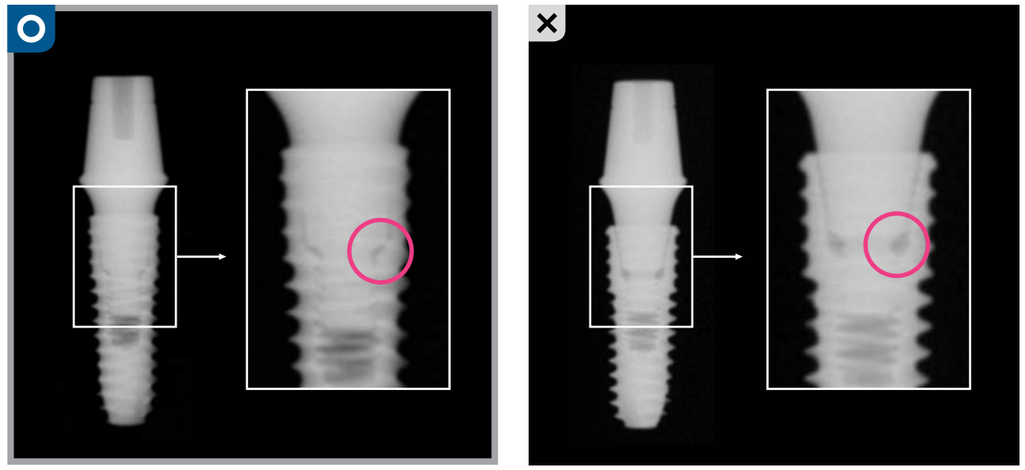


· Check right connection by checking if coping body notch(A) matches with top of fixture or if there is gap inside the 11° taper area

※ Transfer impression coping : Guide pin will not be connected without accurately setting the hex, therefore reduce errors from users

Abutment

Rigid Abutment

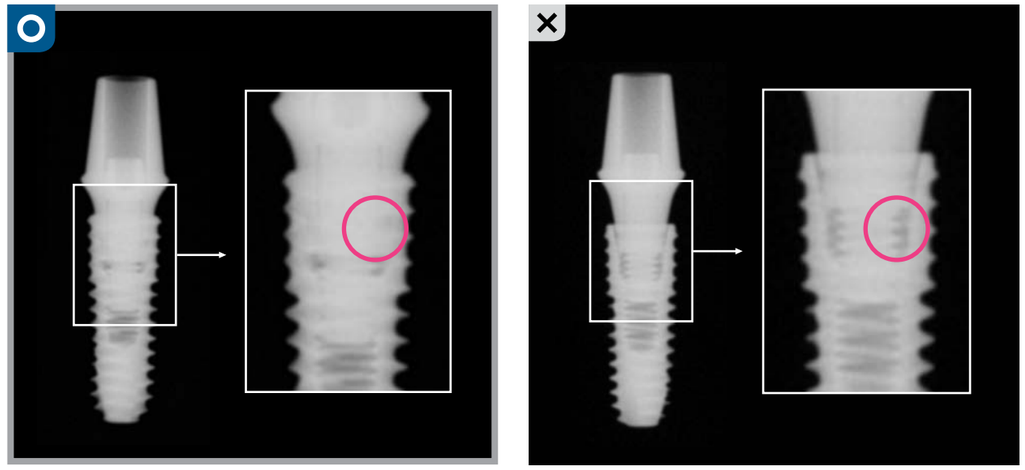


· Misconnection occurs when fixture and hex do not connect accurately, or with interference from bone and tissue around fixture

· Use bone profiler to remove interfering area and check right connection

· For Convertible, multi, stud abutment, before connecting prosthesis, check right connection with x-ray like above

Transfer Abutment



· Misconnection occurs when fixture and hex do not connect accurately, or with interference from bone and tissue around fixture

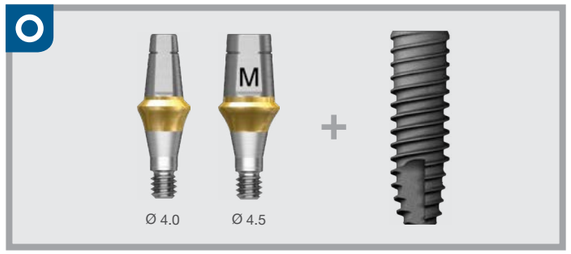
· Modify wrong hex setting with x-ray or use Bone profiler to remove interfering area and check right connection

· Angled, GoldCast, FreeForm ST, ZioCera abutment: before connecting prosthesis, check right connection with x-ray like above

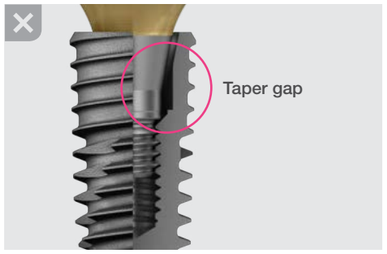
Platform Compatibility Guide

For stable connection and long-term stability, use abutment that has same platform as fixture (check platform – mini, regular for the same diameter as well)

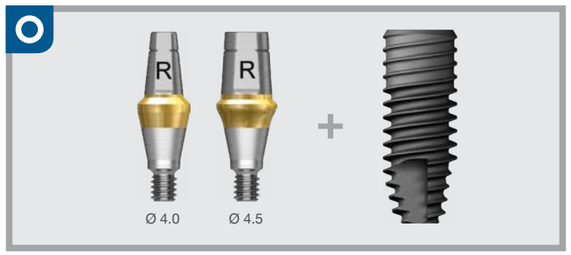
1-Piece Abutment Rigid Abutment



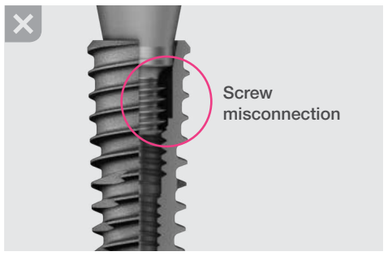
Mini abutment + Mini fixture



Mini abutment + Regular fixture

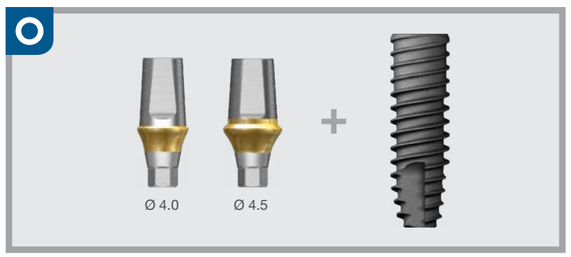


Regular abutment + Regular fixture

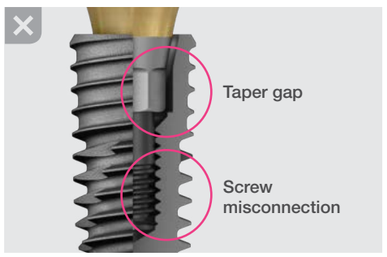


Regular abutment + Mini fixture

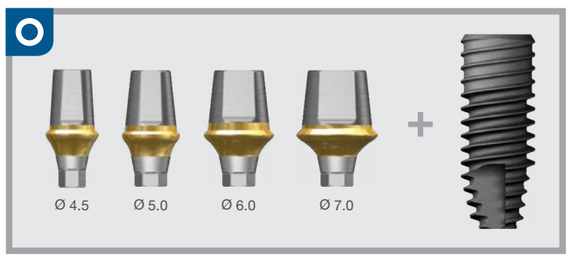
2-Piece Abutment Transfer Abutment



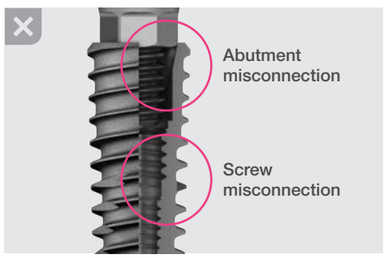
Mini abutment + Mini fixture



Mini abutment + Regular fixture



Regular abutment + Regular fixture

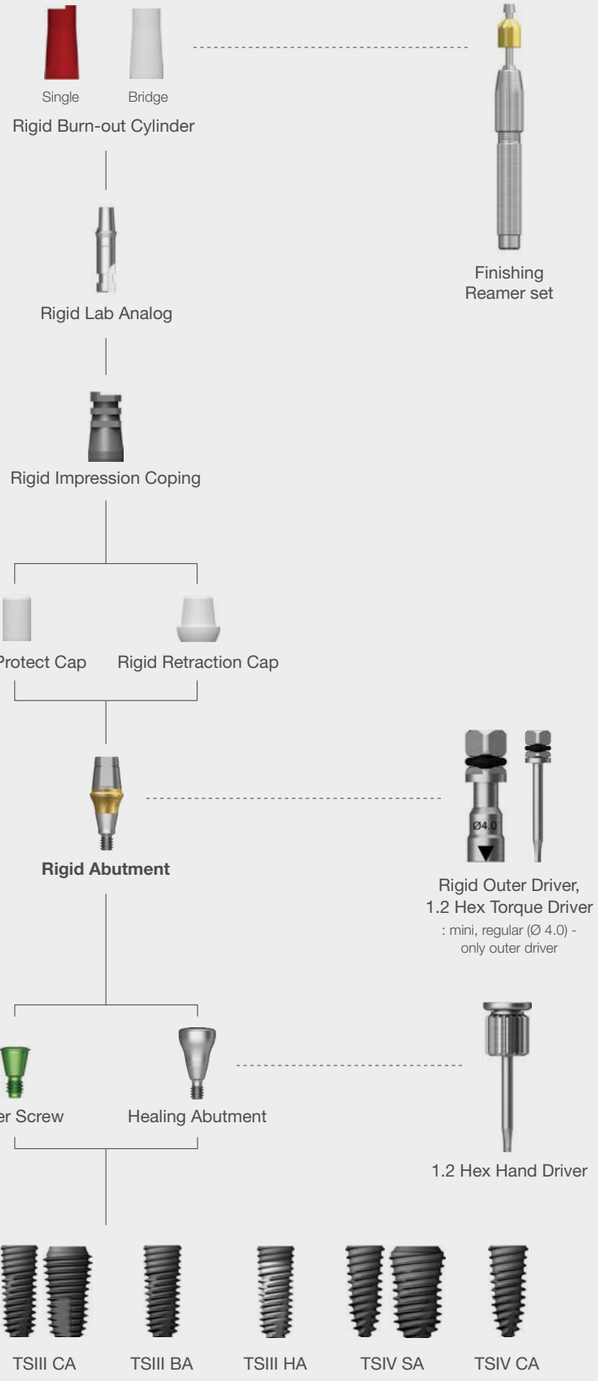


Regular abutment + Mini fixture

Prosthetic Flow Diagram

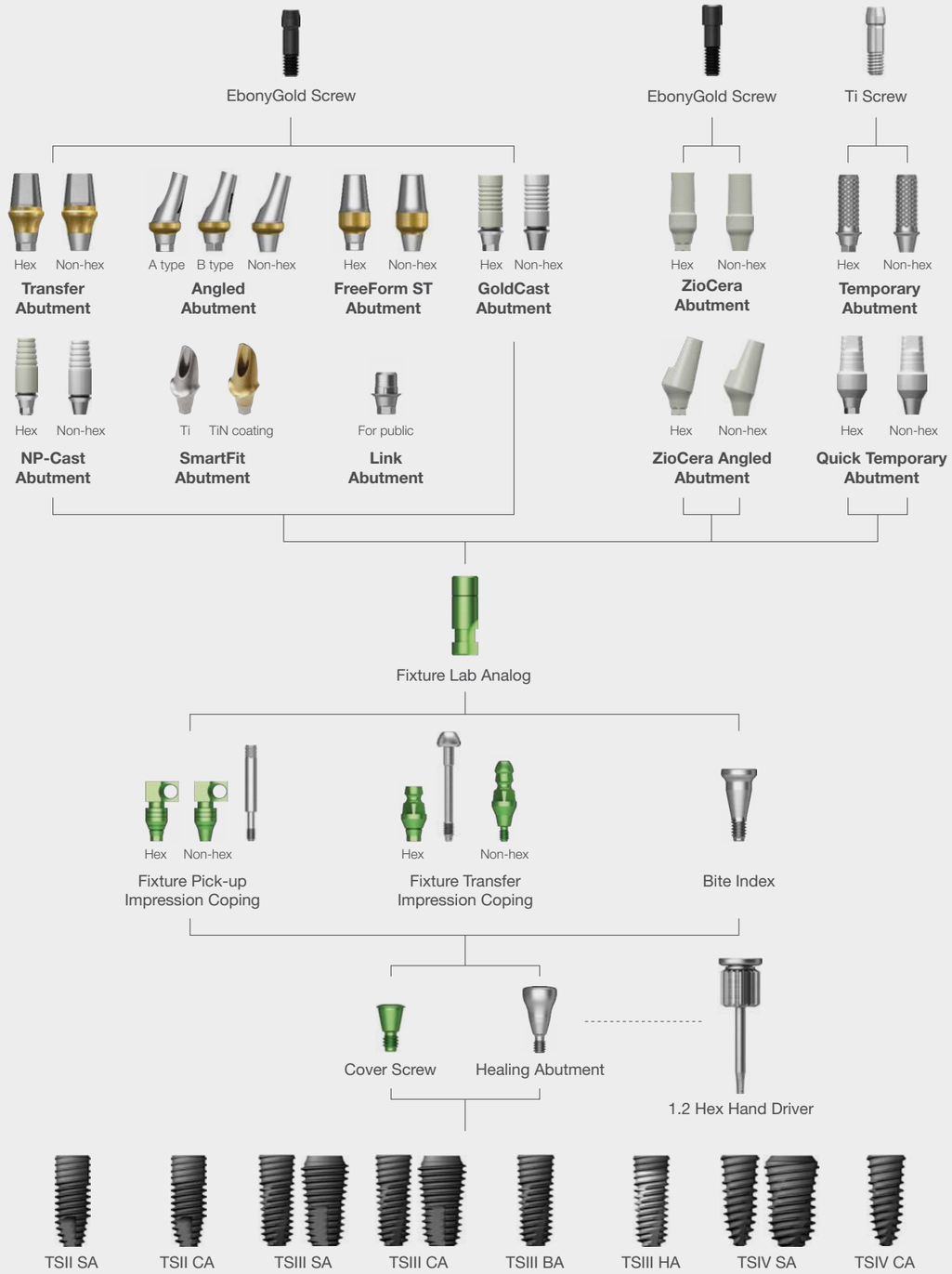
1-Piece Abutment

Abutment Level Impression



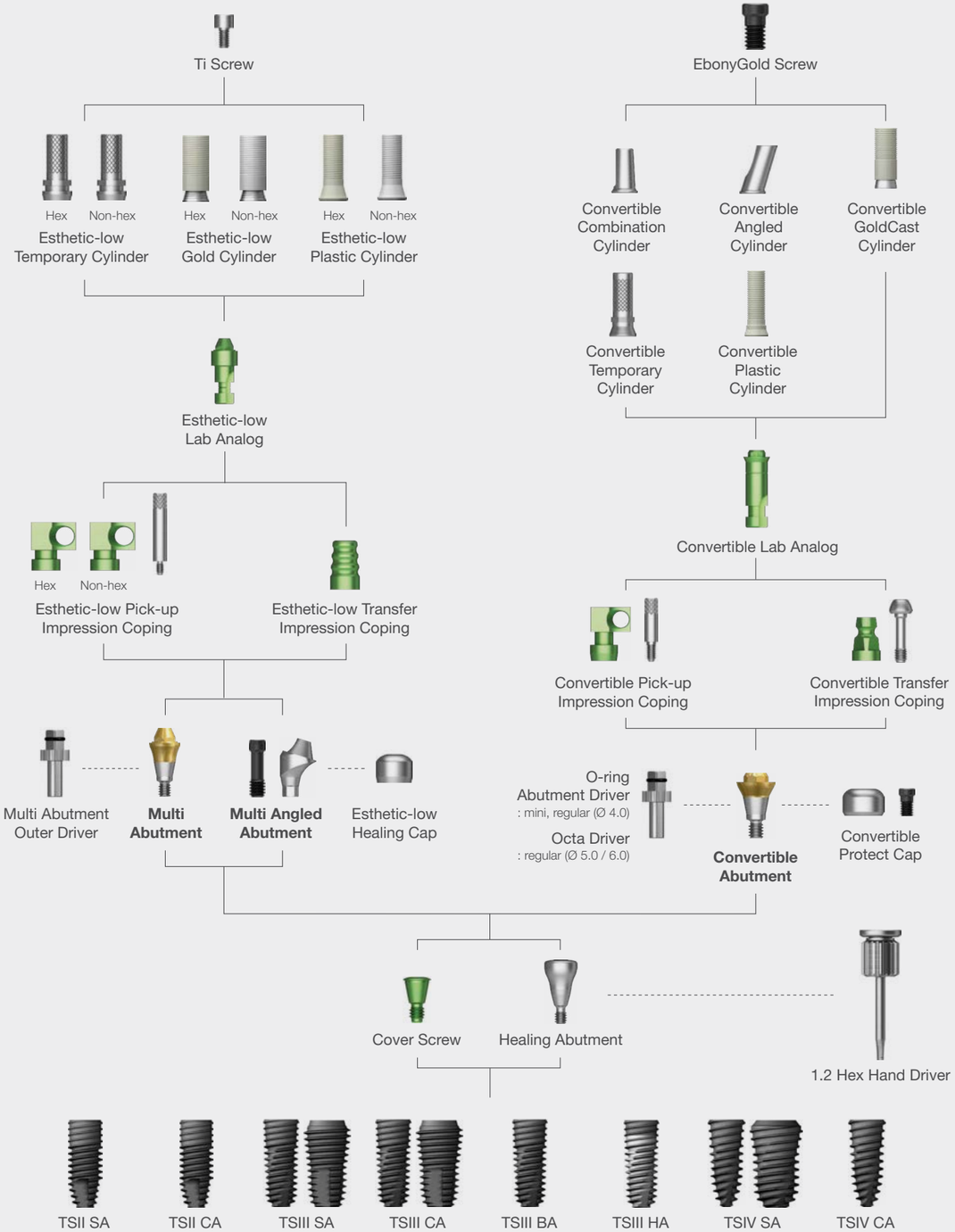
2-Piece Abutment

Fixture Level Impression



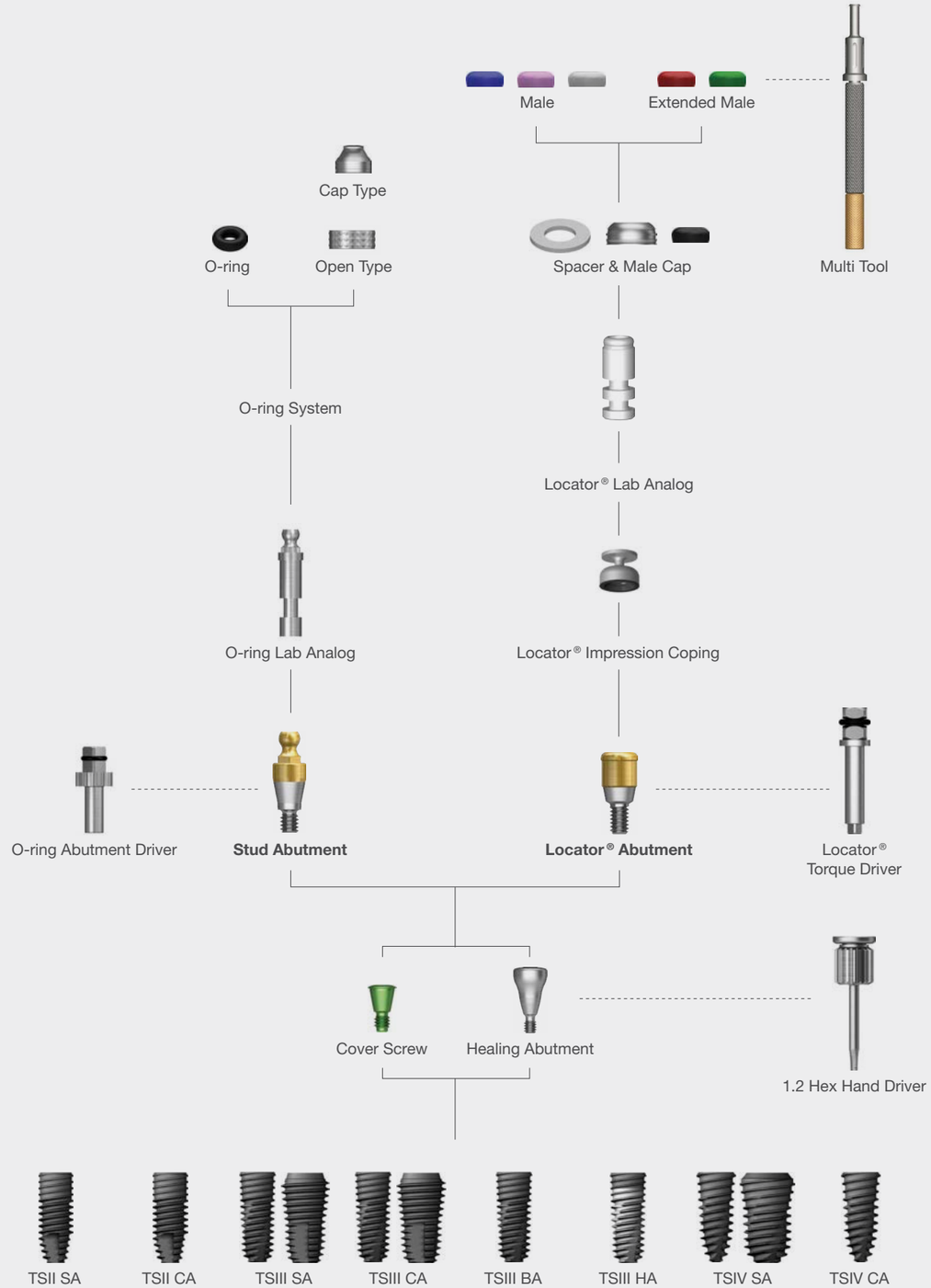
3-Piece Abutment

Abutment Level Impression

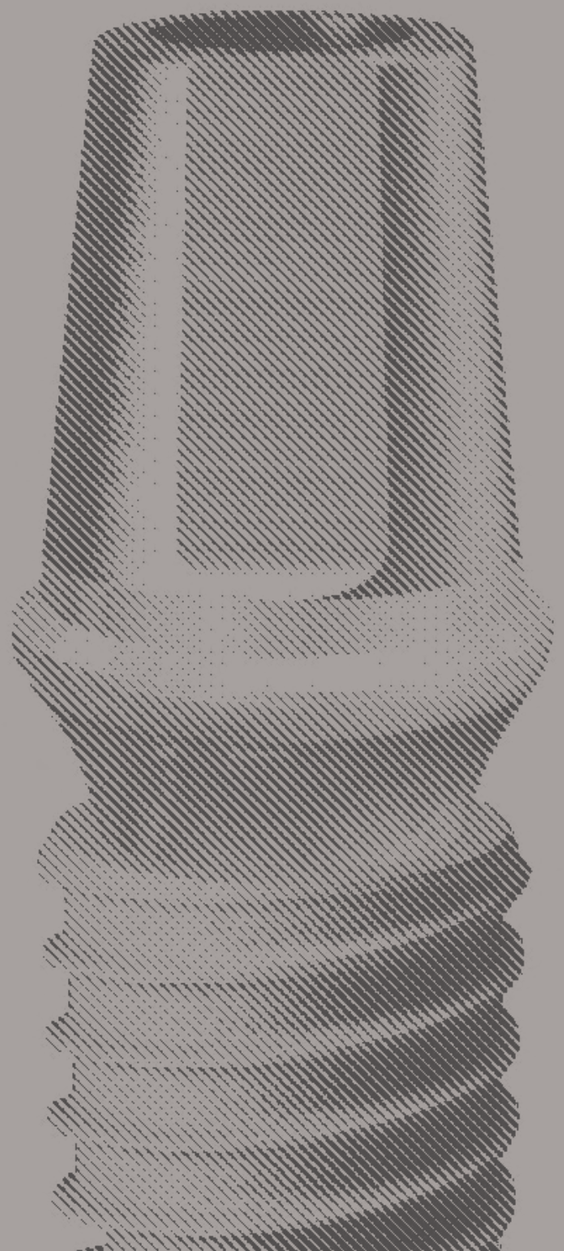


Overdenture

Abutment Level Impression



RESTORATION PROCEDURE



Restoration Procedure

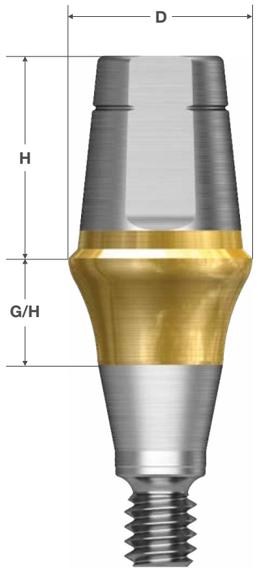
OSSTEM IMPLANT

ABT. 01

032 Abutment is not modified

035 Abutment is modified

Rigid
Abutment



Feature

- **Cement retained prosthesis**
- **Single / bridge / full arch restorations / all position**
  (Not recommended : misalignment bridge or over angulated case)
- **Abutment level impression**
- Gold coloring for margin's esthetics
- Use components with color coding for different height
  (4mm : yellow / 5.5mm : gray / 7mm : blue)
- Material : Ti-6Al-4V
- Ø 4.0 uses outer driver for Connection (code : ORDML / ORDMS)
- Ø 4.5 / 5.0 / 6.0 use outer driver or 1.2 hex driver for Connection
- Ø 7.0 uses 1.2 hex torque driver for Connection
- Recommended Tightening Torque : 30Ncm

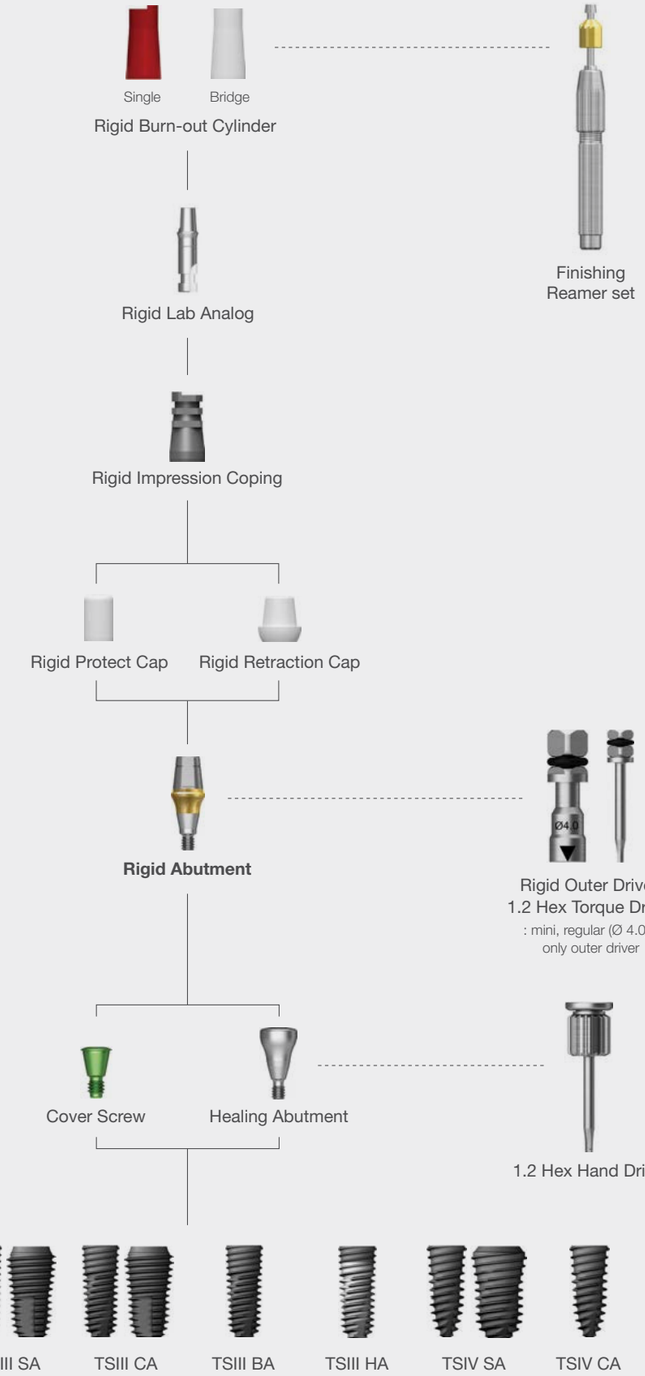
D	Ø 4.0 / 4.5 / 5.0 / 6.0 / 7.0 mm
H	4.0 / 5.5 / 7.0 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm

Abutment Diameter Selection

- Ø 4.5
- Ø 4.0
- Ø 5.0 / 6.0

※ Ø 7.0 for TS ultra-wide

Prosthetic Flow Diagram



Prosthetic Process

Abutment is not Modified

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connection(30Ncm) with 1.2 hex or outer driver

· Check right connection with X-ray

Rigid Abutment

Ø 4.0 Ø 4.5 Ø 5.0 Ø 6.0 Ø 7.0

1.2 Hex Torque Driver

Short Long

Rigid Outer Driver

Short Long

Torque Wrench

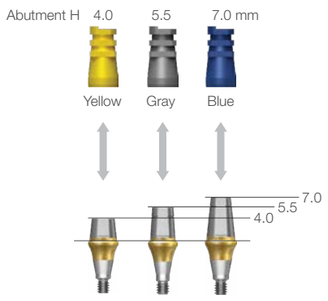
03

Abutment level impression

· Connect impression coping that matches abutment height (4.0 / 5.5 / 7.0mm) by hand

· Take impression using ready-made tray

Rigid Impression Coping



04

Protect cap selection and connection

· Connect protect cap to protect abutment after impression taking and before final prosthesis fabrication

· Possible to fabricate temporary prosthesis by customizing protect cap, depending on cases

Rigid Protect Cap

Abutment H 4.0 5.5 7.0 mm

05 **Lab Side**

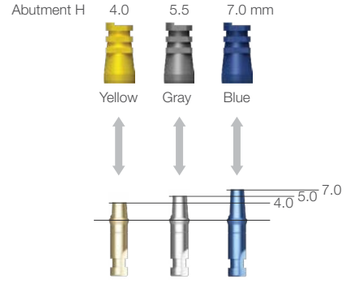
Working model fabrication

· Check impression coping color inside the impression body, and connect lab analog that matches abutment specification

· Apply separator around analog and Impression body, and reproduce gingiva area with special material

· Fabricate working model in normal way by pouring stone inside the Impression body

Rigid Lab Analog



06 **Lab Side**

Burn-out cylinder connection and wax up

· Using burn-out cylinder can skip fabrication of resin cap

· Connect correct burn-out cylinder by hand on the lab analog in the working model

· After modification, wax up in normal way

Rigid Burn-out Cylinder

Single Bridge

07 Lab Side

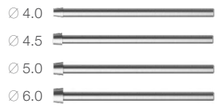
Casting

· If necessary, modify for resin facing

· Connect sprue in normal way and casting

· Ream the margin of the casted body using reamer tip with same diameter as abutment

Rigid Reamer Tip



Reamer Assembly

08 Lab Side

Polishing and finishing

· Polishing procedure in normal way

· Finish by resin facing, and check prosthesis in the working model

09

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove temporary prosthesis or protect cap from the mouth

· Connect prosthesis by cementation, and remove remaining cement

Abutment is modified

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

02

Abutment selection and connection

· Select abutment specification by oral environment and final prosthesis

· Connection(30Ncm) with 1.2 hex or outer driver

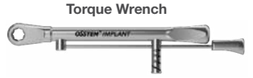
· Check correct connection using x-ray

Rigid Abutment

1.2 Hex Torque Driver

Rigid Outer Driver

Torque Wrench



03

Modifying abutment

· When minor abutment milling is needed for different path

❶ Careful not to damage driver hole where 1.2 hex driver is connected

❷ Careful not to damage groove and anti-rotation surface where outer driver is connected

· If it is difficult to follow the above precautions, use 2-piece type products (ex. transfer / FreeForm ST abutment)

04

Impression

· Insert gingival cord or use retraction cap for margin area

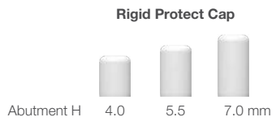
· Take direct impression taking using ready-made tray

05

Protect cap connection and fabrication of temporary prosthesis

· Connect protect cap to protect abutment after impression taking and before final prosthesis fabrication

· Possible to fabricate temporary prosthesis by customizing protect cap, depending on cases



06 Lab Side

07 Lab Side

Additional modifying and wax up

· Check working model, and fabricate guide cap using pattern resin after additional modifying

· To transfer information of modified area, keep guide cap separately

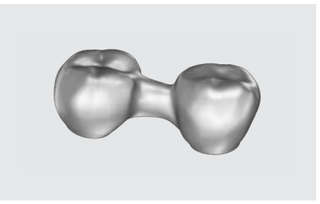
· Wax up in normal way

08 Lab Side

Casting

· Connect sprue in normal way and casting

· Post-treatment for casted body and check fit



09 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

10

Connect final prosthesis

- Check delivered prosthesis from the lab
- rRemove temporary prosthesis or protect cap inside mouth
- If lab abutment is milled additionally, connect guide cap from lab and modify accordingly
- Connect prosthesis by cementation and remove remaining cement

TRANSFER

ABT. 02

042 Abutment Level Impression
Cement Type prosthesis

045 Fixture Level Impression
Cement Type prosthesis

049 Fixture Level Impression
Combination Type prosthesis

Transfer
Abutment

Feature

- **Cement / combination retained prosthesis**
- **Single / bridge / full arch restorations / all position (Not recommended : when abutment needs to be modified excessively)**
- **Abutment / fixture level impression**
- Gold coloring for margin's esthetics
- Easy repair and maintenance compared to rigid abutment
- Abutment design that reduces customizing
- Material : Ti-6Al-4V
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

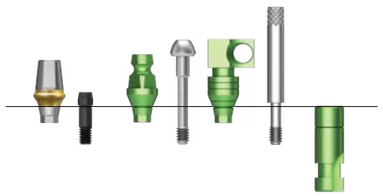
D	Ø 4.0 / 4.5 / 5.0 / 6.0 / 7.0 mm
H	4.0 / 5.5 / 7.0 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm

Abutment Diameter Selection

- Ø 4.5
- Ø 4.0
- Ø 5.0 / 6.0

※ Ø 7.0 is for TS ultra-wide

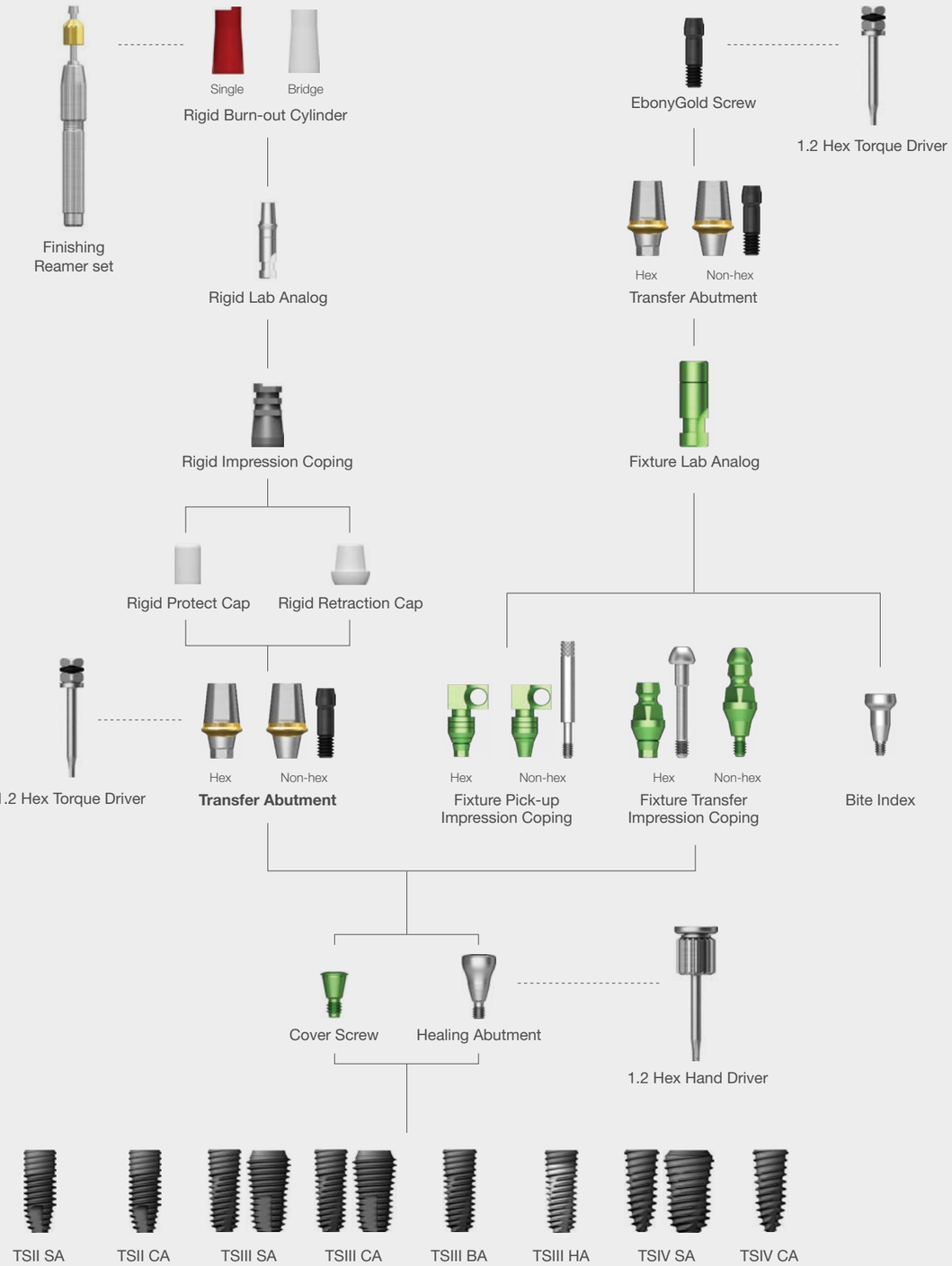
Fixture Level Impression



Abutment Level Impression

- Same sequence as rigid abutment (same margin top shape)
- Same components for impression (excluding Ø 4.0)

Prosthetic Flow Diagram



Prosthetic Process

Abutment Level Impression Cement Type prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect in recommended tightening torque using 1.2 hex torque driver

· Check right connection with X-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench

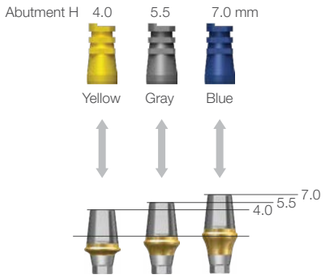
03

Impression

· Connect impression coping that matches abutment height (4.0 / 5.5 / 7.0mm) by hand

· Take impression using ready-made tray

Rigid Impression Coping



04

Protect cap connection or fabrication of temporary prosthesis

· Connect protect cap to protect abutment after impression taking and before final prosthesis fabrication

· Possible to fabricate temporary prosthesis by customizing protect cap, depending on cases

Rigid Protect Cap

05 **Lab Side**

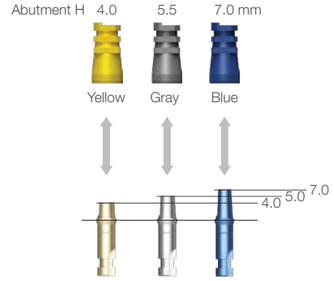
Fabricate working model

· Check impression coping color inside the impression body, and connect lab analog that matches abutment specification

· Apply separator around analog and Impression body, and reproduce gingiva area with special material

· Pour stone in normal way in the impression body and fabricate working model

Rigid Lab Analog



06 **Lab Side**

Burn-out cylinder connection and wax up

· Using burn-out cylinder can skip fabrication of resin cap

· Connect correct burn-out cylinder by hand on the lab analog in the working model

· After modification, wax up in normal way

Rigid Burn-out Cylinder

Single Bridge

07 Lab Side

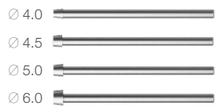
Casting

· If necessary, modify for resin facing

· Connect sprue in normal way and casting

· Ream the margin of the casted body using reamer tip with same diameter as abutment and check prosthesis fit

Rigid Reamer Tip



Reamer Assembly

08 Lab Side

Polishing and finishing

· Polishing procedure in normal way

· Finish by resin facing, and check prosthesis in the working model

09

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove temporary prosthesis or protect cap from mouth

· Connect prosthesis by cementation and remove remaining cement

Fixture Level Impression Cement Type prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

02

Impression

· Select abutment diameter and type(hex/ non-hex) by oral environment and final prosthesis

· Select impression coping specification (pick-up / transfer type)

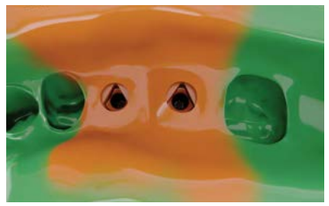
· Connect using 1.2 hex hand driver by hand

· Block out driver hole in the transfer impression coping

· Perform peri apical X-ray to check correct connection

· Take impression by applying impression material around impression coping first

· Check tri-circular structure in the impression body



1.2 Hex Hand Driver

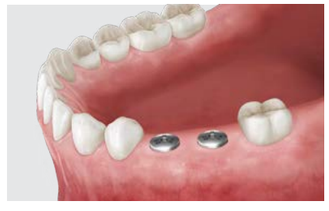
03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)



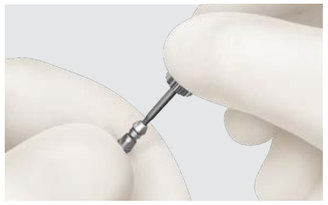
04 Lab Side

Fabricate working model

· Connect impression coping to fixture lab analog with same platform

· Connect impression coping (connected to lab analog) by matching tri-circular structure in the impression body

· Fabricate working model in normal way by pouring stone inside the Impression body



05 Lab Side

Abutment selection and Connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

06 Lab Side

Burn-out cylinder Connection and wax up

· Using burn-out cylinder can skip fabrication of resin cap

· Connect correct burn-out cylinder by hand on the lab analog in the working model

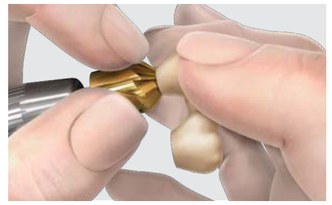
· After modification, wax up in normal way

07 Lab Side

Casting

· Connect sprue in normal way and casting

· Ream the margin of the casted body using reamer tip with same diameter as abutment



08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

09

Abutment Connection

- Check delivered prosthesis from the lab
- Remove healing abutment or temporary prosthesis from mouth
- Position abutment from working model to mouth
- Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)
- Check right connection using x-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench

10

Connect final prosthesis

- Abutment screw hole block out
- Connect prosthesis by cementation and remove cement completely

Fixture Level Impression Combination Type Prosthesis

01

Remove healing abutment

- Remove healing abutment with 1.2 hex hand driver by hand

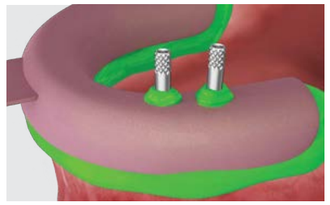
1.2 Hex Hand Driver

Short Long

02

Impression

- Consider abutment diameter and type (hex/non-hex)
- Select Impression coping specification (pick-up / transfer type)
- Connect using 1.2 hex hand driver by hand
- Block out driver hole of transfer impression coping
- Perform peri apical X-ray to check correct connection
- Take impression by applying impression material around impression coping first



1.2 Hex Hand Driver

Short Long

03

Healing abutment connection or fabrication of temporary prosthesis

- Remove impression coping from mouth after impression taking
- Connect healing abutment to protect abutment until fabrication of final prosthesis
- Fabricate temporary prosthesis depending on case (ex. temporary abutment)

04 Lab Side

Fabricate working model

· Connect fixture lab analog with same platform to impression body

· Fabricate working model in normal way by pouring stone inside the Impression body

05 Lab Side

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

· Perform abutment milling considering fixture placement angle and path of insertion of prosthesis

1.2 Hex Hand Driver

Short Long

06 Lab Side

Wax up

· Wax up in normal way after abutment customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole

07 Lab Side

Casting

· Connect sprue in normal way and casting

· Post-treatment for casted body and check

08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

09 Lab Side

Make transfer jig

· Make transfer jig with pattern resin to transfer the position of abutment from working model to mouth correctly

10

Abutment connection

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Make transfer jig with pattern resin to transfer the position of abutment from working model to mouth correctly

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench

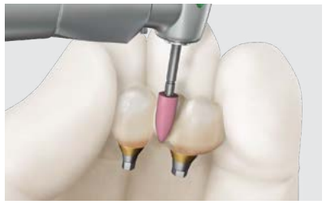
11

Connect final prosthesis

· Block out abutment screw hole and connect prosthesis by cementation

· After cement hardening, untighten abutment screw and remove prosthesis from mouth

· Remove cement completely from the margin of prosthesis



· Connect prosthesis back inside the mouth

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

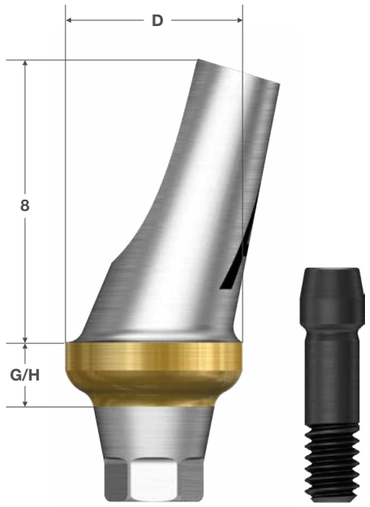
· Block out screw hole with resin

ANGLED

ABT. 03

056 Fixture Level Impression
Cement Type prosthesis

Angled
Abutment



Feature

- **Cement / combination retained prosthesis**
- **single / bridge restoration that requires path modification (Not recommended : when only angled abutment is used in posterior single / bridge case)**
- **Fixture level impression**
- Gold coloring for margin's esthe
- Compensates fixture angle up to 23˚ without modificatio
- 2 hex type to minimize milling (A / B)
- Material : Ti-6Al-4VV
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

D	Ø 4.0 / 4.5 / 5.0 / 6.0 mm
G/H	2.0 / 4.0 mm
Type	Hex A / Hex B / Non-Hex

Path Modification

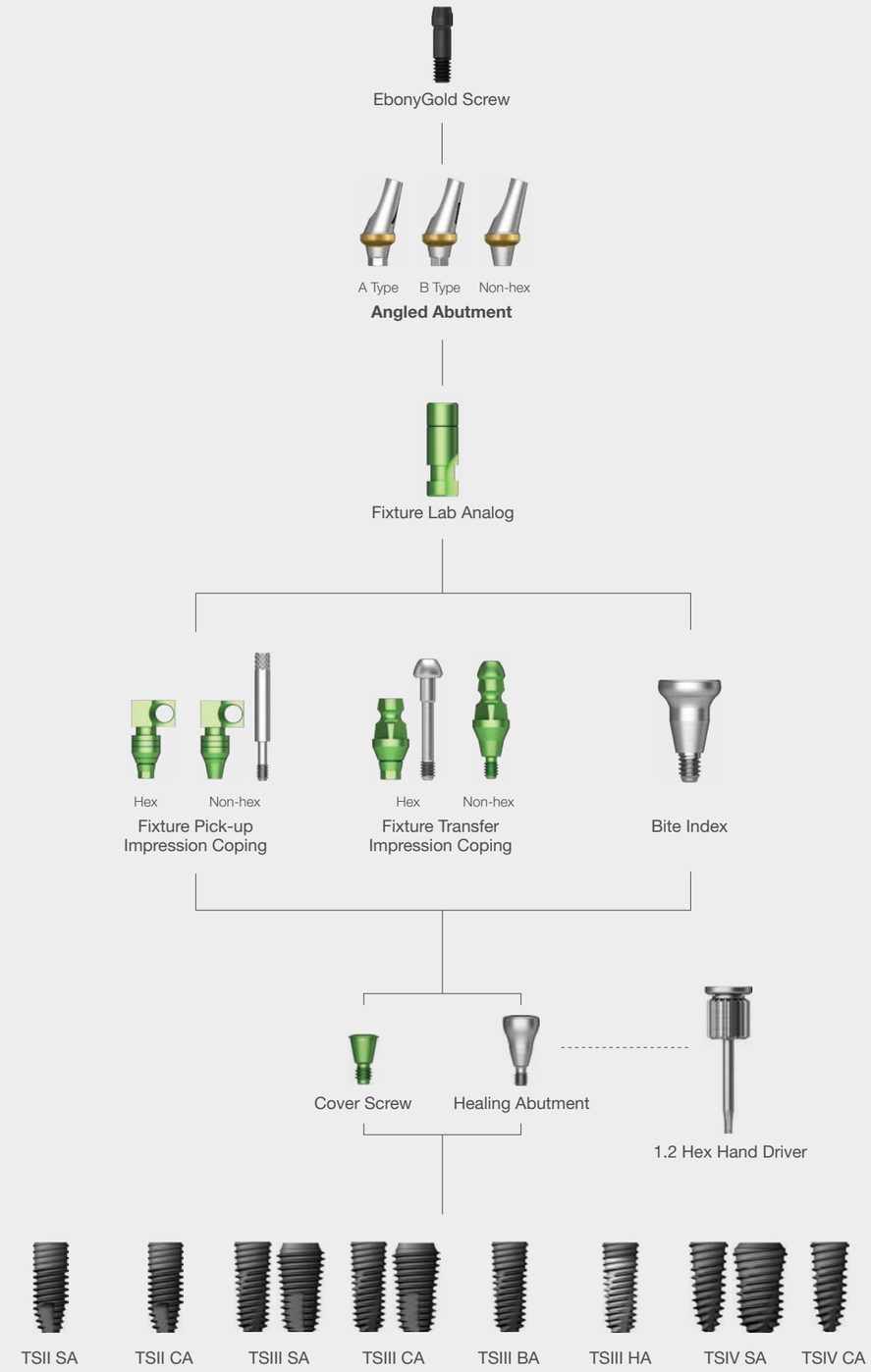
- 17˚ axial angle and 6˚ taper body structure
- Modifies path for anatomical structure such as maxillary anterior area and compensates misalignment path in bridge crown

Angle	**10°**	**17°**	**23°**
			
Design concept	Posterior 1° milling	No undercut	No undercut

Angled Abutment Selector

Choose hex type (A/B) with selector before deciding angled abutment

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

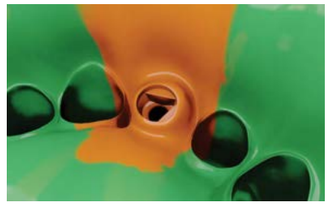
· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

· Check tri-circular structure in the impression body



Fixture Transfer Impression Coping

Hex Non-hex

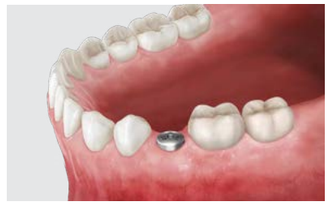
03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on Case (ex. temporary abutment)



04 Lab Side

Fabricate working model

· Connect impression coping to fixture lab analog with same platform

· Connect impression coping (connected to lab analog) by matching tri-circular structure in the impression body

· Fabricate working model in normal way by pouring stone inside the Impression body

Fixture Lab Analog

Mini Regular

05 Lab Side

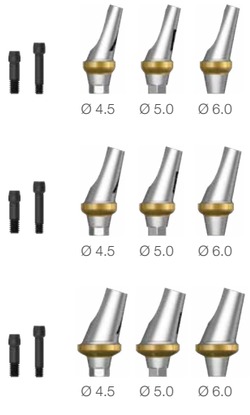
Abutment selection and connection

· Decide abutment type with abutment selector in working model

1.2 Hex Hand Driver

Short Long

Angled Abutment



Ø 4.5 Ø 5.0 Ø 6.0

Ø 4.5 Ø 5.0 Ø 6.0

Ø 4.5 Ø 5.0 Ø 6.0

06 Lab Side

Wax up, casting, porcelain build up

· Modify abutment using disc, wheel, bur

· Wax up in normal way, casting, porcelain build up

07

Abutment connection

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Position abutment from working model to mouth

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with X-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench

08

Connect final prosthesis

· Abutment screw hole block out

· Connect prosthesis by cementation and remove cement completely

FREEFORM ST

ABT. 04

062 Fixture Level Impression
Cement Type prosthesis

065 Fixture Level Impression
Combination Type prosthesis

FreeForm ST
Abutment

Feature

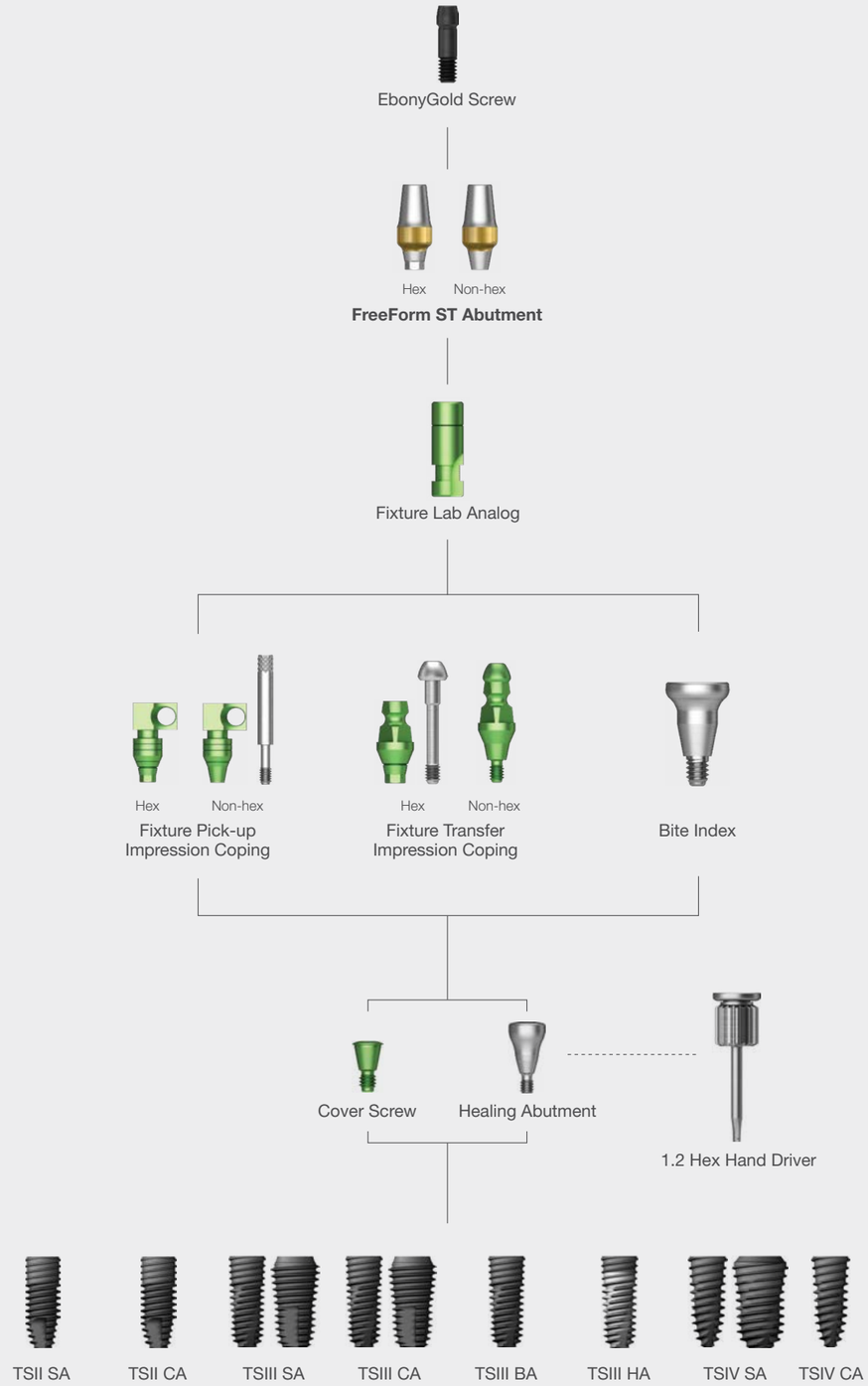
- **Cement / combination retained prosthesis**
- **Single / bridge restorations / all position**
- **Fixture level impression**
- Gold coloring for margin's esthetics
- Easy to acquire support area by customizing the large volume
- Material : Ti-6Al-4V
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

D	Ø 4.0 / 5.0 / 6.0 / 7.0 mm
G/H	1.5 / 3.5 mm
Type	Hex / Non-Hex

Application

- Reproduce scallop shape, compensate misalignment path, and used for single crown with large volume
- Use Ø 4.0 for narrow interdental area such as mandibular anterior area

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

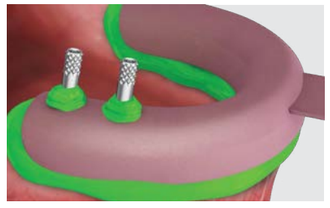
· Block out driver hole of Transfer impression coping

· Perform peri apical X-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

Short Long



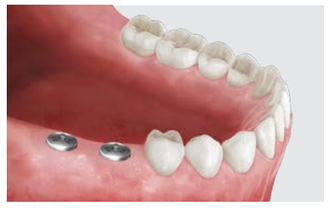
03

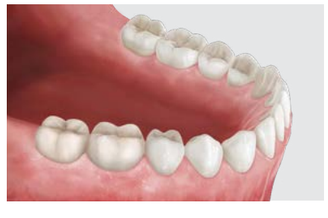
Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)





04 Lab Side

Fabricate working model

· Connect fixture lab analog with same platform to impression body

· Fabricate working model in normal way by pouring stone inside the Impression body

05 Lab Side

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

· Abutment milling by fixture angle and path of prosthesis

· Make transfer jig with pattern resin to transfer the position of abutment from working model to mouth correctl

Hex Type

Ø 4.0 Ø 4.0 Ø 5.0 Ø 6.0 Ø 7.0

Mini Regular

Non-Hex Type

Ø 4.0 Ø 4.0 Ø 5.0 Ø 6.0 Ø 7.0

Mini Regular

06 Lab Side

Wax up

· Wax up in normal way

07 Lab Side

Casting

· If necessary, modify for resin facing

· Connect sprue in normal way and casting

· Post-treatment for casted body and check fit

08 Lab Side

Polishing and finishing

· Polishing procedure in normal way

· Finish by resin facing, and check prosthesis in the working model

09

Abutment connection

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Re position abutment from working model to mouth correctly using transfer jig

· Connect with 1.2 hex driver (mini 20Ncm / regular 30Ncm)

· Check right connection with X-ray

10

Connect final prosthesis

· Abutment screw hole block out

· Connect prosthesis by cementation and remove cement completely

Fixture Level Impression Combination Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type(hex/non-hex)

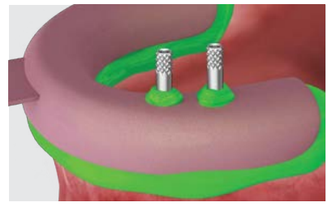
· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first



1.2 Hex Hand Driver

Short Long

03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)

04 Lab Side

Fabricate working model

· Connect impression coping to fixture lab analog with same platform

· Fabricate working model in normal way by pouring stone inside the Impression body

05 Lab Side

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

· Abutment milling by fixture angle and path of prosthesis

Hex Type

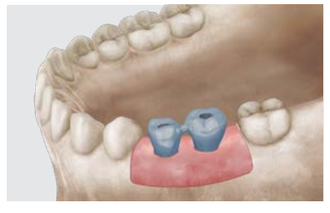
Non-Hex Type

06 Lab Side

Wax up

· Wax up in normal way after abutment customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole



07 Lab Side

Casting

· Connect sprue in normal way and casting

· Post-treatment for casted body and check fit

08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

09 Lab Side

Make transfer jig

· Make transfer jig with pattern resin to transfer the position of abutment from working model to mouth correctly

10

Abutment Connection

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Re position abutment from working model to mouth correctly using transfer jig

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Torque Wrench

11

Connect final prosthesis

- Block out abutment screw hole and connect prosthesis with cement
- After cement hardening, untighten abutment screw and remove prosthesis from mouth
- Remove cement completely from the margin of prosthesis

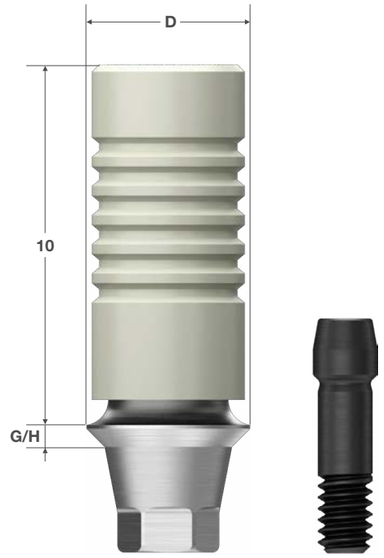
- Re position prosthesis in mouth
- Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)
- Block out screw hole with resin

GOLDCAST

ABT. 05

072 Fixture Level Impression
Screw Type prosthesis

GoldCast
Abutment

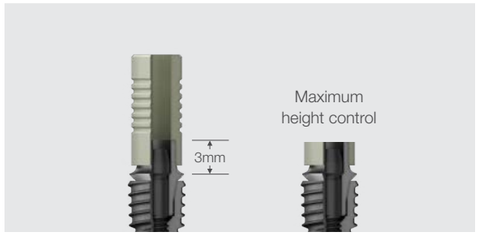


Feature

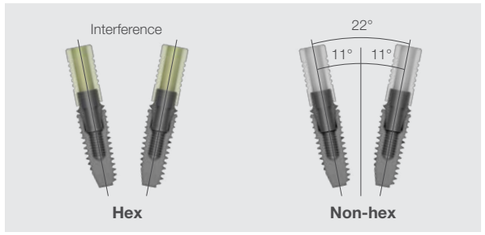
- **Cement / screw / combination retained prosthesis**
- **Single / bridge restorations / all position**
  (Not recommended : non precious alloy casting)
- **Fixture level impression**
- Free customizing, easy casting with gold alloy
- Material : Au-Pt alloy + POM
- Abutment melting point: 1400~1450℃
- Connect using 1.2 hex torque driver
- Recommended tightening torque :
  mini 20Ncm / regular 30Ncm

D	Ø 4.0 / 4.5 mm
G/H	1.0 / 3.0 mm
Type	Hex / Non-Hex

Screw Retained Restoration

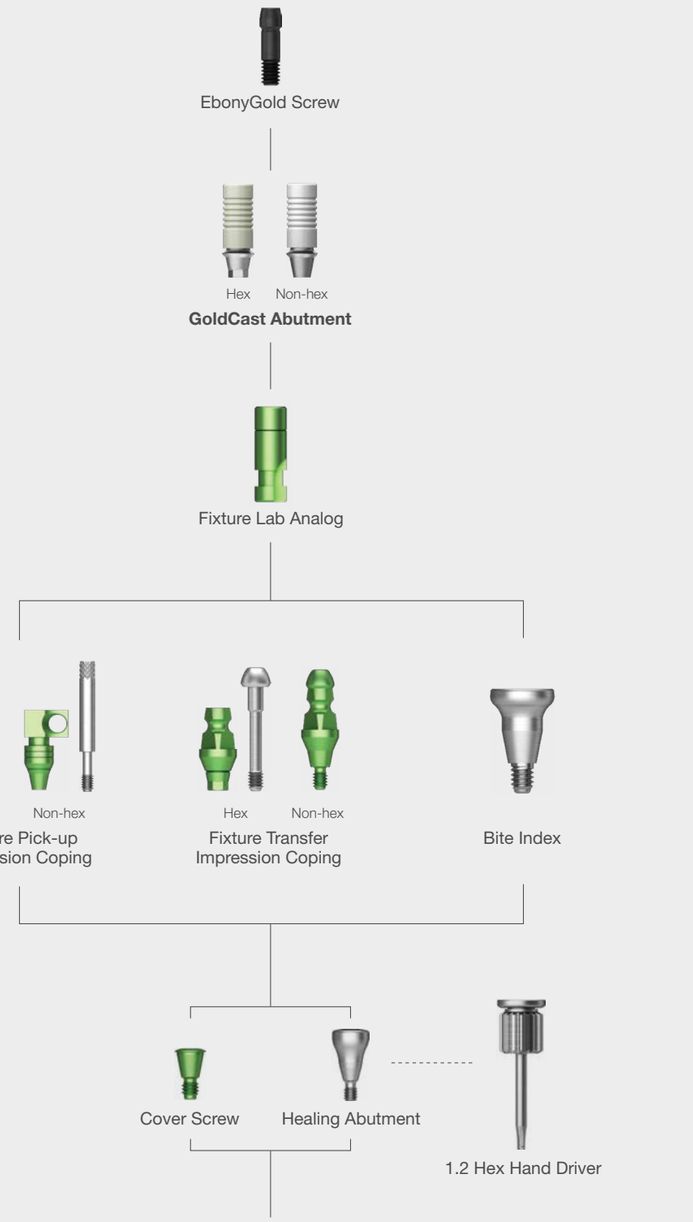


When modifying plastic area, need at least 3mm from abutment margin



- Use non-hex in bridge case with inclined path and must check passive fit with x-ray (using hex type will not allow passive fit or prosthesis connection)
- If path error is higher than 22°, consider convertible abutment

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

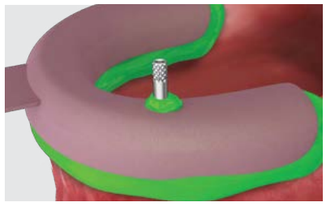
· Block out driver hole of Transfer impression coping

· Perform peri apical X-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

Short Long



03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression takin

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)

04 Lab Side

Fabricate working model

· Connect impression coping to fixture lab analog with same platform

· Fabricate working model in normal way by pouring stone inside the impression body

05 Lab Side

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

· Abutment milling by fixture angle and path of prosthesis

GoldCast Abutment

Ø 4.0 Ø 4.5 Ø 4.0 Ø 4.5

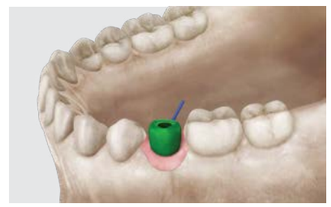
Hex type Non-hex type

06 Lab Side

Wax up

· Wax up in normal way after abutment customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole



07 Lab Side

Casting

· Connect sprue in normal way, perform casting with precious metal appropriate for gold crown and PFG

· Casting with non-precious metal is not allowed(abutment change or damage)

· Post-treatment for casted body and check fit

08 Lab Side

Polishing and finishing

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

09

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Short Long

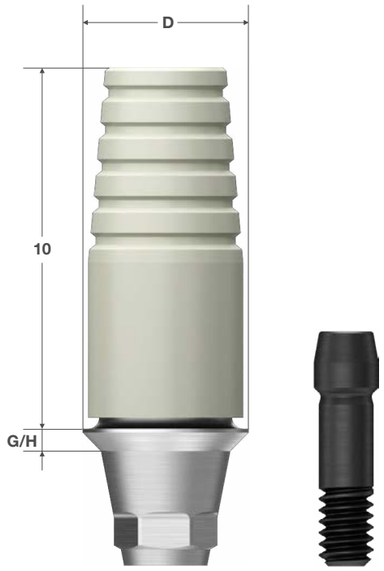
Torque Wrench

NP-CAST

ABT. 06

078 Fixture Level Impression
Screw Type prosthesis

NP-CAST
Abutment

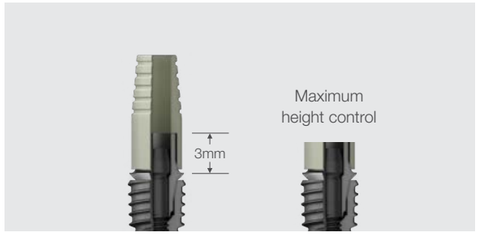


Feature

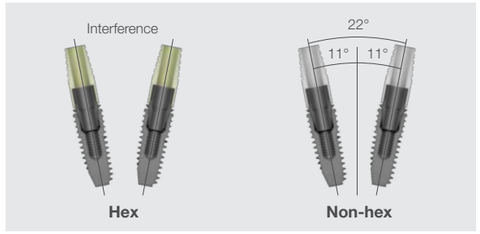
- **Cement / screw / combination retained prosthesis**
- **Single / bridge restorations / all position (Not recommended : non precious alloy casting)**
- **Fixture level impression**
- Free customizing, casting with non-precious (Ni-Cr) alloy
- Affordable and has long-term prosthesis stability with excellent mechanical strength compared to GoldCast
- Material : Co-Cr-Mo alloy + POM
- Abutment melting point : 1400~1450℃
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

D	Ø 4.0 / 4.5 mm
G/H	1.0 / 3.0 mm
Type	Hex / Non-Hex

Screw Retained Restoration

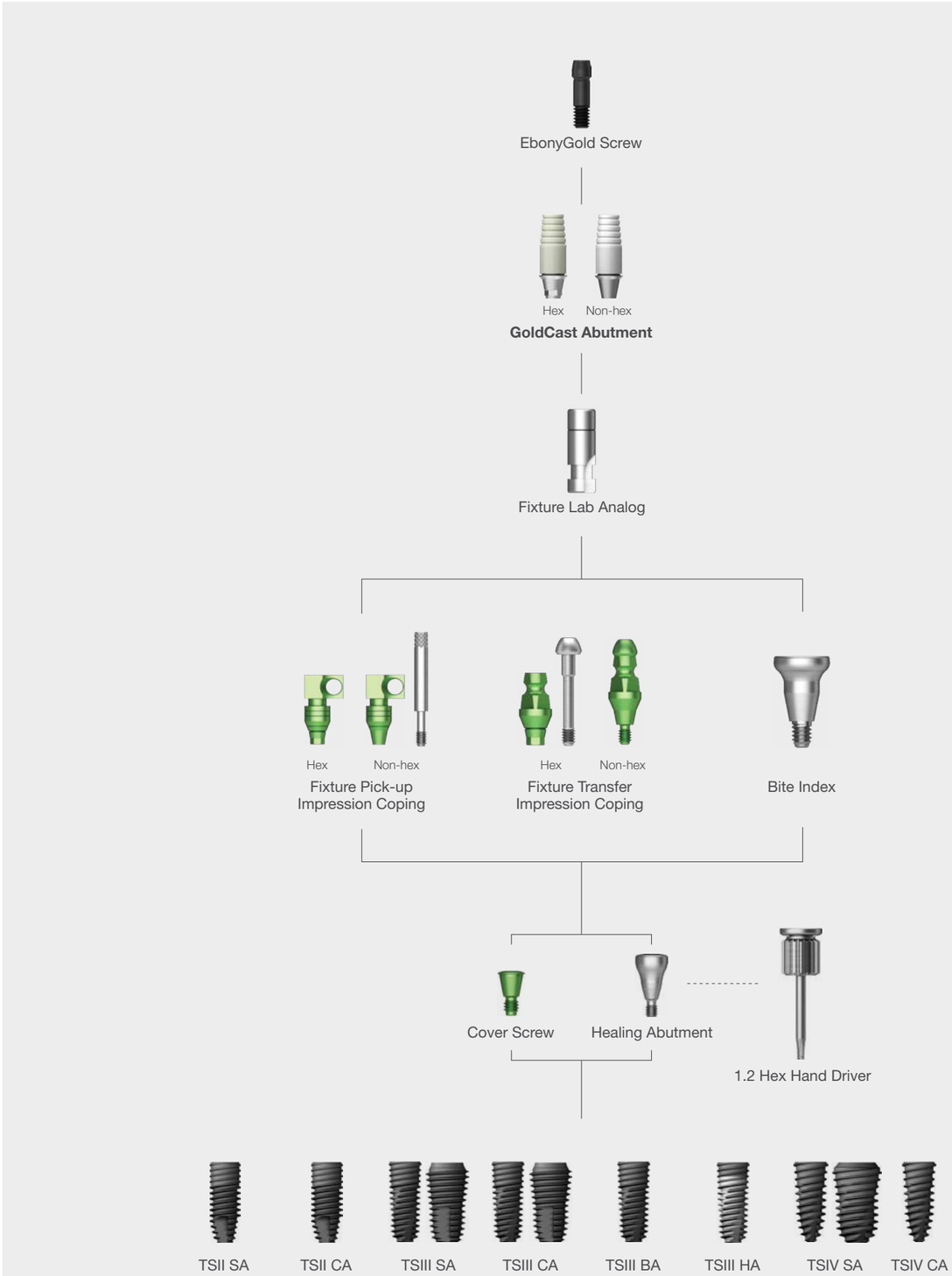


When modifying plastic area, need at least 3mm from abutment margin



- Screw type prosthesis in bridge case with inclined path is not recommended due to chances of misconnection from casting shrinkage
- When using combination type prosthesis with inclined path in bridge case, must check passive fit with x-ray (using hex type will not allow passive fit or prosthesis connection)
- Consider cement type or convertible abutment when path error is severe

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select Impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

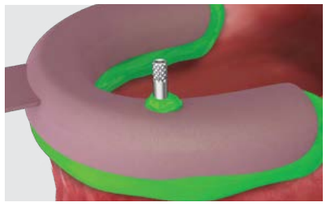
· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

Short Long



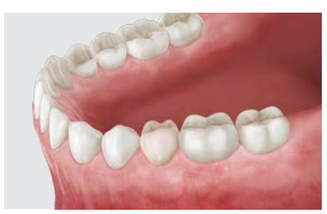
03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)



04 Lab Side

Fabricate working model

· Connect fixture lab analog with same platform to impression body

· Fabricate working model in normal way by pouring stone inside the Impression body

05 Lab Side

Abutment selection and connection

· Select abutment specification by oral condition and final prosthesis

· Connect using 1.2 hex hand driver

· Abutment milling by fixture angle and path of prosthesis

GoldCast Abutment

Ø 4.0 Ø 4.5 Hex type

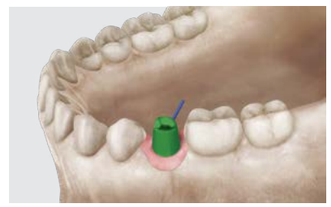
Ø 4.0 Ø 4.5 Non-hex type

06 Lab Side

Wax up

· Wax up in normal way after abutment customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole



07 Lab Side

Casting

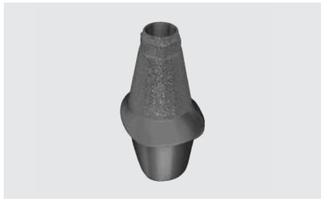
· Attach sprue for casting to margin area

· Apply sufficient wax to area near abutment metal part

· Ni-Cr alloy for casting is recommended

· Co-Cr metal alloy is not allowed(excessive oxide layer and casting shrinkage)

· NP-Cast abutment has disadvantage in casting compared to goldcast, and creates oxide layer on metal part



08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

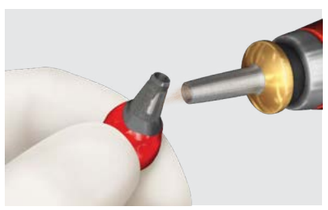
09 Lab Side

Remove oxide layer

· Remove oxide layer created during casting or porcelain firing

❶ Block out areas other than the metal part with oxide layer with utility wax

❷ Remove oxide layer primarily by blasting with 4~6 bar glass bead : rubber wheel / point not allowed (Damage in connection area)



❸ Remove blocked out area : Remove oxide layer completely by high polishing with rouge applied in cotton

❹ Clean by ultrasonic or steam after high polishing

10

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Connect with 1.2 hex driver (mini 20Ncm / regular 30Ncm)

· Check right connection with X-ray

· Block out Screw hole with resin

1.2 Hex Torque Driver

Short Long

Torque Wrench

OSSTEM IMPLANT

SMARTFIT

ABT. 07

086 Fixture Level Impression
Cement Type prosthesis

SmartFit
Abutment

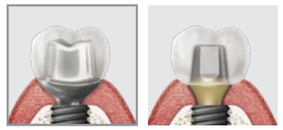
Feature

- **Cement / combination retained prosthesis**
- **Single / bridge full arch restorations / all position**
- **Case with deviated implant position and angle (Max 30°)**
- **Multiple case that requires consistent path and stable support**
- **Case with irregular or too deep gingiva (Not recommended : Implant placement angle exceeds 30°, Occlusion and mastication problem, bruxism, insufficient vertical space)**
- **Fixture level impression**
- Custom abutment fabricated by CAD/CAM
- Fabrication Time (Based on working day)
- Titanium : 5days titanium + gold color : 7days
  Material : Ti-6Al-4V
- Connect using 1.2 hex torque driver
- Recommended tightening torque :
  mini 20Ncm / regular 30Ncm

Advantage

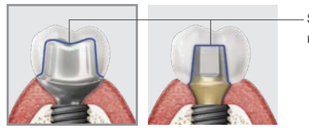
- Reproduce optimal design for patient's oral environment based on working model or scan file
- Various fabrication option for patient's CAD/CAM system

Customized design that allows fabrication of natural prosthesis (↔ Pre-fabricated abutments)



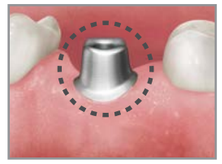
SmartFit abutment Stock abutment

Has similar shape as natural tooth, therefore distributes mastication force and maintains crown well

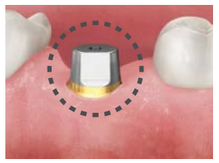


SmartFit abutment Stock abutment

Clinical Case



SmartFit abutment

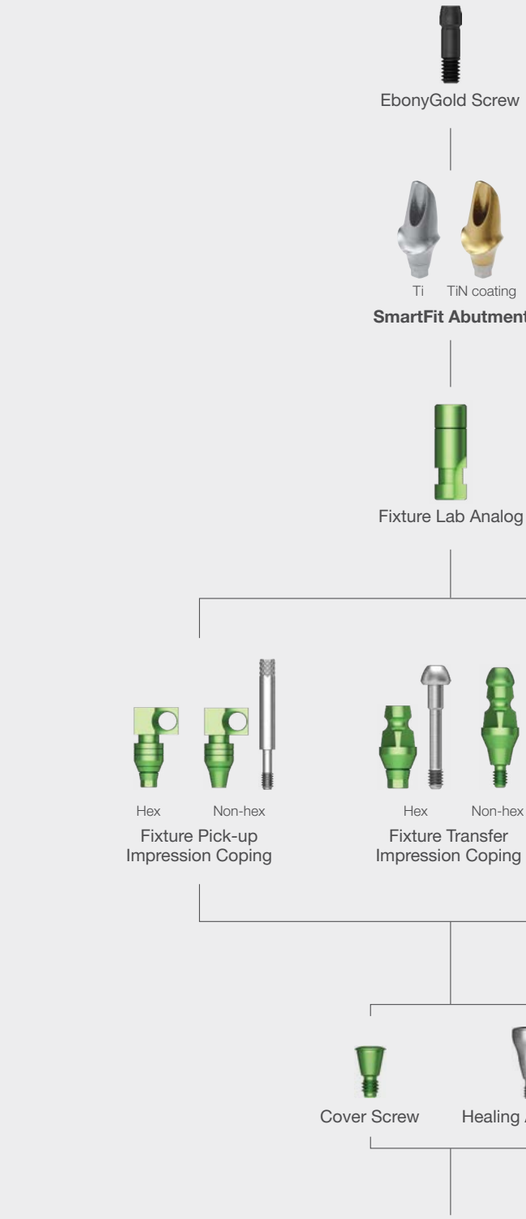


Stock abutment

SmartFit abutment

Stock abutment

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of Transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

Short Long

03

Healing abutment connection or fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect healing abutment to protect abutment until fabrication of final prosthesis

· Fabricate temporary prosthesis depending on case (ex. temporary abutment)

04

Fill out ordering form and send impression body(or working model)

· Fill out ordering form information and requirements

· Send impression body(or working model) and lab analog

· Sending additional data such as bite or diagnostic wax up allows better result

05 Osstem Process

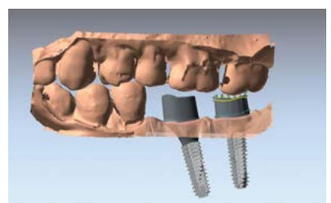
Scan

· Form digital data through scanning by connecting scan body to the working model

06 Osstem Process

Design

· Open scan file in S/W, match data, and design abutment based on ordering form



07 Osstem Process

Design confirm and milling

· Final modification and milling with doctor's confirmation

08 Osstem Process

Post treatment

· After milling, cleanse and polish based on OSSTEM's manufacturing standards

09 Osstem Process

Packing

· Pack impression body, working model, transfer jig, SmartFit abutment separately and send

※ Depending on CAD/CAM system of clinic or dental lab, scan file or final design file can be sent instead of impression body (However, OSSTEM scan body must be used)

10

Remove healing abutment (or temporary prosthesis)

Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

11

SmartFit abutment connection

· Check SmartFit abutment sent from OSSTEM

· Move abutment to the right position using transfer jig

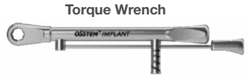
· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench



12

Impression

· Insert gingival cord around margin area

· Take direct impression in normal way by using ready-made tray

· Fabricating combination prosthesis is easy when taking impression after connecting waxing screw or guide pin to abutment screw hole and exposing them above occlusal surface

13 Lab Side

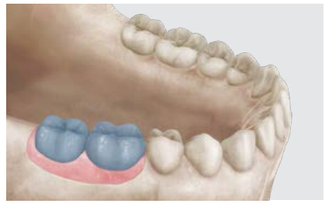
Fabricate working model

· Fabricate working model in normal way by pouring stone in the impression body

14 Lab Side

Wax up

· Wax up in normal way



15 Lab Side

Casting

· If necessary, modify for resin facing

· Connect sprue in normal way and casting

· Post-treatment for casted body and check fit

16 Lab Side

Polishing and finishing

· Polishing procedure in normal way

· Finish by Resin facing, and check prosthesis in the working model

17

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove temporary prosthesis or protect cap from the mouth

· Connect prosthesis by cementation and remove cement completely

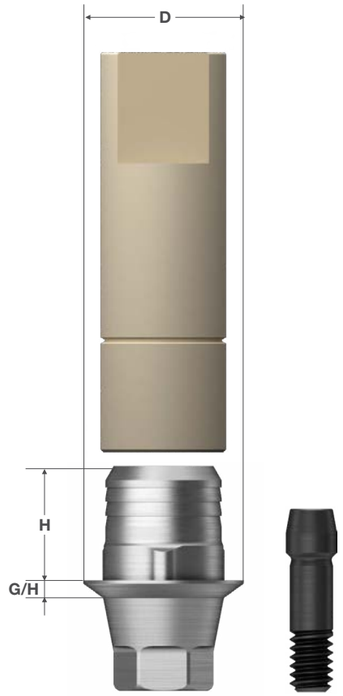
1.2 Hex Torque Driver

Short Long

Torque Wrench

LINK

Link
Abutment



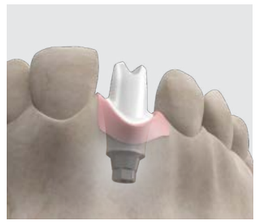
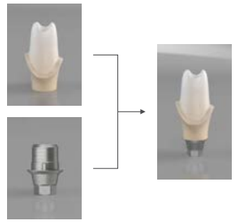
Feature

- **Cement / screw / combination retained prosthesis**
- **Single / bridge full arch restorations / all position**
- **Case that has anterior gingival retraction that would require esthetic design and color**
- **Case that can expose metal color of abutment due to thin gingiva (Not recommended : Implant angle is higher than 30°, Mal occlusion or mastication, bruxism, Insufficient vertical space, case with too high vertical space)**
- **Fixture level impression**
- Ti + Zr custom abutment (hybrid) fabricated by CAD/DAM
- Use OSSTEM's exclusive implant library
- Material : abutment - Ti-6Al-4V / scan body - medical PEEK
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

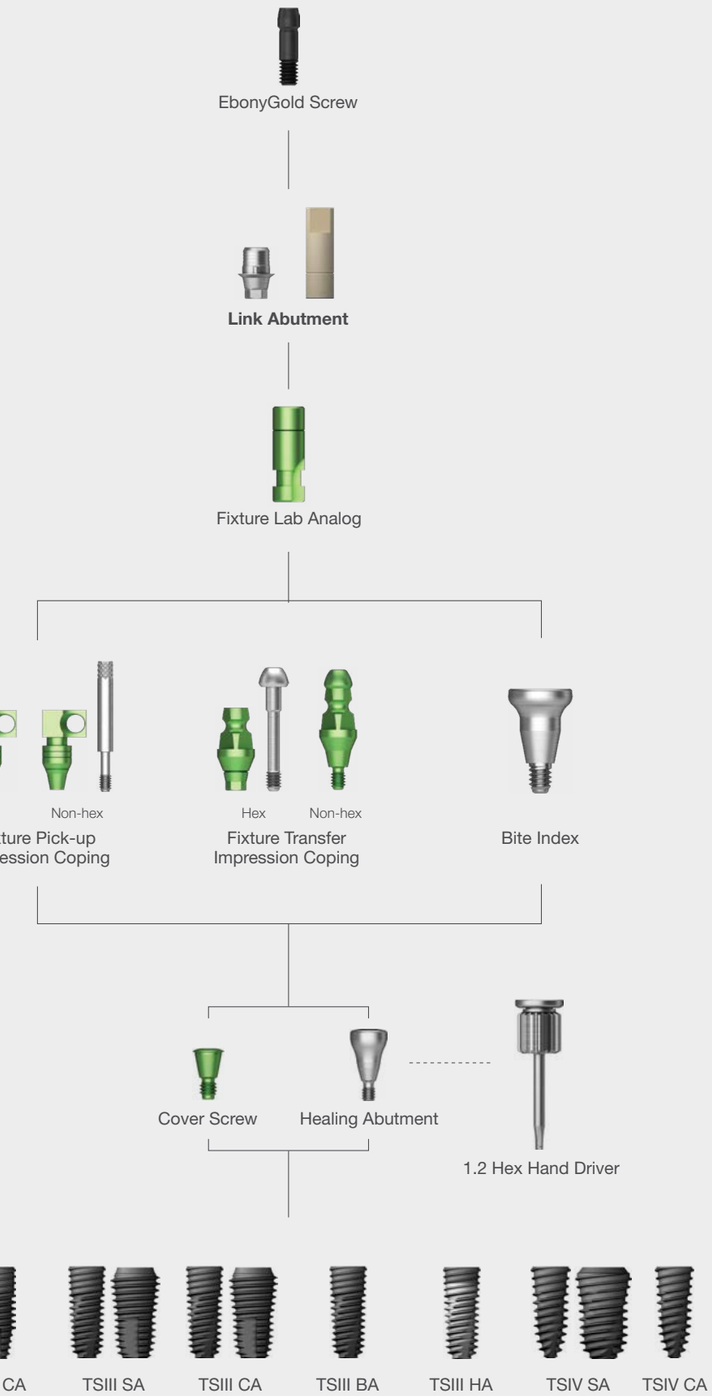
D	Ø 4.0 / 4.5 mm
H	3.0 / 5.0 mm
G / H	1.0 / 2.0 mm
Type	Hex / Non-Hex

Advantage

Customer him/herself perform scanning, designing of zirconia body, and milling (Freely select material and color)

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

· Check tri-circular structure in the impression body

Fixture Transfer Impression Coping

Hex Non-hex

03 Lab Side

Fabricate working model

· Check impression body

· Fabricate working model in normal way by pouring stone

04 Lab Side

Scan

· link abutment connection

· In working model

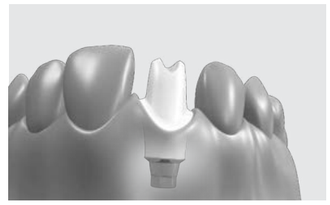
· Connect exclusive scan body and form digital data by scanning

05 Lab Side

Design

· Match scan file in S/W and design abutment based on ordering sheet

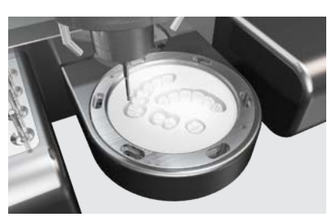
· Design coping with the shape of final prosthesis in mind for cement type prosthesis



06 Lab Side

Confirm design and milling

· Check final design or file and milling

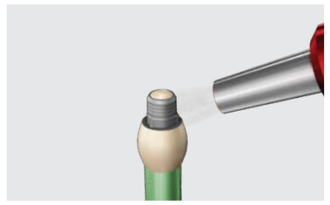


07 Lab Side

Sintering and post treatment

· Sintering of milled zirconia body

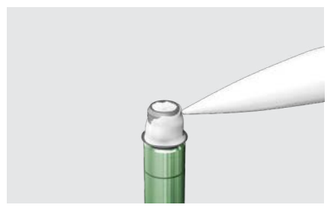
· Sand blast only the cementation area of link abutment

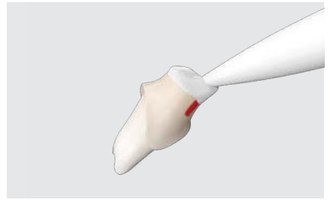


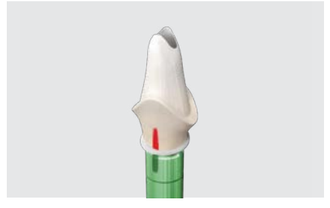
08 Lab Side

Bonding and finish abutment

· Bonding of cleaned link abutment with zirconia coping body







09 Lab Side

Final prosthesis fabrication

· After completion of hybrid abutment, fabricate prosthesis in normal way and set it in the mouth

Fixture Level Impression Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select Impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

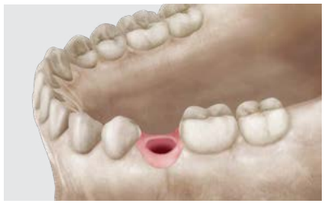
Short Long

03 Lab Side

Fabricate working model

· Check impression body

· Fabricate working model in normal way and pour stone



04 Lab Side

Scan

· Connect link abutment in working model

· Connect exlusive scan body and form digital data by scanning

05 Lab Side

Design

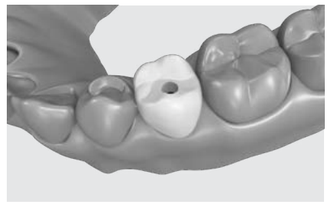
· Match scan file in S/W and design abutment based on ordering sheet

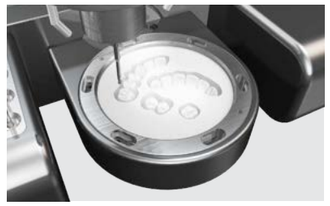
· Design coping with the shape of final prosthesis in mind for cement type prosthesis

06 Lab Side

Confirm design and milling

· Check final design or file and milling



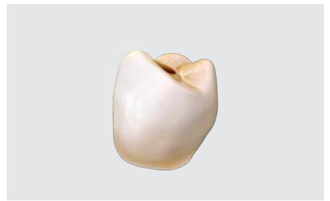


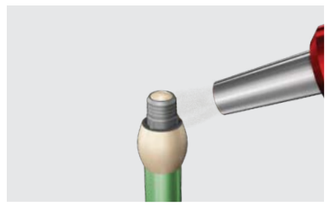
07 Lab Side

Sintering and post treatment

· Sintering of milled zirconia body

· Sand blast only the cementation area of link abutment

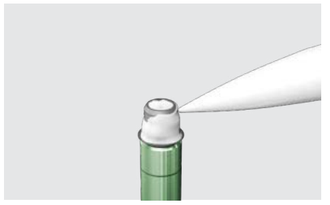


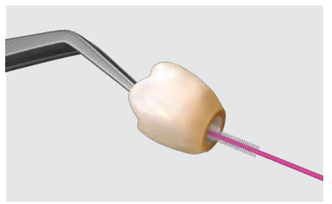


08 Lab Side

Bonding and finish abutment

· Bonding of cleaned link abutment with zirconia coping body





09 Lab Side

Final prosthesis fabrication

· Fabricate prosthesis in normal way and set it in mouth

OSSTEM IMPLANT

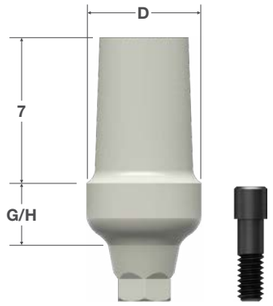
ZIOCERA

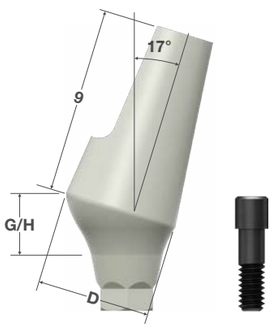
ABT. 09

106 Fixture Level Impression
Cement Type prosthesis

108 Fixture Level Impression
Screw Type prosthesis

ZioCera
Abutment





Feature

- **Cement / screw / combination retained prosthesis**
- **Single / bridge restoration / anterior area (Not recommended : posterior area case)**
- **Fixture level impression**
- Zirconia material appropriate for all ceramic prosthesis fabrication in anterior area
- Natural dentin color abutment shade
- Bio friendly and excellent strength
- 2 types : better surgery convenience (straight / 17° angeld)
- Use exclusive abutment screw
- Material : zirconia (non coating) / Ti-6Al-4V (WCC coating)
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini 20Ncm / regular 30Ncm

Straight

D	Ø 4.5 / 5.5 / 6.5 mm
G/H	3.5 / 5.0 mm
Type	Hex / Non-Hex

Angled

D	Ø 5.5 / 6.5 mm
G/H	3.0 / 4.0 mm
Type	Hex / Non-Hex

Cement Retained Restoration

- Cement retained type of all ceramic prosthesis fabrication is recommended for ZioCera abutment
- Use zirconium exclusive bur for modifying abutment, and use irrigation

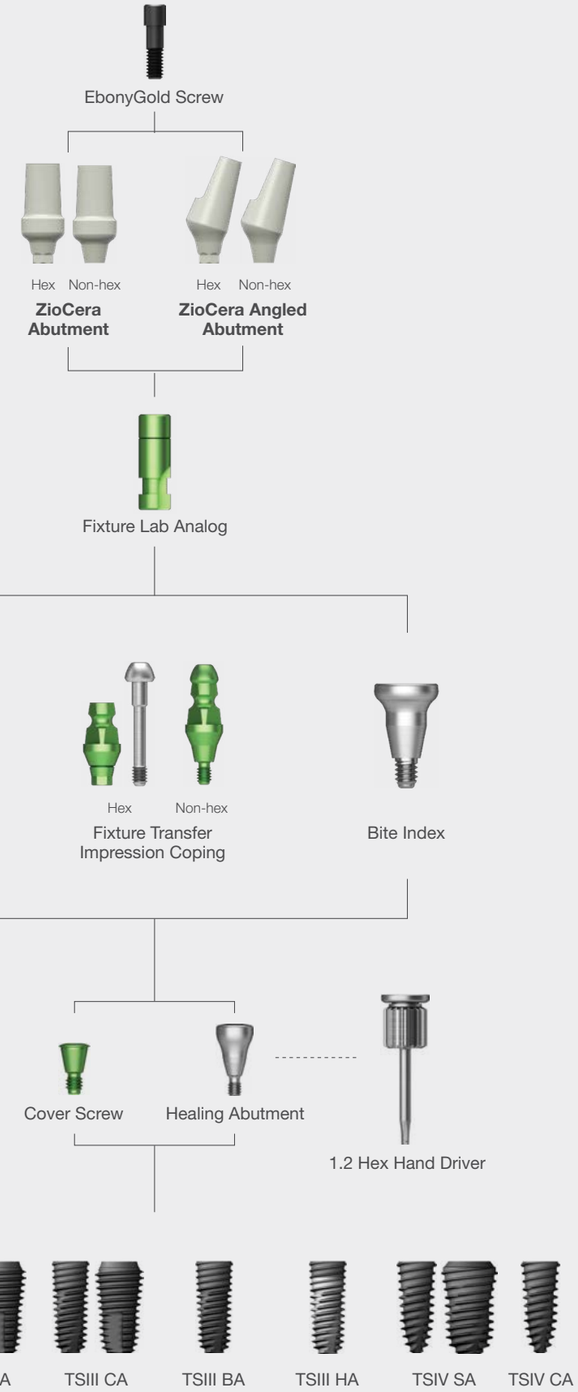
Customizing | **Ceramic coping** | **Porcelain build up**

Screw Retained Restoration

- Screw retained type prosthesis fabrication is possible with direct build up
- Use zirconium exclusive bur for modifying abutment, and use irrigation
- Fabrication of esthetic implant prosthesis is possible with exclusive porcelain powder build up

Customizing | **Porcelain build up** | **Screw retained single crown**

Prosthetic Flow Diagram



Prosthetic Process

Fixture Level Impression Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

Fixture Transfer Impression Coping

Hex Non-hex

03 Lab Side

Fabricate working model

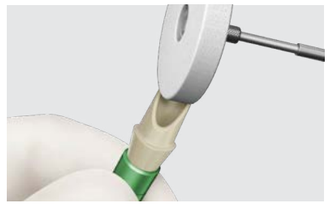
· Check impression body

· Fabricate working model in normal way and pour stone

· Connect Ziocera abutment and modify path and customize shape

· Use Zirconia exclusive bur

· Must use irrigation while modifying (High heat generated while modifying can break abutment)



04 Lab Side

Fabricate ceramic coping

· Fabricate ceramic coping in normal way

05 Lab Side

Porcelain build up

· Porcelain build up and firing on ceramic coping

· Polishing procedure in normal way

· Check prosthesis in the working model

06 Lab Side

Abutment connection

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

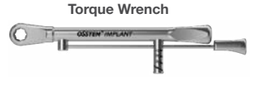
· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench



07 Lab Side

Connect final prosthesis

· Abutment screw hole block out

· Connect prosthesis by cementation and remove cement completely

Fixture Level Impression Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Consider abutment diameter and type (hex/non-hex)

· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first

1.2 Hex Hand Driver

Short Long

03 Lab Side

Fabricate working model

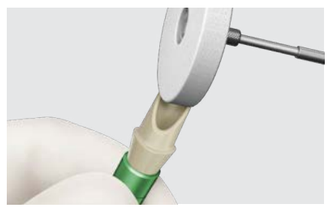
· Check impression body

· Fabricate working model in normal way and pour stone

· Connect Ziocera abutment and modify path and customize shape

· Use Zirconia exclusive bur

· Must use irrigation while modifying (High heat generated while modifying can break abutment)



04 Lab Side

Porcelain build up and firing

· Porcelain build up with Zirconia exclusive powder

· Easy to form screw hole using waxing screw for lab

· To prevent change of mechanical property, limit firing to 5 times

· Polishing procedure in normal way

· Check prosthesis in the working model

05

Connect final prosthesis

· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

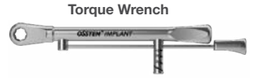
· Check right connection with x-ray

· Block out Screw hole with resin

1.2 Hex Torque Driver

Short Long

Torque Wrench



※ Cautions for Zirconia abutment Use

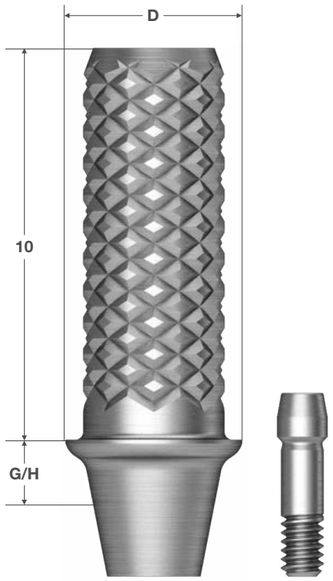
① Use Zirconia exclusive bur
② Must irrigate while milling to prevent overheating
③ Apply round shape to edge or corner to prevent fracture
④ Use zirconia exclusive power for build up

OSSTEM IMPLANT

TEMPORARY

ABT. 10

Temporary
Abutment



Feature

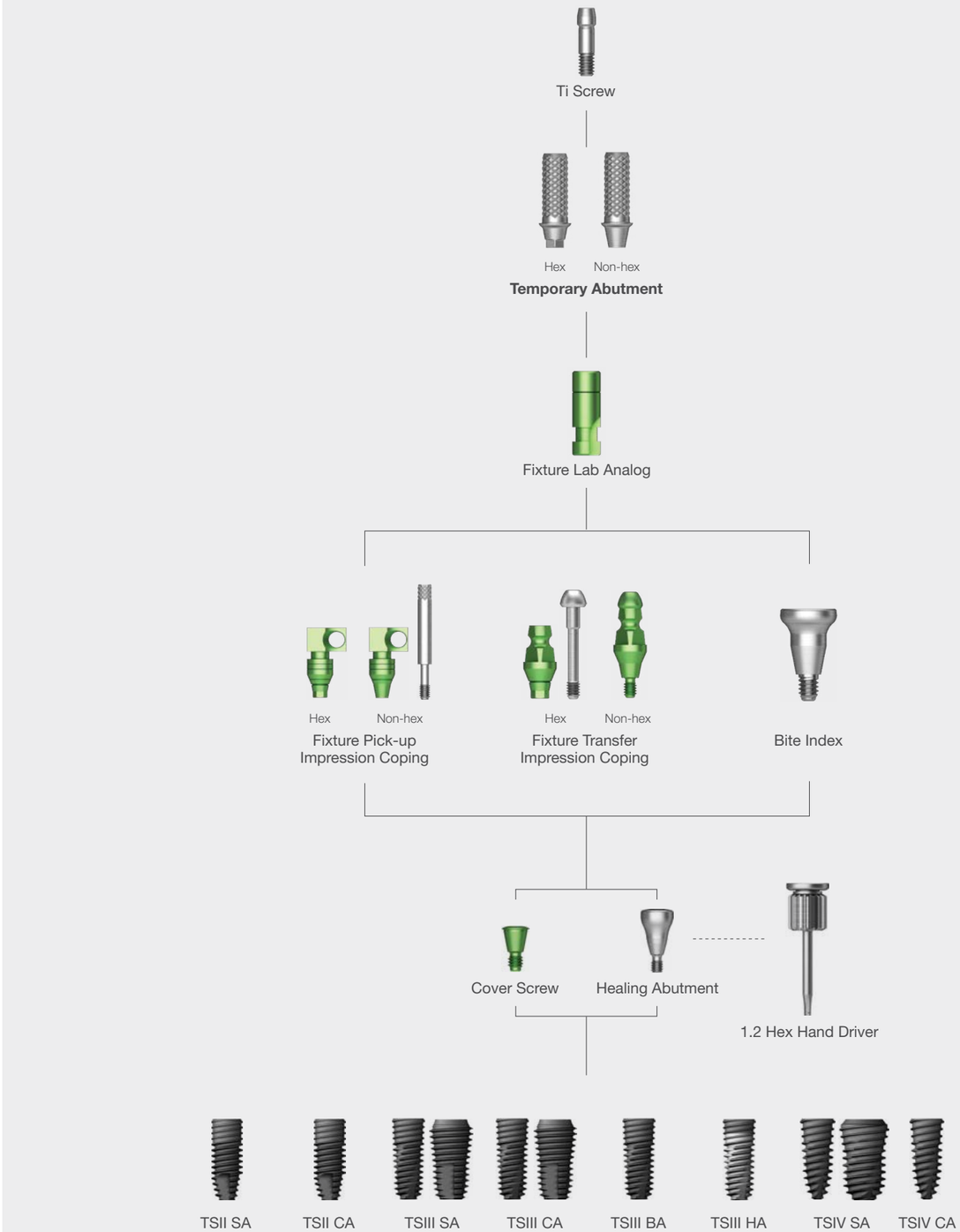
- **Screw retained prosthesis**
- **Case that requires temporary prosthesis (Not recommended : Posterior area or case that has high mastication force)**
- **Fixture level impression**
- Gr3 material with easy modification
- Used for up to 180 days in mouth (Using more than 180 days not allowed)
- Fabricate temporary crown with no occlusion
- Material : Ti CP-Gr3
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini / regular 20Ncm

D	Ø 4.0 / 4.5 mm
G/H	1.0 / 3.0 mm
Type	Hex / Non-Hex

Screw Retained Restoration

- Connect to mouth or working model and mark modification part considering occlusal and adjacent teeth
- Connect to lab analog or to exclusive holder and modify shape
- Use ready-made resin crown or fabricate temporary crown with temporary resin applied on the modified abutment

Prosthetic Flow Diagram



Prosthetic Process

Chair Side Surgery Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection and connection

· Select abutment specification considering oral environment and temporary prosthesis

· Connect using 1.2 hex hand driver

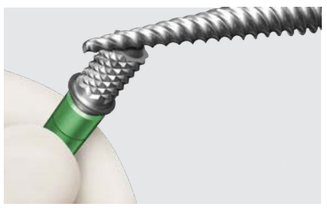
· Mark modification area considering occlusal and adjacent teeth

· Keep at least 3mm post height after modification

03

Modifying abutment

· Separate abutment and modify modification area with bur



· Re position the modified abutment in mouth

04

Connect pre-fabricated resin temporary crown

· Form screw hole in pre-fabricated resin temporary crown

· Connect waxing screw or guide pin in the screw hole and expose it

05

Resin filling

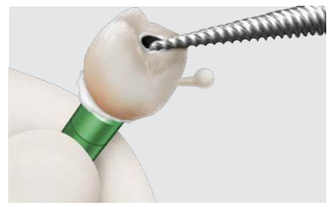
· Connect abutment after resin filling inside the temporary crown

06

Remove resin

· After hardening, remove abutment outside the mouth

· After removing remaining resin, polish in normal way



07

Connect temporary prosthesis

· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

· Check right connection with x-ray

· Block out screw hole with resin

1.2 Hex Torque Driver

Short Long

Torque Wrench

Lab Side Surgery SurgeryScrew Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Impression

· Take fixture level impression in normal way

03 Lab Side

Fabricate working model

· After checking impression body, fabricate working model in normal way

· Select abutment specification considering oral environment and temporary prosthesis

· Connect using 1.2 hex hand driver

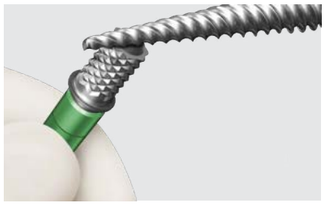
04 Lab Side

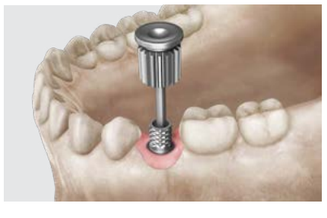
Modifying abutment

· Mark modification area considering occlusal and adjacent teeth

· Keep at least 3mm post height after modification

· Re position the modified abutment in mouth





05 Lab Side

Temporary crown fabrication

· Connect waxing screw or guide pin in the screw hole and expose it

· Fabricate crown using temporary resin

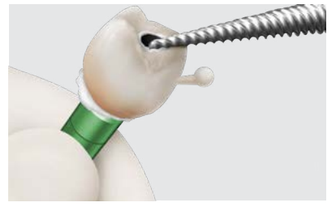
06 Lab Side

Resin contouring

· After hardening, remove abutment outside the mouth

· Add and shape uncompleted temporary crown using resin

· Polishing procedure in normal way



07

Connect temporary prosthesis

· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

· Check right connection with x-ray

· Block out screw hole with resin

1.2 Hex Torque Driver

Short Long

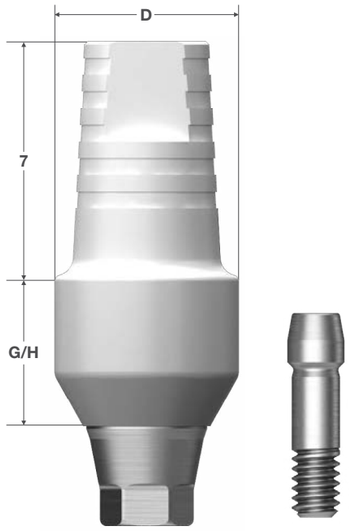
Torque Wrench

OSSTEM
IMPLANT

QUICK TEMPORARY

ABT. 11

Quick Temporary
Abutment



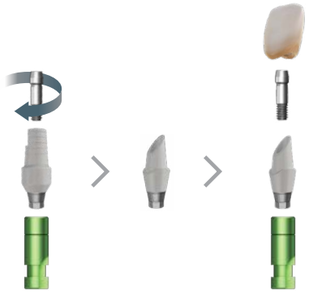
Feature

- **Cement / screw retained prosthesis**
- **Anterior area immediate case**
- **Case that needs to reproduce gingiva emergence profile (Customized abutment), case that requires long-term temporary prosthesis (Not recommended : posterior area or case that has too high mastication force)**
- **Fixture level impression**
- Medical plastic area at top is easy to modify
- Titanium at bottom provides accuracy and stability with fixture
- Usable for up to 180 days (More than 180 days not allowed)
- Fabricate temporary crown with no occlusion
- When modifying, refrain from using a bur with too much abrasion
- Material : Ti-6Al-4V + medical PEEK
- Connect using 1.2 hex torque driver
- Recommended tightening torque : mini / regular 20Ncm

D	Ø 4.0 / 4.5 mm
G/H	1.0 / 3.0 mm
Type	Hex / Non-Hex

Cement Retained Restoration

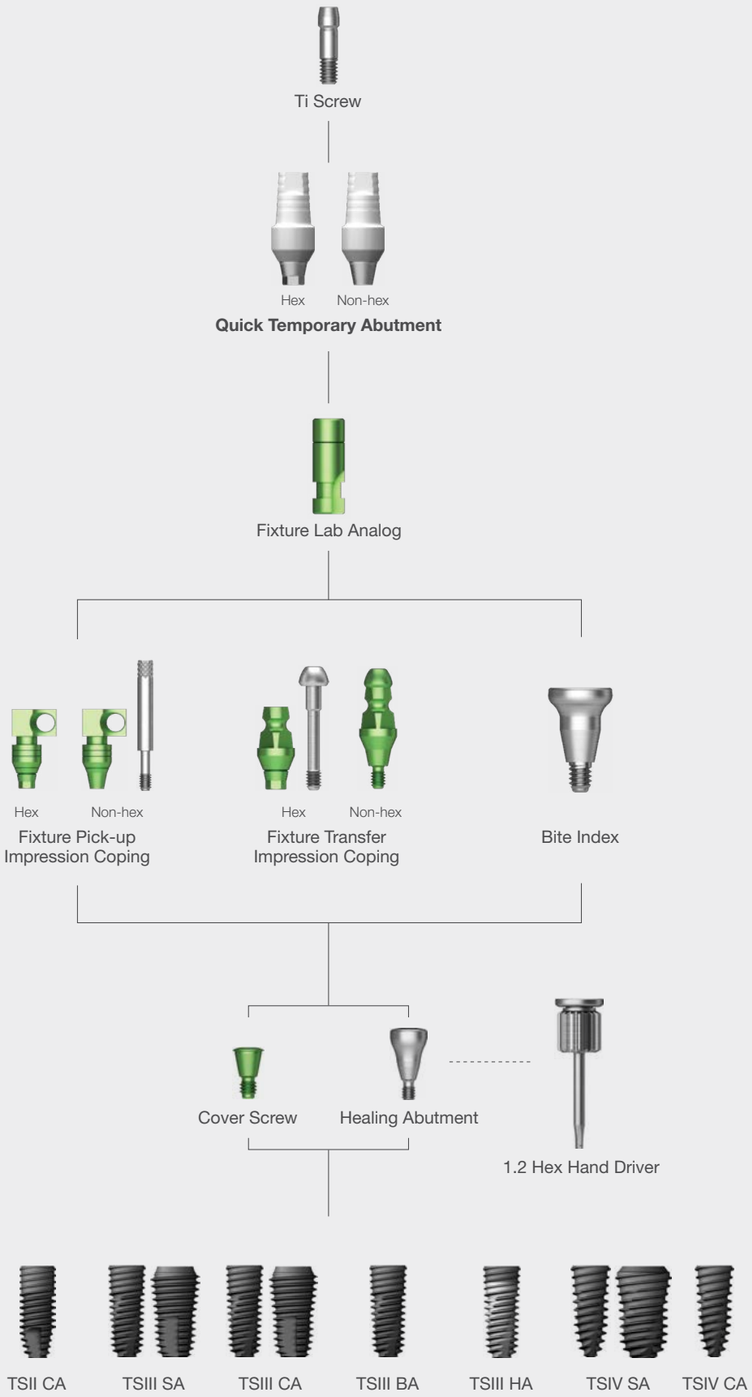
- Connect to mouth or working model and mark margin on the plastic according to gingival shape
- Connect to lab analog or exclusive holder and modify shape
- Fabricate temporary crown by applying separator such as vaseline on the abutment surface



Screw Retained Restoration

- Connect to mouth or working model and mark margin on the plastic according to gingival shape
- Connect to lab analog or exclusive holder and modify shape
- Apply groove to abutment surface before applying resin, and fabricate temporary crown

Prosthetic Flow Diagram



Prosthetic Process

Chair Side Surgery Cement Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection and connection

· Select abutment specification considering oral environment and temporary prosthesis

· Connect using 1.2 hex hand driver

· Mark modification area considering occlusal and adjacent teeth

· Keep at least 4mm post height after modification

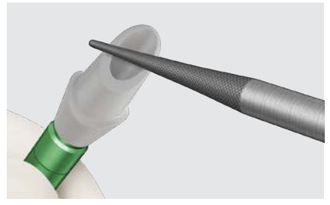
03

Modifying abutment

· Separate abutment, and modify modification part outside mouth using bur

· Re position the modified abutment in mouth

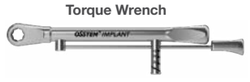
· Connect using 1.2 hex torque driver (mini / regular 20Ncm)



1.2 Hex Torque Driver

Short Long

Torque Wrench



04

Connect pre-fabricated resin temporary crown

· Connect pre-fabricated resin temporary crown on abutment

· Check adjacent teeth or occlusion and modify

05

Screw hole block out

· Bock out screw access hole with cotton

· Apply resin separator around abutment

06

Resin filling and resin removal

· Fill resin inside temporary crown and connect to abutment

· After hardening, remove temporary crown from abutment

· Remove excessive resin, and polishing

07

Connect temporary prosthesis

· Apply temporary cement to prosthesis and set it in mouth

· Completely remove remaining cement

Chair Side Surgery Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection and connection

· Select abutment specification considering oral environment and temporary prosthesis

· Connect using 1.2 hex hand driver

· Mark modification area considering occlusal and adjacent teeth

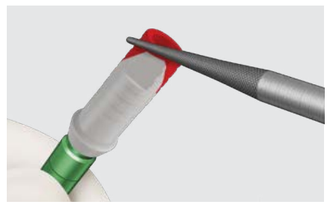
· Keep at least 4mm post height after modification

03

Modifying abutment

· Separate abutment, and modify modification part outside mouth using bur

· Re position the modified abutment in mouth



04

Connect pre-fabricated resin temporary crown

· Form screw hole in pre-fabricated resin temporary crown

· Connect waxing screw or guide pin in the screw hole and expose it

05

Resin filling

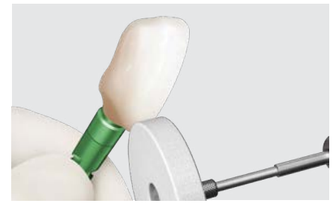
· Fill resin inside temporary crown and connect to abutment

06

Remove resin

· After hardening, remove temporary crown from abutment

· Remove excessive resin. polishing in normal way



07

Connect temporary prosthesis

· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

· Check right connection with x-ray

· Block out screw hole with resin

1.2 Hex Torque Driver

Short Long

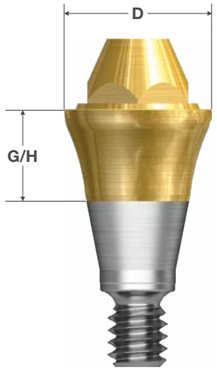
Torque Wrench

OSSTEM IMPLANT

MULTI

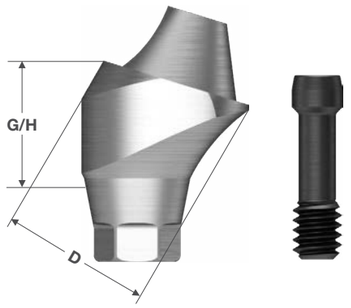
ABT. 12

Multi
Abutment



Feature

- **Cement / screw / combination retained prosthesis, overdenture**
- **Single / bridge full arch restorations / all position multiple case (Not recommended : implant angle is higher than 30°, mal occlusion or mastication, bruxism, insufficient vertical space, case with too high vertical space)**
- **Abutment level impression**
- 3-piece abutment (abutment + cylinder + cylinder screw)
- Multi abutment can compensate placement angle up to 48°, angled type up to 108
- Material : Ti-6Al-4V
- Connect using 1.2 hex torque driver
- Recommended tightening torque : straight type - mini / regular 30Ncm angled type - mini 20Ncm / regular 30Ncm



Straight

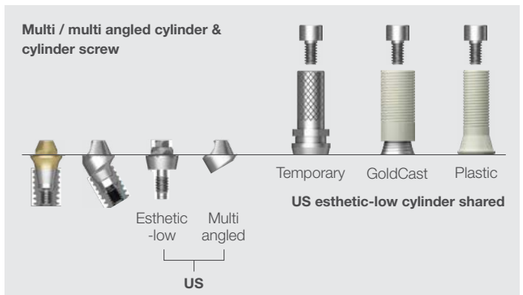
D	Ø 4.8 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm

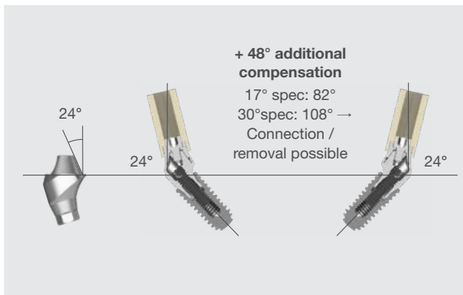
Angled

D	Ø 4.8 mm
G/H	2.5 / 3.0 / 4.0 mm
Angle	17° / 30°

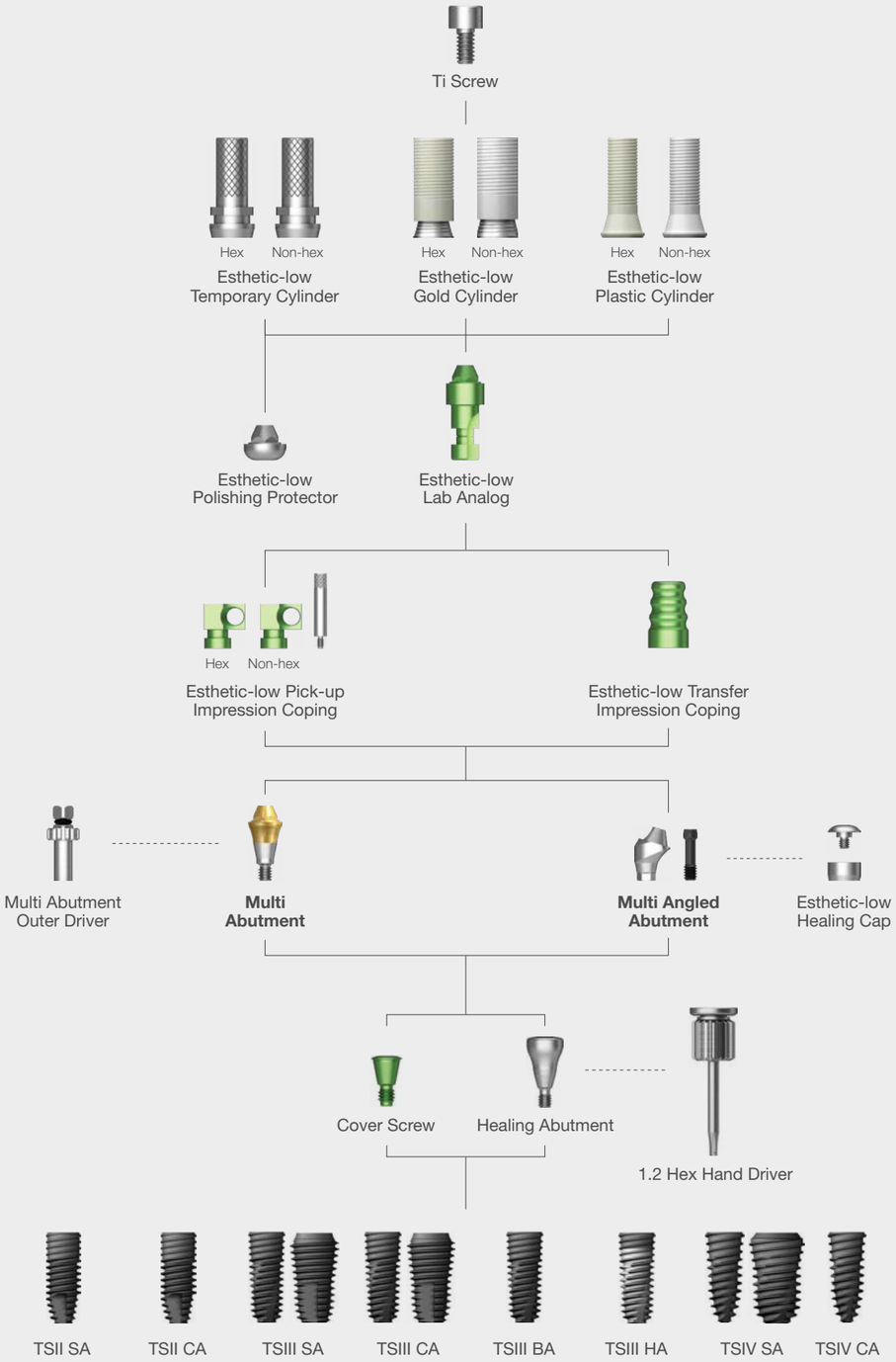
Advantage

- Can share cylinder and components with identical platform (However, multi angled uses only non-hex cylinder)
- In multiple case, can compensate fixture angle up to 108°





Prosthetic Flow Diagram



Prosthetic Process

Abutment Level Impression Screw Type Prosthesis

01

Remove healing abutment and abutment connection

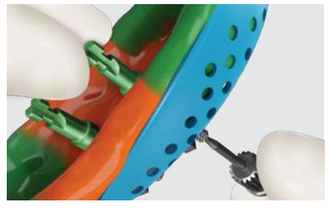
- Remove healing abutment using 1.2 hex hand driver by hand
- Select abutment specification by oral condition and final prosthesis
- Connection(30Ncm) with 1.2 hex or outer driver
- Check right connection with x-ray

Int. Hex Torque Driver

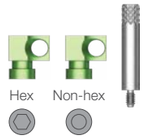
02

Impression

- Consider abutment diameter and type (hex/non-hex)
- Select impression coping specification (pick-up / transfer type)
- Connect using 1.2 hex hand driver by hand
- Block out driver hole of transfer impression coping
- Perform peri apical x-ray to check correct connection
- Take impression by applying impression material around impression coping first



Esthetic-low Pick-up Impression Coping



Esthetic-low Transfer Impression Coping

03 Lab Side

Fabricate working model and cylinder connection

- After impression taking, connect exclusive healing cap to exposed abutment
- Fabricate working model in normal way by pouring stone to impression body
- Select cylinder based on oral environment and final prosthesis
- Cylinder connection and customizing

Esthetic-low Healing Cap

Esthetic Gold Cylinder

04 Lab Side

Wax up

- Wax up in normal way after abutment customizing
- Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole

05 Lab Side

Casting

- Connect sprue in normal way and perform casting with precious metal for gold crown, PFG
- Casting with non-precious metal not allowed(abutment change or damage)
- Post-treatment for casted body and check fit

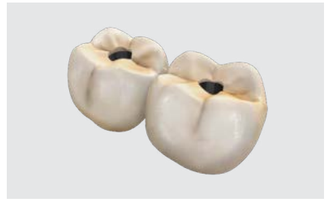
06 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in working model



07

Connect final prosthesis

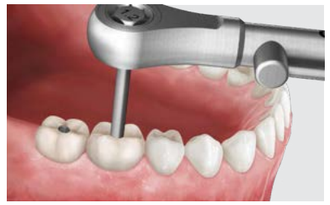
· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Connect using 1.2 hex torque driver (mini 20Ncm / regular 30Ncm)

· Check right connection with x-ray

· Block out screw hole with resin

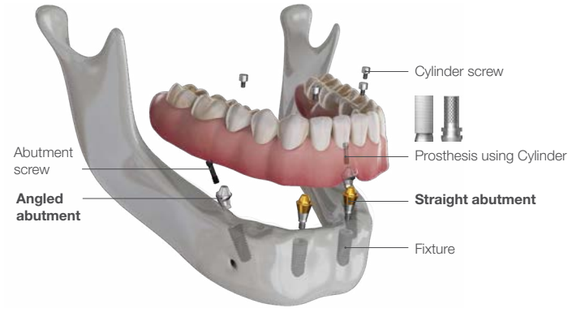


Overdenture Related Sequence and Prosthesis

※ One Day Implant

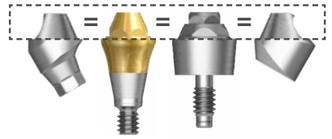
· Fabricate full mouth prosthesis with minimum implants

· Set temporary prosthesis along with surgery to minimize patient's inconvenience in mastication and esthetics



· Various implant system can be selected based on patient bone condition and surgery plan

· Using single abutment allows easy prosthesis and can compensate path in multiple case



Fabricate Temporary Prosthesis

01 Lab Side

Fabricate temporary denture

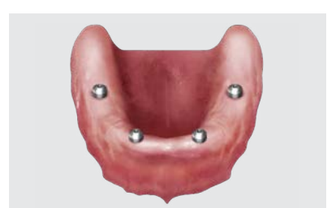
· Fabricate temporary denture in normal way before surgery (If the denture used by patient is in good condition with no functional problem in terms of adaptability to soft tissue, occlusion, this denture can be utilized)

02

Abutment connection

· Connect abutment after checking fixture position

· Connect healing cap on the abutment in mouth



03

First trial

· Apply impression material to temporary denture and lightly set in mouth

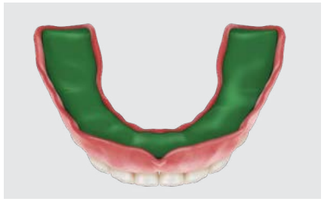
· Convey healing cap position

· Check healing cap position

· Modify above area up to denture base using bur

· Remove applied impression material

· Re position in mouth and check interference and interrupting factors



04

Second trial

· After injecting impression material on temporary denture, and set it in mouth by pressing with hand

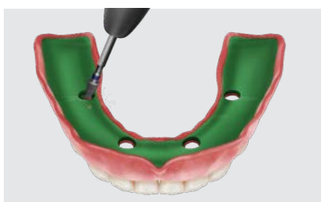
· Convey healing cap position again

05

Create penetration hole

· Create penetrating hole to denture base using bur

· Remove applied impression material



06

Temporary cylinder connection

· Remove healing cap from abutment

· Temporary cylinder connection

07

Third trial

· Set modified temporary denture

· Check if temporary cylinder is exposed well near penetrating hole, and check interference

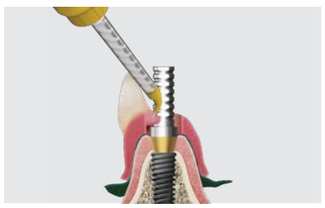
08

Apply resin

· Block out screw hole of cylinder

· Place rubber dam between tissue and temporary denture to protect surgery area

· Inject self-curing resin around temporary cylinder inside penetrating hole



09

Remove temporary denture

· After resin hardening, loosen cylinder screw and remove along with temporary denture from mouth

10

Mill temporary cylinder

· Mill temporary cylinder that is exposed outside temporary denture using bur

· Polish surrounding area such as excessive resin

11

Modify temporary denture

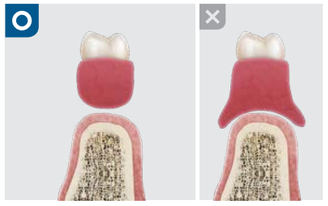
· Modify and polish excessive cantilever area in Palatal, buccal / lingual flange, distal area

12

Complete screw type temporary denture

· Remove border for oral hygiene

· Complete by polishing



13

Setting in mouth and completion

· Set completed temporary denture

· Connect cylinder screw using 1.2 hex torque driver(mini / regular 20Ncm)

· Block out screw hole with resin, final check and adjust occlusion if necessary

Final Prosthesis Fabrication

01

Impression

Remove healing cap using 1.2 hex hand driver by hand

· Consider abutment diameter and type (hex/non-hex)

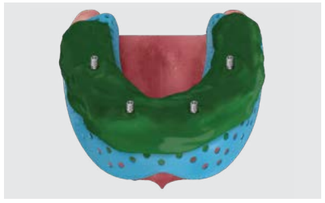
· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first



02 Lab Side

Fabricate working model

· Check impression coping color inside impression body, and connect lab analog that matches abutment specification

· Reproduce gingiva area with exclusive material after applying separator around Analog and Impression body

· Fabricate working model in normal way by pouring stone to Impression body

03 Lab Side

Make Wax rim and arrange artificial teeth

· Make wax rim in normal way

· After arrangement of artificial teeth, try it in patient's mouth, check and modify

04 Lab Side

Take index and wax wash

· Make index about buccal/lingual shape of wax denture and arranged teeth using putty

· Remove wax with wax wash and prepare cylinder for fabrication of final prosthesis

05 Lab Side

Select cylinder

· Select and connect appropriate cylinder

· Modify cylinder based on Index

· Penetrate screw hole above index so it gets exposed

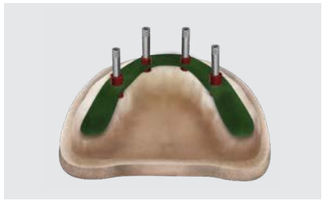
06 Lab Side

Wax up

· Fabricate framework considering cylinder position and the arrangement of artificial teeth conveyed on index

· Fabricate 2.0~2.5mm above for easy oral hygiene maintenance

· Form the area facing the tissue round at the bottom



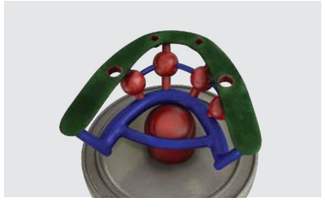
07 Lab Side

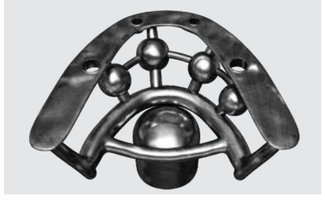
Casting

· Casting by connecting sprue in normal way

· Post-treatment for casted body and check fit

· In post treatment such as sand blasting or polishing, connect lab analog (or polishing protector), and protect inner connection area of cylilnder





08 **Lab Side**

Fabricate wax denture

· Connect casted body to working model

· Make framework and try it in patient's mouth

· Re form gingiva and re arrange artificial teeth using index

09 **Lab Side**

Fabricate resin denture

· Flasking, wax wash, apply resin in normal way

· Polishing and finishing

· Check prosthesis in working model

10

Connect final prosthesis and completion

· Check delivered prosthesis from the lab

· Connect in mouth, and check occlusion and shape

· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

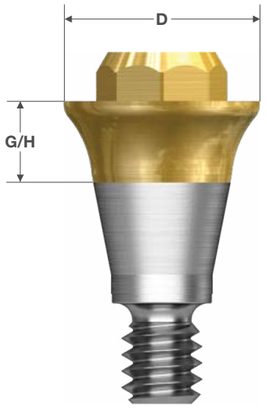
· Check right connection with X-ray

· Block out Screw hole with resin

CONVERTIBLE

ABT. 13

Convertible
Abutment



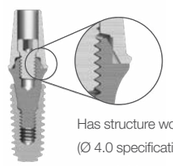
Feature

- **Cement / screw / combination retained prosthesis, overdenture**
- **Single / bridge full arch restorations / all position**
- **Bridge case with inclined path as multiple case**
- **Bar type overdenture framework**
- **Abutment level impression**
- 3-piece abutment (abutment + cylinder + cylinder screw)
- Compensate fixture angle up to 60°(Based on 2 fixtures)
- Gold coloring for margin's esthetics
- Material : Ti-6Al-4V
- Connect using exclusive outer driver
  Ø 4.0 : o-ring abutment driver (code : AORD)
  Ø 5.0 / 6.0 : octa abutment driver (code : ODSL / ODSS)
- Recommended tightening torque : mini / regular 30Ncm

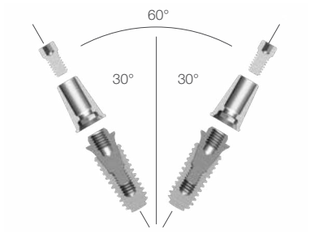
D	Ø 4.0 / 5.0 / 6.0 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm

Connection

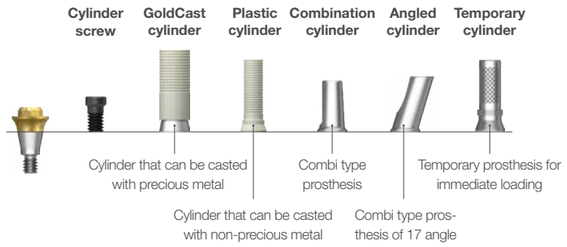
· When there are too many prosthesis or there is excessive path error, able to fabricate prosthesis that has passive fit up to 60˚



Has structure works for both octa / non-octa (Ø 4.0 specification has hex / non-hex separately)



Cylinder Types



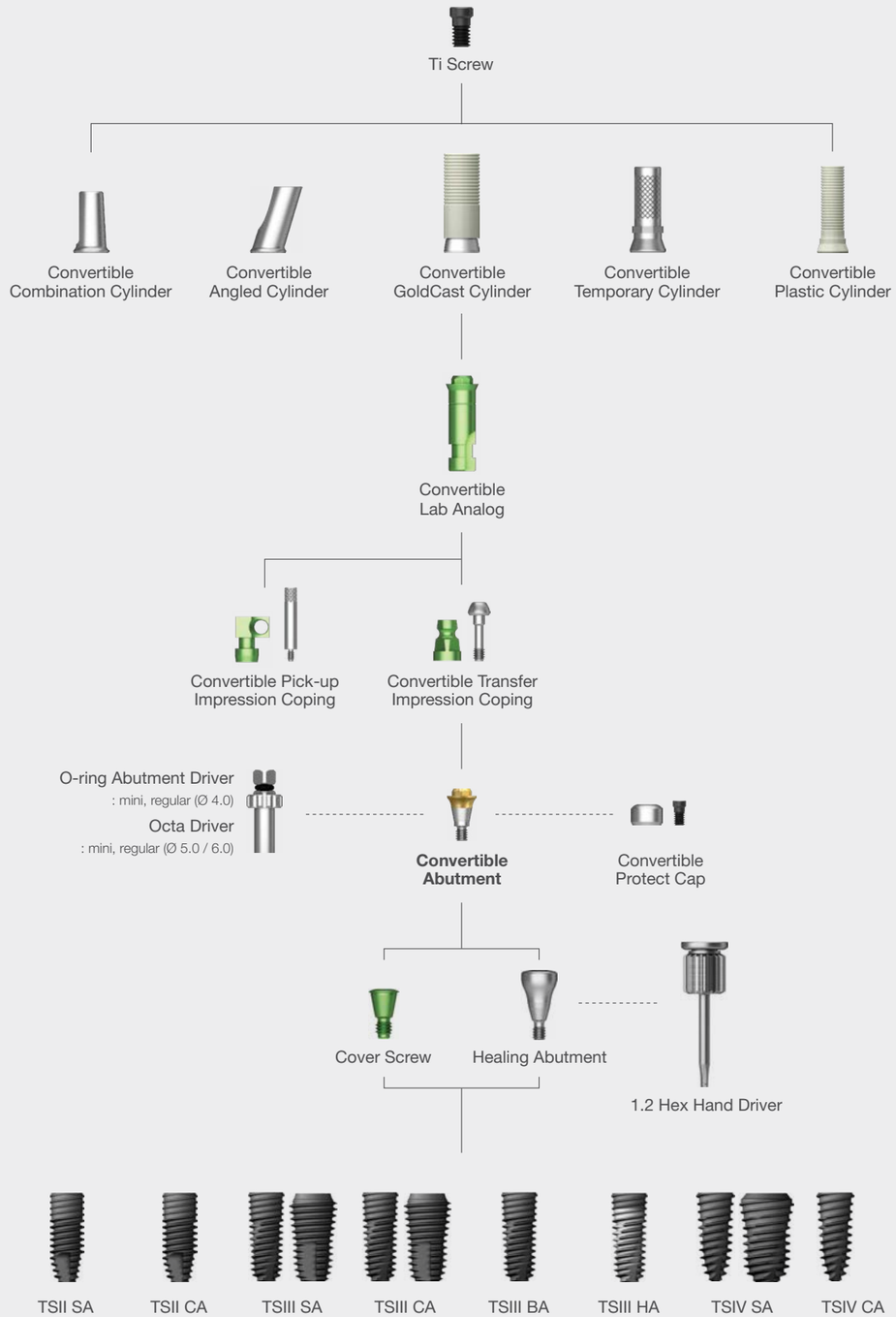
Cylinder Material

Combination / angled cylinder : Ti CP-Gr3
GoldCast cylinder : Au-Pt alloy
Plastic cylinder : POM

Recommended Tightening Torque

Mini / regular 20Ncm

Prosthetic Flow Diagram



Prosthetic Process

Abutment Level Impression Combination Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Select abutment

· Select abutment specification by oral condition and final prosthesis

· Connect abutment to fixture with carrier

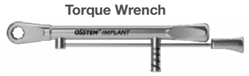
· Connect Ø 4.0 with o-ring driver, Ø 4.8 / 6.0 with octa driver(30Ncm)

· Check right connection with x-ray

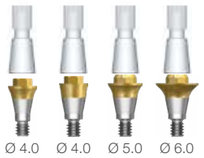
O-ring Driver **Octa Driver**

Ø 4.0 Ø 5.0 , Ø 6.0

Torque Wrench



Convertible Abutment



Ø 4.0 Ø 4.0 Ø 5.0 Ø 6.0

03

Impression

· Consider abutment diameter and type(hex/non-hex)

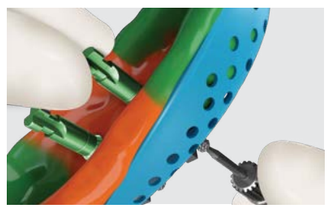
· Select Impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first



Convertible Pick-up Impression Coping

Ø 4.0 Ø 5.0 Ø 6.0

Convertible Lab Analog

Ø 4.0 Ø 5.0 Ø 6.0

04

Protect cap connection and fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect protect cap to protect abutment until prosthesis completion

· Fabricate temporary prosthesis using temporary cylinder depending on cases

05 Lab Side

Fabricate working model and Select cylinder

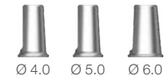
· Fabricate working model in normal way by pouring stone to impression body

· Check path with guide pin of pick-up impression coping

· Select cylinder considering oral environment and final prosthesis

· Cylinder connection and customizing

Convertible Cylinder



Ø 4.0 Ø 5.0 Ø 6.0

Angled Cylinder

Ø 4.0 Ø 5.0 Ø 6.0

06 Lab Side

Wax up

· Wax up in normal way after cylinder customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole

07 Lab Side

Casting

· Casting after connecting sprue in normal way

· Post-treatment for casted body and check fit

08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing procedure in normal way

· Check prosthesis in the working model

09 Lab Side

Make transfer jig

· Make transfer jig with pattern resin to transfer the position of abutment from working model to mouth correctly

10

Cylinder connection

· Check delivered prosthesis from the lab and remove protect cap or temporary prosthesis in mouth

· Re position cylinder in the working model to the correct position in mouth using transfer jig

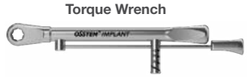
· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

· Check right connection with x-ray

1.2 Hex Torque Driver

Short Long

Torque Wrench



11

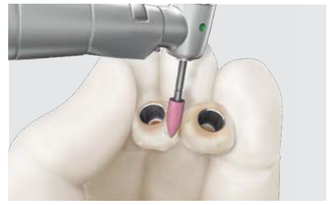
Connect final prosthesis

· Cylinder screw hole block out

· Set prosthesis with cement

· After cement hardening, loosen cylinder screw and remove prosthesis from mouth

· Remove cement completely from the margin of prosthesis



· Re set prosthesis in mouth

· Connect with 1.2 hex driver (mini / regular 20Ncm)

· Block out screw hole with resin

Abutment Level Impression Screw Type Prosthesis

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection

· Select abutment specification by oral condition and final prosthesis

· Connect abutment to fixture with carrier

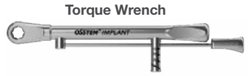
· Connect Ø 4.0 with o-ring driver, Ø 4.8 / 6.0 with octa driver(30Ncm)

· Check right connection with x-ray

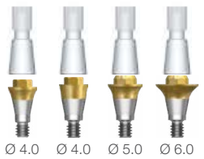
O-ring Driver **Octa Driver**

Ø 4.0 Ø 5.0 , Ø 6.0

Torque Wrench



Convertible Abutment



Ø 4.0 Ø 4.0 Ø 5.0 Ø 6.0

03

Impression

· Consider abutment diameter and type(hex/non-hex)

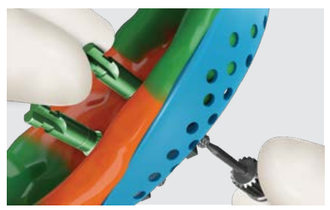
· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical x-ray to check correct connection

· Take impression by applying impression material around impression coping first



Convertible Pick-up Impression Coping

Ø 4.0 Ø 5.0 Ø 6.0

Convertible Lab Analog

Ø 4.0 Ø 5.0 Ø 6.0

04 Lab Side

Protect cap connection and fabrication of temporary prosthesis

· Remove impression coping from mouth after impression taking

· Connect protect cap to protect abutment until prosthesis completion

· Fabricate temporary prosthesis using temporary cylinder depending on cases

05 Lab Side

Fabricate working model and select cylinder

· Fabricate working model in normal way by pouring stone to impression body

· Check path with guide pin of pick-up impression coping

· Select cylinder considering oral environment and final prosthesis

· Cylinder Connection and customizing

GoldCast Cylinder

Ø 4.0 Ø 5.0 Ø 6.0

Plastic Cylinder

Ø 4.0 Ø 5.0 Ø 6.0

06 Lab Side

Wax up

· Wax up in normal way after cylinder customizing

· Extend screw hole to the top of occlusal surface using waxing screw, guide pin for abutment screw hole

07 Lab Side

Casting

· Connect sprue in normal way, perform casting with precious metal appropriate for gold crown and PFG

· Casting with non-precious metal not allowed(abutment change or damage)

· Post-treatment for casted body and check fit

08 Lab Side

Porcelain build up

· Porcelain build up on casted body and firing

· Polishing and glossing

· Check prosthesis in the working model

09

Connect final prosthesis

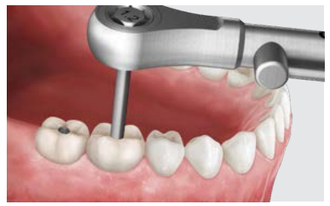
· Check delivered prosthesis from the lab

· Remove healing abutment or temporary prosthesis from mouth

· Connect using 1.2 hex torque driver (mini / regular 20Ncm)

· Check right connection with x-ray

· Block out screw hole with resin



1.2 Hex Torque Driver

Short Long

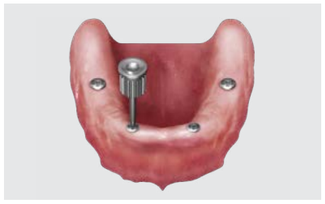
Torque Wrench

Abutment Level Impression Overdenture Bar Frame Fabrication

01

Remove healing abutment

· Remove healing abutment with 1.2 hex hand driver by hand



1.2 Hex Hand Driver

Short Long

02

Abutment selection

· Select abutment specification by oral condition and final prosthesis

· Connect abutment to fixture with carrier

· Connect Ø 4.0 with O-ring driver, Ø 4.8 / 6.0 with octa driver(30Ncm)

· Check right connection with x-ray

O-ring Driver **Octa Driver**

Ø 4.0 Ø 5.0 , Ø 6.0

Torque Wrench

Convertible Abutment

Ø 4.0 Ø 4.0 Ø 5.0 Ø 6.0

Mini Regular

03

Impression

· Consider abutment diameter and type (hex/non-hex)

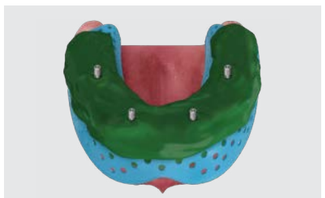
· Select impression coping specification (pick-up / transfer type)

· Connect using 1.2 hex hand driver by hand

· Block out driver hole of transfer impression coping

· Perform peri apical X-ray to check correct connection

· Take impression by applying impression material around impression coping first



Convertible Pick-up Impression Coping

Ø 4.0 Ø 5.0 Ø 6.0

Convertible Lab Analog

Ø 4.0 Ø 5.0 Ø 6.0

04

Protect cap connection and fabrication of temporary prosthesis

- Remove impression coping from mouth after impression taking
- Connect protect cap to protect abutment until prosthesis completion
- Fabricate temporary prosthesis using temporary cylinder depending on cases

05 Lab Side

Fabricate working model and Select cylinder

- Fabricate working model in normal way by pouring stone to impression body
- Check path with guide pin of pick-up impression coping
- Select cylinder considering oral environment and final prosthesis
- Cylinder connection and customizing

GoldCast Cylinder

Plastic Cylinder

06 Lab Side

Wax up

- Make framework considering cylinder position, arrangement of artificial teeth and prosthesis shape

07 Lab Side

Casting

- Connect sprue in normal way and casting
- Post-treatment for casted body and check fit
- Able to fabricate gold bar frame with high accuracy using gold cast cylinder
- Able to fabricate non-precious bar frame using plastic cylinder
- Frame shape can change due to casting shrinkage. Must check fit in working model

08

Completed bar frame

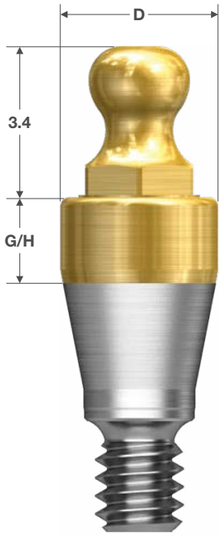
- Connect casted body to working model
- Make framework and try it in patient's mouth

※ Perform standard overdenture fabrication such as reproduction of gingiva and arrangement of artificial teeth

OSSTEM IMPLANT

ABT. 14

Stud
Abutment



Feature

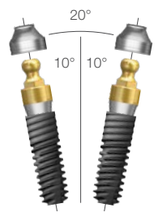
- **Overdenture**
- **Stud type overdenture**
  (Not recommended : path error larger than 20° / implant supported overdenture)
- **Abutment level impression**
- Compensate fixture angle up to 20°(Based on 2 fixtures)
- Fabricate functional overdenture with a few implants placed
- O-ring system
- Esthetic effect with gold coloring
- Material : Ti-6Al-4V
- Connect using exclusive outer driver (code : AORD)
- Recommended tightening torque : mini / regular 30Ncm

D	Ø 3.5 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 / 6.0 mm

O-ring System

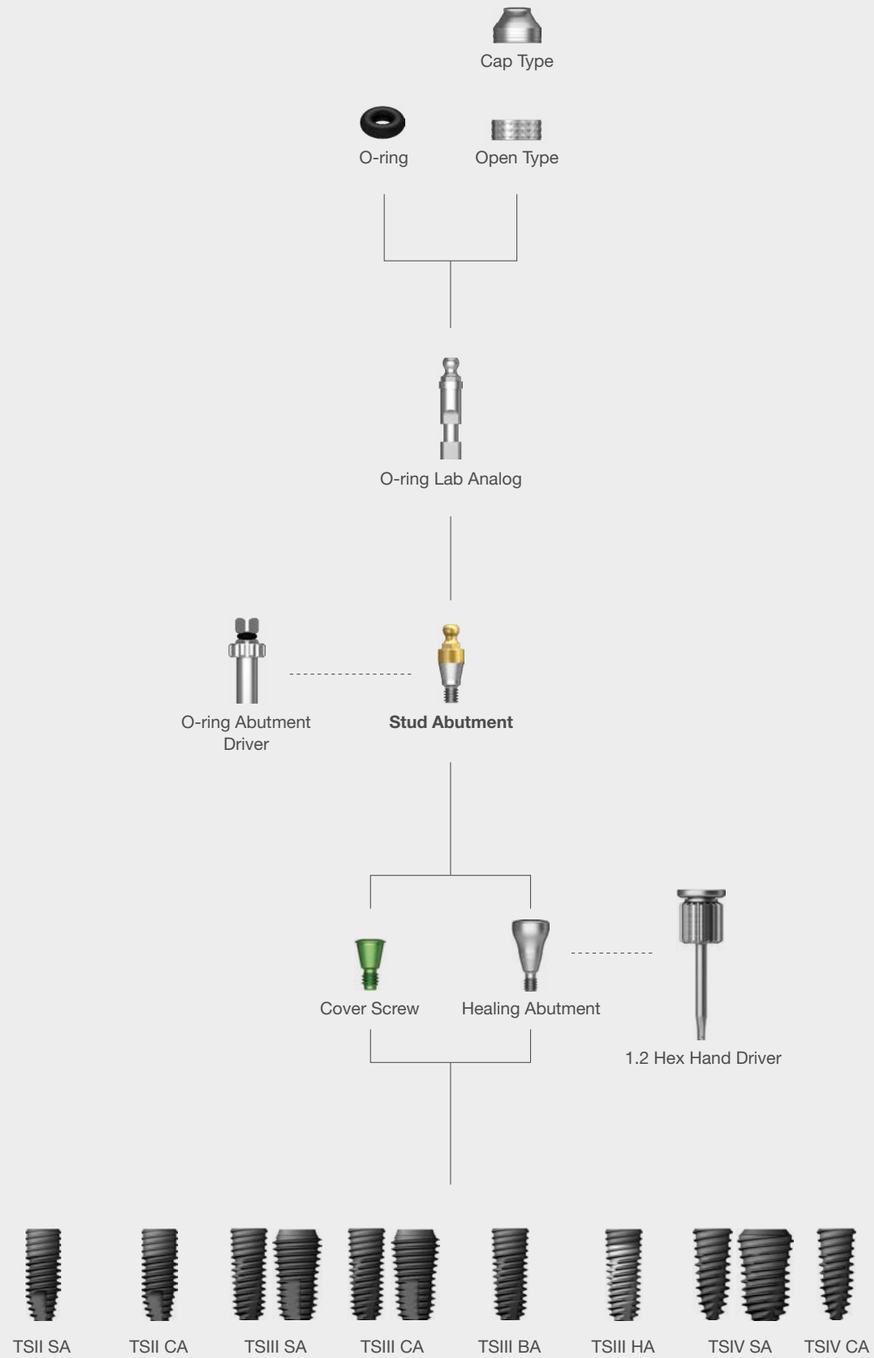
- 2 types of retainer and o-ring
- Uses retainer cap that's easily removed
- Using retainer in limited vertical space can reduce 1.5mm of vertical height
- If retention falls, replacement of o-ring can restore retention
- O-ring system compensates path up to 20°
- The larger the inclination, the shorter the replacement period of o-ring becomes. Be cautious of path in fixture placement

O-ring system's vertical distance



O-ring system's path compensation

Prosthetic Flow Diagram



Abutment Level Impression O-ring System

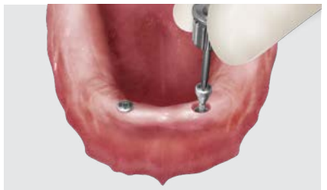
01 **Lab Side**

Remove healing abutment

· Fabricate diagnostic model using preliminary impression

· Fabricate individual tray from diagnostic model

· Remove healing abutment using 1.2 hex hand driver by hand



1.2 Hex Hand Driver

Short Long

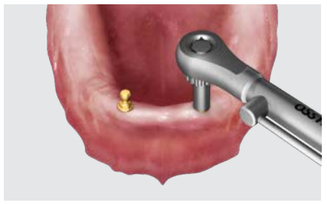
02

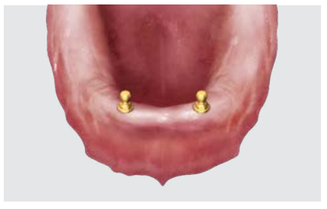
Abutment selection

· Select abutment specification by oral condition and final prosthesis

· Connect using exclusive o-ring driver (30Ncm)

· Check right connection with x-ray





Stud Abutment

Ø 3.5 Mini Ø 3.5 Regular

O-ring Driver

Ø 4.0

Torque Wrench

03

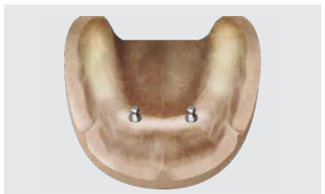
Impression

· Denture impression taking in normal way using pre-fabricated individual tray

· Direct impression taking by injecting impression material around abutment

· Connect lab analog using abutment's hex structure conveyed inside impression body

· Fabricate working model in normal way by pouring stone to impression body



Stud Lab Analog

04 **Lab Side**

Denture fabrication

· Denture fabrication in normal way by wax denture, curing, polishing

05 **Lab Side**

Retainer cap connection

· Connect retainer cap (including o-ring) in working model

· Block out undercut area

O-ring System

Retainer cap Retainer O-ring

06 Lab Side

Connect denture and retainer cap

- Create hole inside fabricated denture for setting of retainer cap
- Connect in working model, and check interference to retainer cap
- Apply resin around cap and remove after hardening
- Check fixation of retainer cap inside denture and remove excessive resin

07

Connect final prosthesis

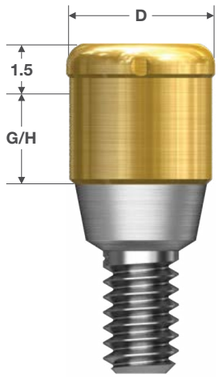
- Check delivered prosthesis from the lab
- Connect in mouth, and check occlusion and shape
- Connect new o-ring, and set denture in mouth

LOCATOR

ABT. 15

164 Abutment Level Impression

Locator
Abutment



Feature

Locator Abutment

- **Overdenture**
- **Stud type overdenture (Not recommended : path error larger than 40˚ / implant supported overdenture)**
- **Abutment level impression**
- Compensate fixture angle up to 40˚ (Based on 2 fixtures)
- Fabricate functional overdenture with a few implants placed
- Various attachment with stable retention
- Excellent durability and 1.5mm of low vertical height
- Esthetic effect with gold coloring
- Material : Ti-6Al-4V
- Connect using exclusive outer driver (code : TWLDLK / TWLDLSK)
- Recommended tightening torque : mini / regular 30Ncm

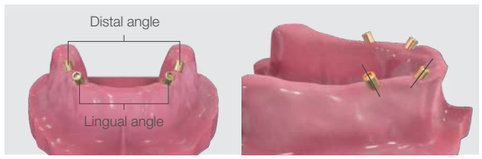
D	Ø 3.7 mm
G/H	1.0 / 2.0 / 3.0 / 4.0 / 5.0 mm

Port Angled Abutment

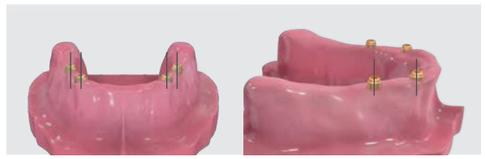
- **Case that needs path compensation in overdenture**
- Compensate fixture angle up to 60° (Based on 2 fixtures)
- Connect abutment using 1.2 hex torque driver
- Connect head area using exclusive outer driver (code : TWLDLK / TWLDLSK)
- Recommended tightening torque: mini 20Ncm / regular 30Ncm (Head area 20Ncm)

D	Ø 4.6 mm
G/H	4.0 / 5.0 mm

Fixture : examples of different placement angle

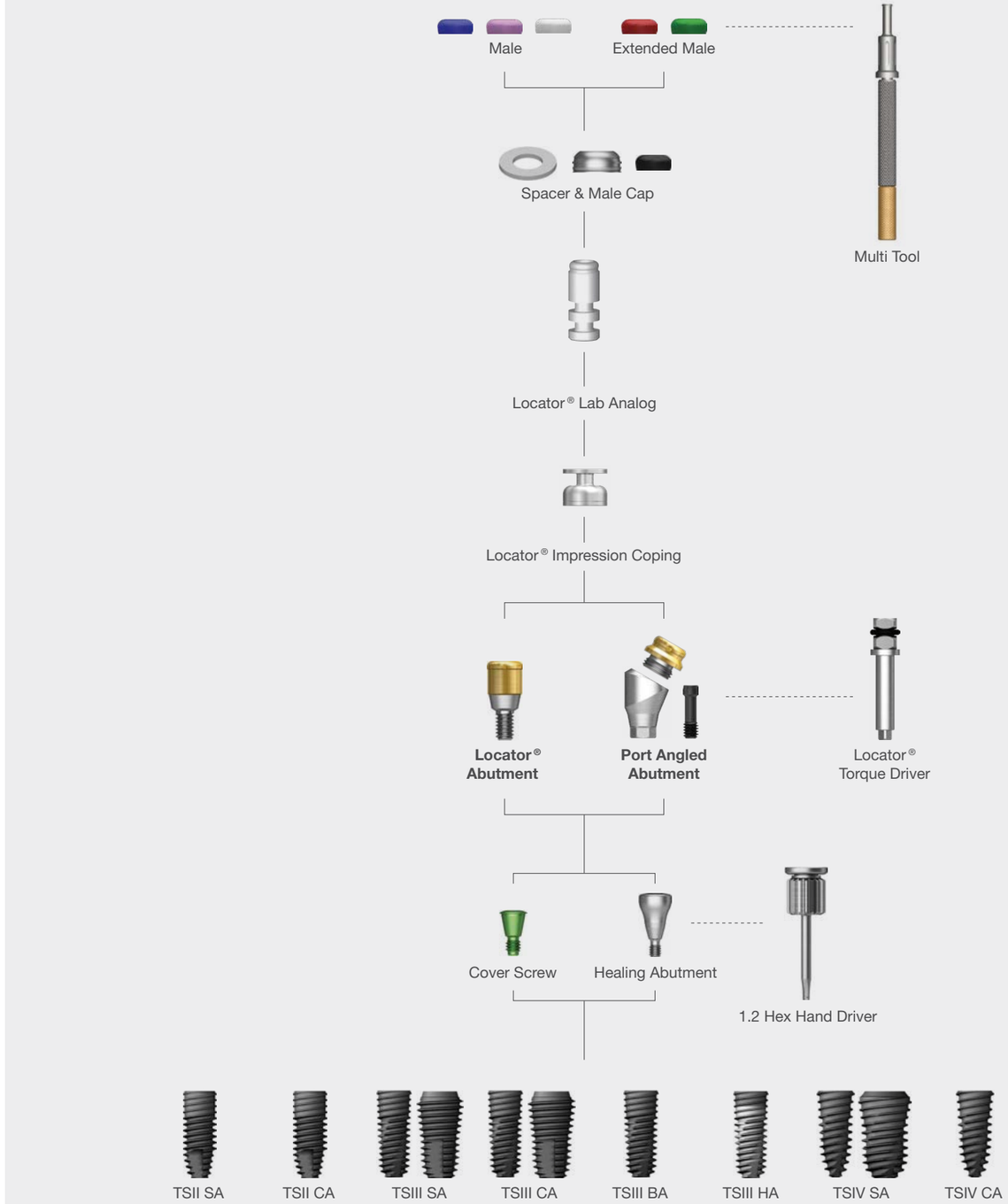


Due to angle of placed fixture, passive removal of denture is not possible



Fixture angled is resolved and passive removal of denture is possible

Prosthetic Flow Diagram



Abutment Level Impression

01 Lab Side

Remove healing abutment

· Fabricate diagnostic model using preliminary impression

· Fabricate individual tray from diagnostic model

· Remove healing abutment using 1.2 hex hand driver by hand

1.2 Hex Hand Driver

Short Long

02

Abutment selection

· Select abutment specification by oral condition and final prosthesis

· Use specification that matches gingiva height or 1mm higher, considering space for denture cap connection

· Connect using exclusive locator driver (30Ncm)

· Check right connection with x-ray

Locator Abutment

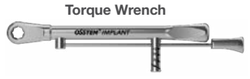
Ø 3.7

Mini Regular

O-ring Driver

Ø 4.0

Torque Wrench



03

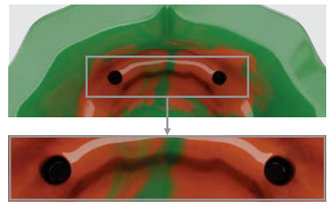
Impression

· Impression coping connection

· Denture impression taking in normal way using pre-fabricated individual tray

· Direct impression taking by injecting impression material around abutment

· Connect lab analog to impression body



· Fabricate working model in normal way by pouring stone inside the impression body

Locator® Impression Coping

Locator® Lab Analog

04 Lab Side

Denture cap connection

· Place block out spacer and set denture cap

· Check if block out is appropriate

Denture Cap **Block out Spacer**

Male

05 Lab Side

Denture fabrication

· Denture fabrication in normal way by wax denture, curing, polishing

06

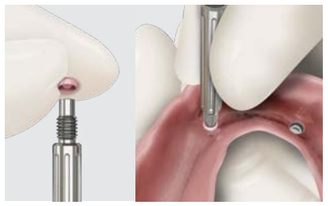
Connect final prosthesis

· Check delivered prosthesis from the lab

· Connect inside mouth, and check occlusion and shape

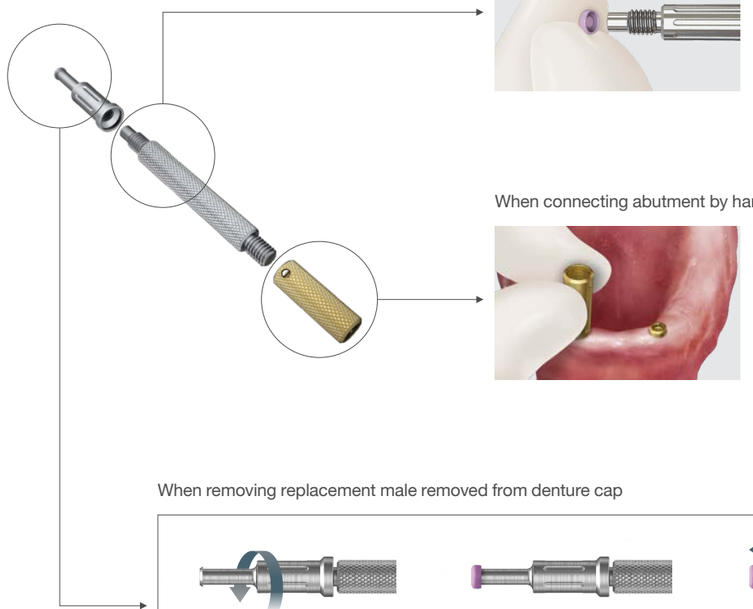
· Remove black processing male (For lab) with core tool

· Connect replacement male and set denture in mouth



※ Locator core tool instruction

When inserting replacement male removed from denture cap



When connecting abutment by hand

When removing replacement male removed from denture cap

1. Loosen in reverse direction until gap of connecting area is shown
2. Remove male inside denture cap by pushing
3. Rotate and tighten until male is removed

TS Prosthetic Manual

Planning/Editing Promotion Department, Design Team

Supervision R&D Implant development Team 1

Production/Distribution R&D Implant PM

Published 2019. 10

Place of issue Osstem Implant
8th FL, World Meridian II, 123, Gasan gigital 2-ro,
Geumcheon-gu, Seoul, Korea

Phone +82 2 2016 7000

Fax +82 2 2016 7001

www.osstem.com

2019 Printed in Seoul, Korea