



NR Line
Product/Manual Catalog

DentiumUSA

NR Line

Narrow Diameter Implant

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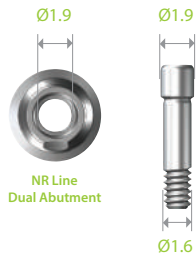
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NR Line Characteristics

Abutment Screw

- Ø1.9mm hole size for abutment screw

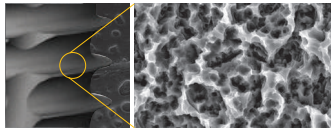


S.L.A. Surface

(Sandblasted with Large grits and Acid etched)

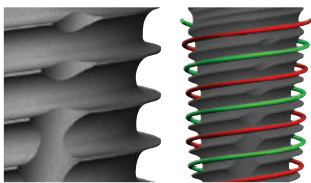
- Easy application combined with simplified GBR procedure on narrow ridges

Reference: Kim H., et. al. "The Biocompatibility of SLA-treated Titanium Implants" *Biomed. Mater.* 2008; 3(2):025011



Double-Threaded, Tapered Body Design

- Easy and fast insertion can be done due to the double-threaded straight body design



Platform-Switched Design

- Platform-Switched Design may be beneficial in marginal bone preservation

Reference: Hsu. et. al., "Comparison of Clinical and Radiographic Outcomes of Platform-Switched Implants with a Rough Collar and Platform Matched Implants with a Smooth Collar: A 1-Year Randomized Clinical Trial *Int. J. Oral Maxillofacial Implants* 2016;30:382-290

Narrow Diameter Implant

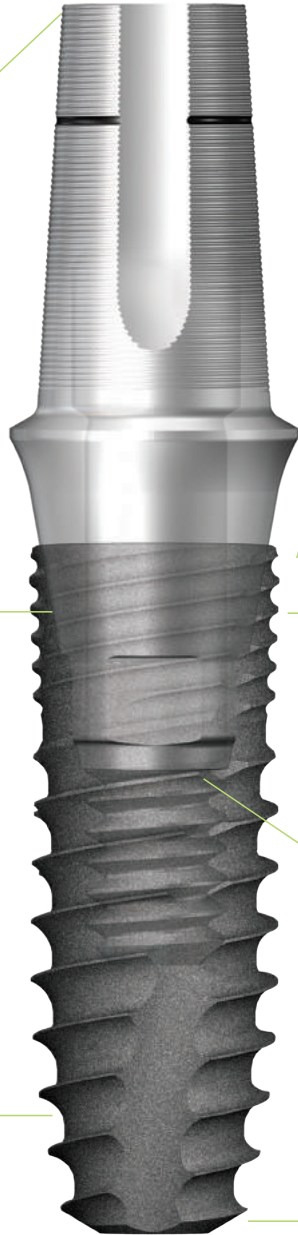
- Ø3.1 mm body diameter for narrow ridges
- Available in two platforms (Ø3.2mm & Ø3.6mm)

Internal Conical Connection

- Internal conical connection between implant and abutment interface allows tight sealing

Apical Design

- The 3-blade self-tapping design can minimize bone destruction
- The flat end design reduces bone perforation risk



NR Line Fixture

Unit: mm, Scale 1 : 1.5

· Cover screw is not included in the package

Fixture Shape		
	A Platform Diameter	3.2 3.6
	B Body Diameter	3.1 3.1
	C Bevel Height	0.03 1.0
	D Total Length	9, 11, 13 9, 11, 13
Selection Guideline		Anterior Anterior

Body Ø 3.1 | Platform Ø 3.2

L	REF
9	GFX 30 09 S
11	GFX 30 11 S
13	GFX 30 13 S



Body Ø 3.1 | Platform Ø 3.6

L	REF
9	GFX 30 09
11	GFX 30 11
13	GFX 30 13

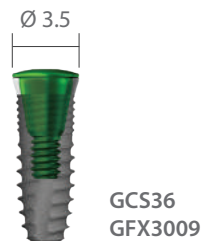
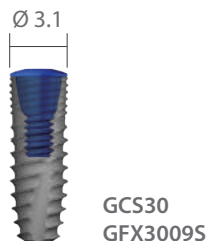


※ Note: To prevent any damages to the implant driver or the fixture, do not torque beyond 70N•cm during fixture insertion.

Cover Screw

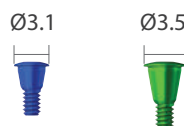
- Single use only
- Must sterilize prior to use

Unit: mm, Scale 1 : 1.5



Cover Screw

Fixture Platform	REF
Ø3.2	GCS 30
Ø3.6	GCS 36



※ Square Driver: Use no more than 5N-cm of torque when screwing a cover screw to a fixture.
If square is stripped, slot on the head of the product can be used as an alternative.

GBR Healing Abutment

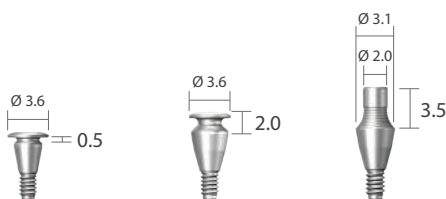
- Single use only
- Please sterilize prior to use

Unit: mm, Scale 1 : 1.5



Platform Diameter Ø3.2 / Ø3.6

G/H	REF
0.5	GBHA 36 05
2.0	GBHA 36 20
3.5	GBHA 31 35



※ Note: ¹ When NR Line fixture with the size of 3.2mm platform is used, abutments will sit 1mm higher than on fixtures with different platform sizes.

Healing Abutment

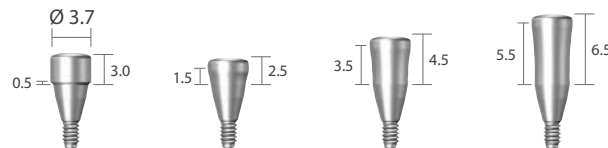
- Single use only
- Please sterilize prior to use

Unit: mm, Scale 1 : 1.5



Diameter Ø3.7

G/H	H	REF
0.5	3.0	GHAB 37 05 30
1.5	2.5	GHAB 37 15 25
3.5	4.5	GHAB 37 35 45
5.5	6.5	GHAB 37 55 65



Diameter Ø 4.3

G/H	H	REF
1.5	2.5	GHAB 43 15 25
3.5	4.5	GHAB 43 35 45
5.5	6.5	GHAB 43 55 65



Diameter Ø 5.5

G/H	H	REF
1.5	2.5	GHAB 55 15 25
3.5	4.5	GHAB 55 35 45
5.5	6.5	GHAB 55 55 65

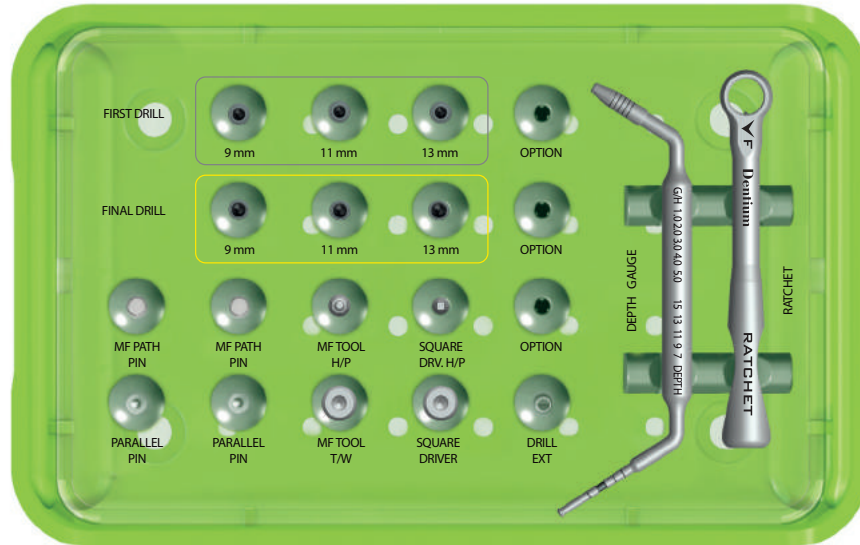


※ Note: 1 When NR Line fixture with the size of 3.2mm platform is used, abutments will sit 1mm higher than on fixtures with different platform sizes.

※ Square Driver: Use no more than 5N-cm of torque when screwing the abutment to a fixture.

If square is stripped, slot on the head of the product can be used as an alternative.

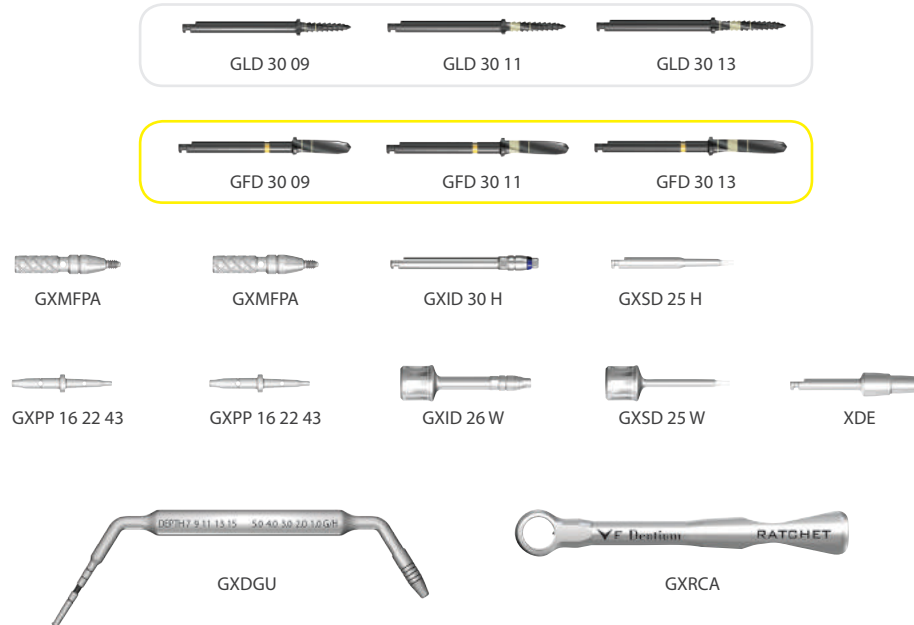
Surgical Kit



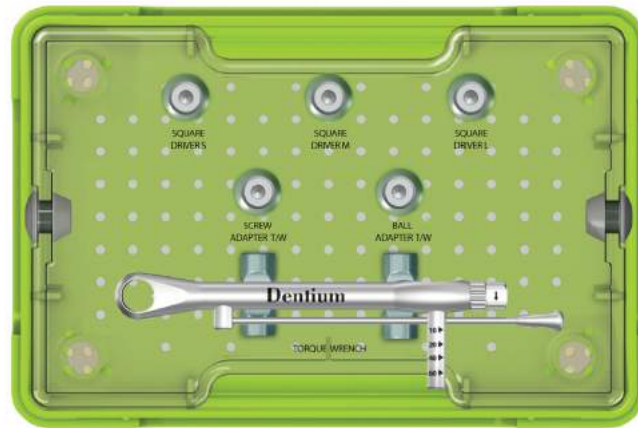
NR Line Surgical Kit

GXIFU

Kit Includes



Prosthetic Kit



NR Line Prosthetic Kit

GXNP

Kit Includes



GXSD 15 W



GXSD 21 W



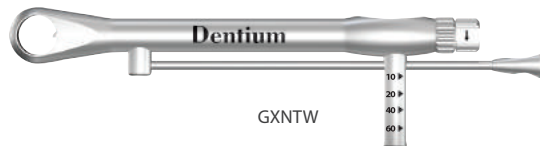
GXSD 28 W



GXSA 21W



GXBA 21W



GXNTW

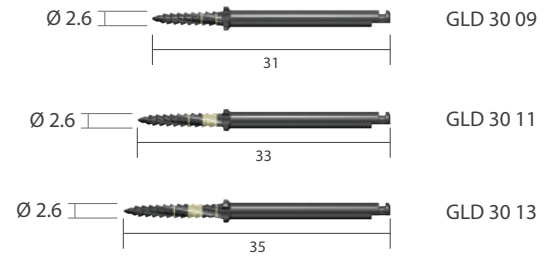
Drill



Unit: mm, Scale 1 : 1

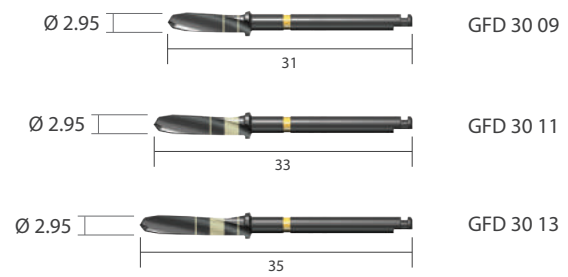
First Drill

Diameter	L	REF
Ø2.6	9	GLD 30 09
Ø2.6	11	GLD 30 11
Ø2.6	13	GLD 30 13



Final Drill

Diameter	L	REF
Ø2.95	9	GFD 30 09
Ø2.95	11	GFD 30 11
Ø2.95	13	GFD 30 13



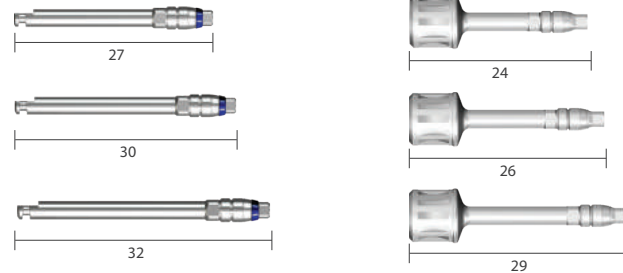
※ Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

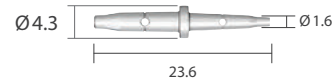
Adapter

Type	L	REF
Hand-piece	27	GXID 27 H
	30	GXID 30 H
	32	GXID 32 H
Ratchet	24	GXID 24 W
	26	GXID 26 W
	29	GXID 29 W



Parallel Pin

Diameter	L	REF
Ø4.3	23.6	GXPP 162243



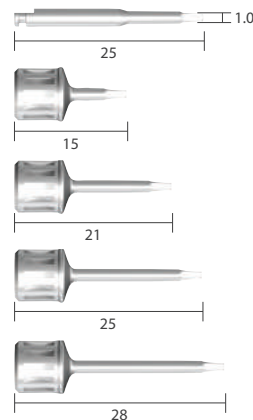
Path Pin

L	REF
17.3	GXMFP A



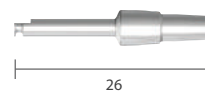
Square Driver

Type	L	REF
Hand-piece	25	GXSD 25 H
Ratchet	15	GXSD 15 W
	21	GXSD 21 W
	25	GXSD 25 W
	28	GXSD 28 W



Drill Extension

XDE



※ Note: Drill speed 1,000rpm, 30~45N-cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

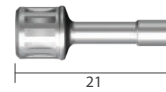
Adapter for Screw Abutment

GXSA21W



Adapter for Ball Abutment

GXBA21W



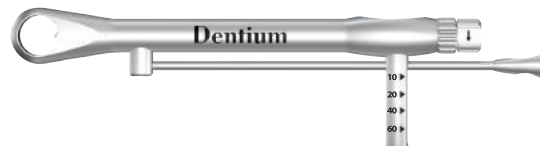
Ratchet

GXRCA



Torque Wrench | Scale 1 : 0.7

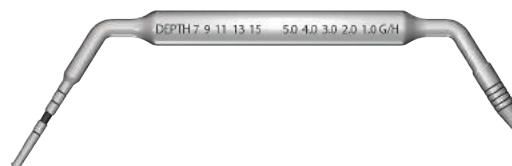
GXNTW



Depth Gauge

GXDGU

※ Note: One side of Depth Gauge measures the osteotomy depth and the other side measures the gingival height from the top of the implant.



Prosthetic and Laboratory Instrument

Unit: mm, Scale 1 : 1

Reamer Guide for Dual Abutment

REF
GDRG 37
GDRG 43
GDRG 55



Reamer Guide for Screw Abutment

GSRG



Reamer

GSRM



Reamer Handle

CRH





SURGICAL MANUAL

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Installation Warnings & Procedure

Warnings

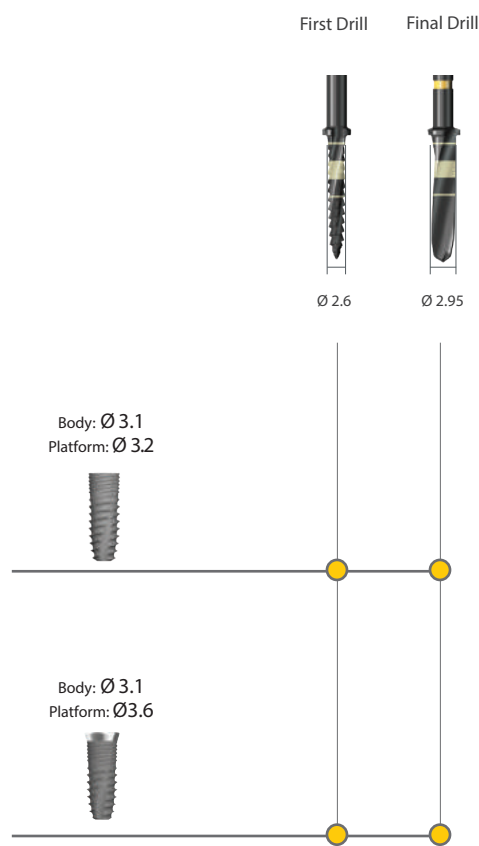
Dental Implant surgery and restoration involve complex dental procedures. Appropriate and adequate training in proper technique is mandatory recommended prior to use.

- Improper medical examination and/or treatment plan can result in implant failure and/or loss of supportive bone.
- Improper initial stability and/or excessive occlusal forces during healing period may lead to osseointegration failure.
- Excessive insertion torque may lead to mechanical failure or implant biologic failure due to bone compression and necrosis.
- When forces or loads are greater than its design, implant or abutment fracture could happen. Therefore clinicians should make careful decisions with regards to clinical treatment planning to minimize the risk of fracture. Appropriate implant quantity, occlusal interface and a nightguard are essential. Potential excessive loading conditions may include the following:

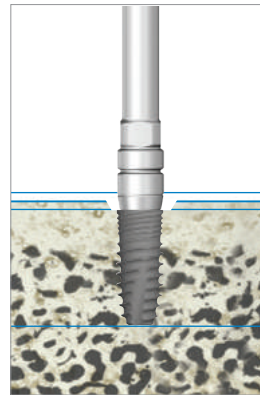
- 01 Inadequate number of implants are placed.
- 02 Implant width and/or length are inappropriate for a treatment site.
- 03 Prosthesis which has excessive cantilever length due to inadequate biomechanical design
- 04 Continuous occlusal force are generated by incomplete connection between implant and abutment and/or abutment screw loosening.
- 05 Metal Casting Abutment angles are greater than 30° from the vertical axis of the implant.
- 06 Occlusal interferences causing excessive lateral forces
- 07 Patient parafunctional activities such as bruxism
- 08 Inadequate dental laboratory casting procedures
- 09 Improper prosthesis fit
- 10 Trauma from patient habits or accidents
- 11 Excessive marginal bone loss caused by inadequate bone width and/or advanced peri-implantitis.

Surgical Drill Sequence

Drilling Sequence Guide



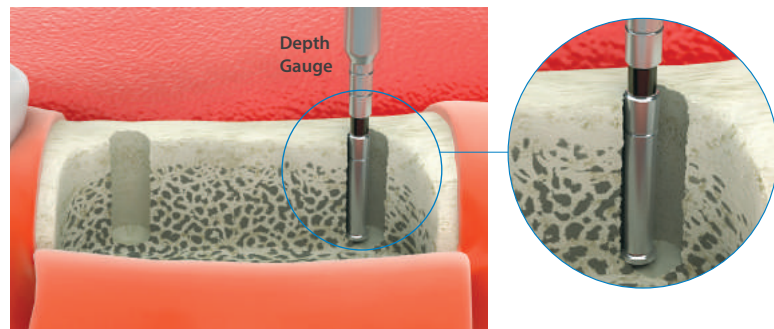
Determination of Fixture Placement Depth



It is recommended to place the implant 0.5mm below the crestal bone line to prevent implant body exposure from natural bone loss.

+0.5mm Crestal
-0.5mm Bone
9mm

Depth Indication

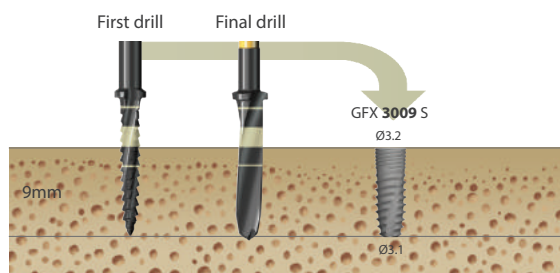


• Use the depth gauge to measure the depth of the osteotomy.

Drilling Depth Guide

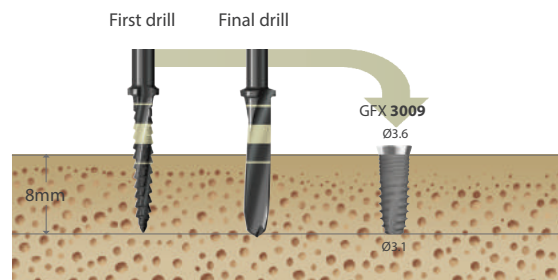
Body: Ø 3.1 / Platform: Ø 3.2

(800~1,200rpm / 30~45N-cm)

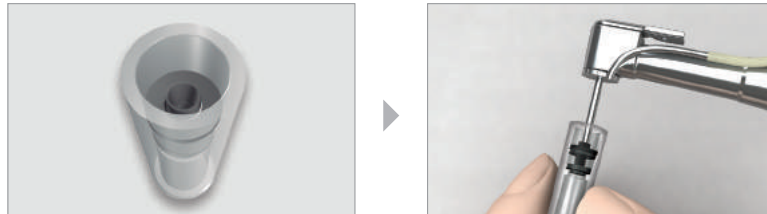


Body: Ø 3.1 / Platform: Ø 3.6

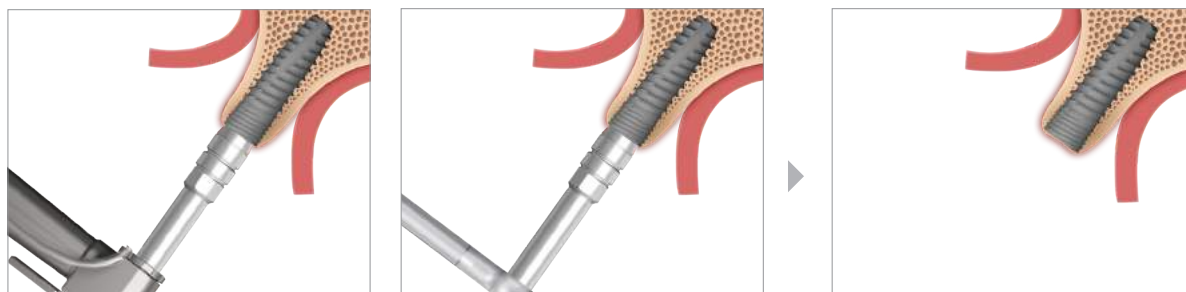
(800~1,200rpm / 30~45N-cm)



Fixture Connection



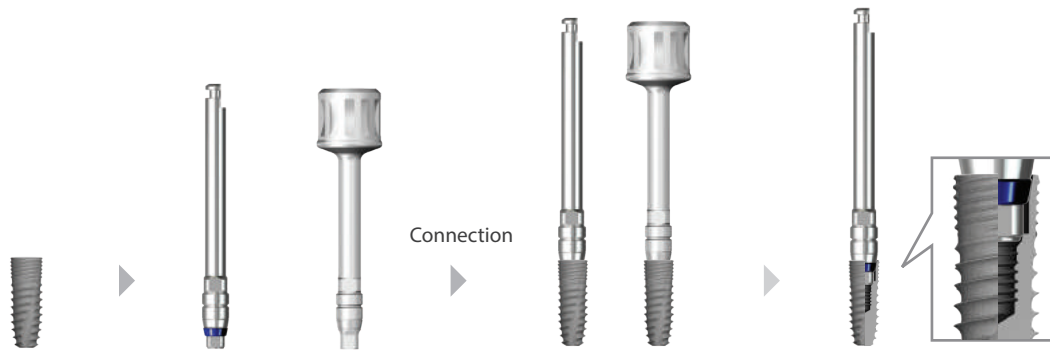
Caution
When opening the fixture pack, hold the fixture container upward and engage the adapter into the fixture.



When using handpiece:
20rpm / 35N-cm

When using ratchet

Directions Using the Handpiece / Ratchet Adapter

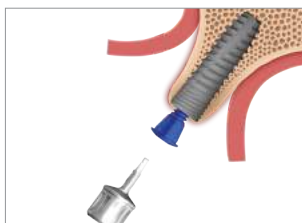


Handpiece
Adapter

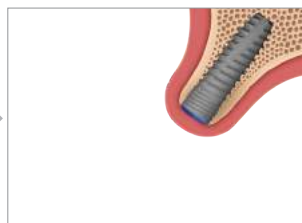
Ratchet
Adapter

Please hold the connected fixture and adapter with fixture pointing upwards to avoid droppage and prevent possible choking by the dropped fixture into the throat.

Cover Screw

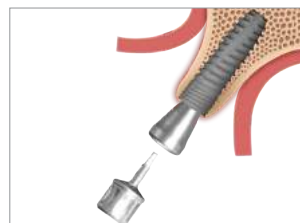


Usage of the Square Driver

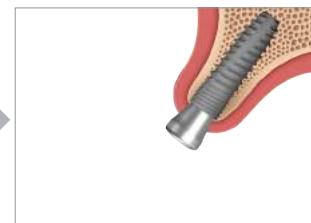


Cover Screw (GCS30)
connection

Healing Abutment



Usage of the Square Driver



Healing Abutment connection

Surgical Kit Maintenance

Manual Cleaning and Sterilization Procedure

It is important to use protective clothing and face shield while cleaning contaminated instruments. Always wear protective glasses, mask, gloves, etc. for your safety.

Cleaning

- 1 Rinse instruments immediately after use under running tap water (<40°C) for a minimum of one (1) minute to remove all debris including extraneous body fluids, bone debris and tissue.
- 2 Soak all instruments immediately after rinsing in an enzymatic cleaning solution* for 10 to 20 minutes (Do not soak overnight).
 - * Follow manufacturer's instructions and observe recommended cleaning solution concentrations (enzymatic detergent with a pH level between 7-10 and temperature not to exceed 40°C). Do not use incompatible cleaning solutions to clean instruments.
- 3 For internal irrigation drills, use a 1mL syringe and a 25 gauge needle to clean the drill irrigation hole with a minimum of 0.2 mL of the prepared cleaning solution. Repeat this step two (2) more times for a total of three (3) rinses.
- 4 Scrub with a soft brush for a minimum of 1 (one) minute to remove any debris inside the drill irrigation hole.
- 5 Rinse the instruments under running tap water (<40°C) for a minimum of 1 minute. Use a 1mL syringe and a 25 gauge needle with a minimum of 0.2 mL of tap water to forcefully flush inside the drill irrigation hole. Repeat flushing of drill irrigation hole two (2) more times for a total of three (3) flushings.
- 6 Place instruments into an ultrasonic cleaner with neutral detergent**. Keep instruments inside the ultrasonic bath for 15 minutes using a frequency of 25-50 kHz. Ensure multiple instruments placed within the bath remain separated.
 - ** Follow manufacturer's instructions and observe recommended neutral detergent solution concentrations (neutral detergent with a pH level between 7-10 and temperature not to exceed 40°C). Do not use incompatible neutral detergent solutions to clean instruments.
- 7 Rinse instruments thoroughly with running tap water (<40°C) for a minimum of 1 (one) minute until all traces of neutral detergent solution are removed. Rinse inside drill irrigation hole using a 1mL syringe and a 25 gauge needle with a minimum of 0.2 mL of tap water. Repeat rinsing drill irrigation hole two (2) more times for a total of three (3) rinses.
- 8 Gently wipe instruments with a soft lint-free cloth or place the instruments in a drying cabinet (60°C for less than 10 hours) until fully dry. Blow residual water from drill irrigation hole using a 1mL syringe and a 25 gauge needle. Visually inspect instruments in a well-lit area to ensure they are clean, dry and free of residue.
- 9 Clean instrument trays with a germicidal cleaner prior to returning instruments into Kit.
- 10 Always check for damage or corrosion after rinsing and drying.

Sterilization

Dentium recommends either the Pre-vacuum or Gravity autoclave methods for sterilization under the conditions described below. However, autoclave performance can affect the efficacy of this process. Healthcare facilities should validate their sterilization processes employing the actual equipment and operators that routinely sterilize instruments.

All autoclaves/sterilizers should be regularly validated, maintained and checked in accordance with EN 285/EN 13060, EN ISO 17665, ANSI AAMI ST79 to ensure compliance with these and related standards. Make sure packaging is suitable for steam sterilization.

Recommended Sterilization Parameters

Method-Moist Heat Sterilization	Pre-vacuum	Gravity
Set Point Temperature	132 °C	132 °C
Exposure time	4 minutes	30 minutes
Drying time	20 minutes	40 minutes

PROSTHESIS MANUAL

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Prosthetic Procedure 1

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Prosthetic Procedure 2

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Fixture Level [Pick-up Type]- Temporary Abutment	60

Prosthetic Procedure 3

Abutment Level [Transfer Type]- Screw Abutment	62
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Cementation Repair Method (SCRIP)

65

Prosthetic Procedure 4

Mini Ball Attachment	68
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Types of Abutment

Abutments are available in various diameters & gingival heights

- Dual Abutment

Abutment Level

- Dual Abutment
- Dual Milling Abutment
- Angled Abutment (15°/25°)
- Metal-Casting Abutment
- Temporary Abutment

Fixture Level

- Screw Abutment
- Angled Screw Abutment (10°/ 20°/ 30°)

Screw-Retained (Abutment Level)

- Mini Ball Attachment
- Angled Mini Ball Attachment

For Denture Use



Dual Abutment



- It is possible to make an impression at both fixture level and abutment level.
- If the abutment selection is made in the mouth, gauge the thickness of gingiva with depth gauge to decide the appropriate abutment gingival height.
- For abutment level impressions, the impression is made with the snap cap.
- When using the Dual Abutment with abutment level impression, it remains in the mouth after the impression is made.
- For fixture level impressions, the abutment selection takes place on the master cast.
- For fixture level impressions, a precise positioning jig for abutment may be required.
- Either square or round abutments may be used, according to operators preference.

* If a cement retained restoration requires retrieval, cutting a hole in the occlusal surface would allow access to the screw to permit removal prosthesis.

Square / Round

	Square	Round
Positioning Jig	Optional	Required
Radiograph	Required	Optional

Dual Abutment (Square / Round)

Diameter	G/H	Vertical Angle (A°)
Ø3.7	0.5mm, 1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	3.5°
Ø4.3	1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	5°
Ø5.5	1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm	6°



Screw Abutment / Angled Screw Abutment



Screw Abutment



Angled Screw Abutment



Abutment Holder
for Screw Abutment and
Angled Screw Abutment

If prosthesis repair is anticipated, use of a Screw Abutment retained prosthesis enables easy retrieval.

- Useful for connecting multiple units or when there is a preference for a screw retained prosthesis.
- Useful when respective long axes of implants differ.
Each side tapers by 30° and this permits up to 60° divergence between two abutments.
- Useful when the prognosis of an adjacent restoration is not ideal thus permitting easy retrieval and modification of the restoration.

Ti-Retaining Screw (1.6mm - Body Diameter)

- Can minimize screw loosening due to increased approximal space.
- Can endure various kinds of masticatory force.



Screw Abutment

Diameter	G/H
Ø5.0	1.0mm, 2.0mm, 3.0mm, 4.0mm, 5.0mm

Angled Screw Abutment

Diameter	G/H	Angle
Ø4.3	1.0mm, 2.0mm, 3.0mm	10° / 20° / 30°



Points to Consider in Abutment Selection

Considerations in Selecting an Abutment

- Esthetic requirement
- Implant angulation
- Implant location
- Fixture installation depth (Gingival height)
- Interarch distance
- Prosthesis type
- Dentist & dental technician's preference
- Retrievability

Impression of Implant

According to the case the impression can be made at abutment or fixture level.

Fixture Level

- Dual Abutment
- Dual Milling Abutment
- Angled Abutment (15° / 25°)
- Metal-Casting Abutment
- Temporary Abutment (Titanium)

Abutment Level

- Dual Abutment
- Screw Abutment
- Angled Screw Abutment (10° / 20° / 30°)

Abutment Impression Recommendation

Dual Abutment	Cementation type, screw-cementation type	Fixture Level Impression or Abutment Level Impression
Dual Milling Abutment	Cementation type, screw-cementation type	Fixture Level Impression
Angled Abutment	Cementation type, screw-cementation type	Fixture Level Impression
Screw Abutment	Screw-retained type	Abutment Level Impression
Metal-Casting Abutment	Cementation type, screw-cementation type	Fixture Level Impression
Temporary Abutment	Cementation type, screw-cementation type	Fixture Level Impression

Prosthetic Procedure 1

Impression Technique and Restoration Selection

Dual Abutment

Abutment Level Impression

Closed Tray Technique



Dual Abutment

Square / Round
Ø3.7 / Ø4.3 / Ø5.5

Page 9, 10



Impression Coping*

Ø3.7 / Ø4.3 / Ø5.5

Page 11



Comfort Cap

Ø3.7 / Ø4.3 / Ø5.5

Page 11



Analog

Ø3.7 / Ø4.3 / Ø5.5

Page 11

Modification

Cemented Restoration

* Impression coping can be used as a Burn-out Cylinder, an Abutment Holder and a Scan Body for Dual Abutment.

Abutment Level- Dual Abutment

[Multiple Units]

Clinical Procedure



Cover Screw

Healing Abutment

Dual Abutment

Comfort Cap

Temporary Restoration

Abutment Level Impression

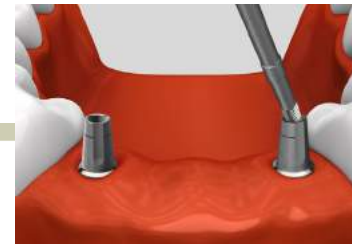
Chairside



Remove the Healing Abutment after the soft tissue healing



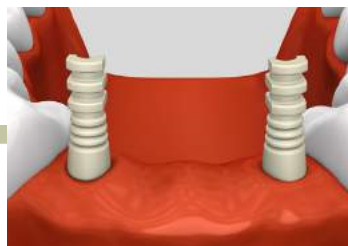
Select the Dual Abutment by diameter and gingival height



Connect the abutment to the fixture using abutment screw



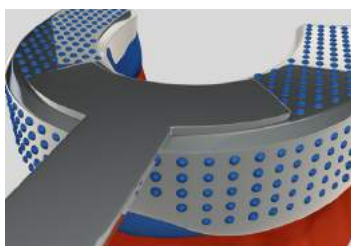
Re-tighten after 15 minutes (Torque: 20N-cm)



Seat the abutment level Dual Abutment Impression Coping over the Dual Abutment



Application of impression material



Impression making



Cap comes off embedded in the impression

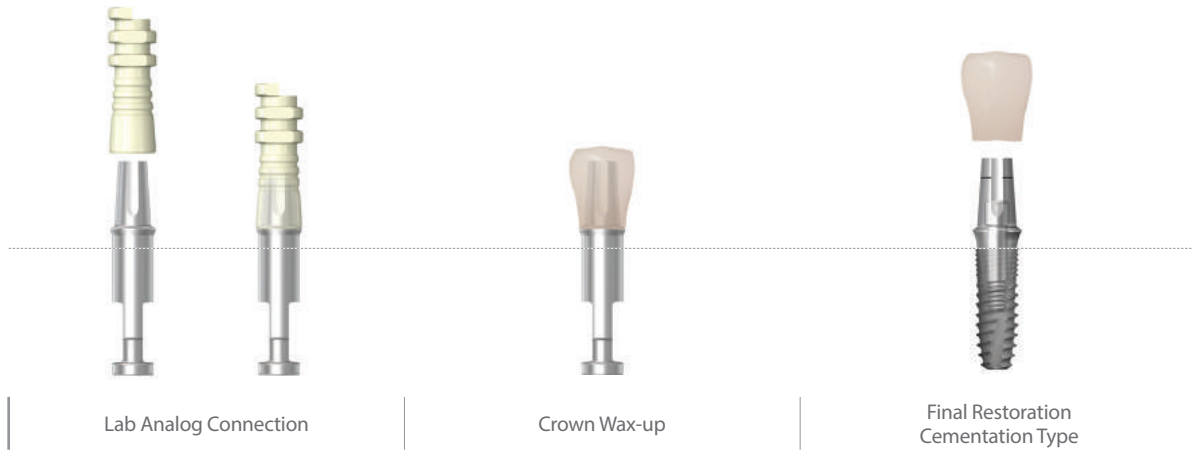


Fabrication of provisional restoration or utilization of comfort cap

Abutment Level- Dual Abutment

[Multiple Units]

Laboratory Procedure



Labside



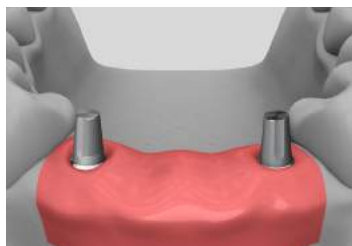
Insertion of abutment level analog into impression



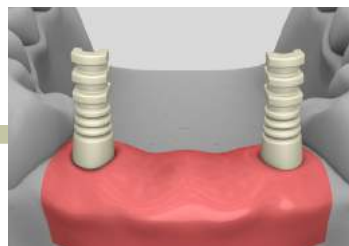
Make sure analog sits securely into the Impression Coping (line up the flat side of analog to the flat side of the Impression Coping)



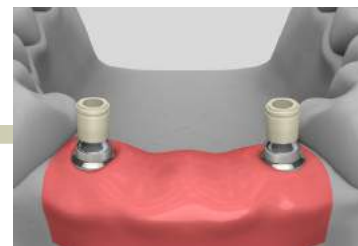
Soft tissue model



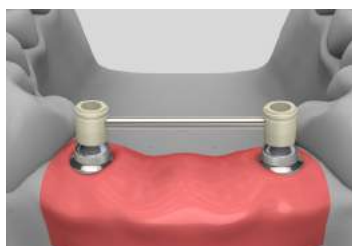
Fabrication of master model



Connect the Burn-out Cylinder securely into analog



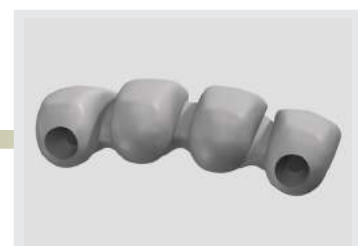
Consider distance of opposing teeth, modify Burn-out Cylinder to its proper height if needed



Fabrication of Burn-out Cylinder and plastic bar in preparation for wax-up



Completion of wax-up



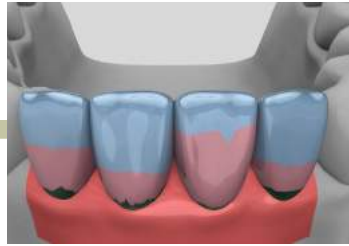
Removal of lip remnant in the interior of metal framework using reamer

Abutment Level- Dual Abutment

[Multiple Units]



Metal framework



Porcelain build-up



Final prosthesis

Prosthetic Procedure 2

Impression Technique and Restoration Selection

Dual / Dual Milling / Angled / Metal-Casting / Temporary Abutment

Fixture Level Impression

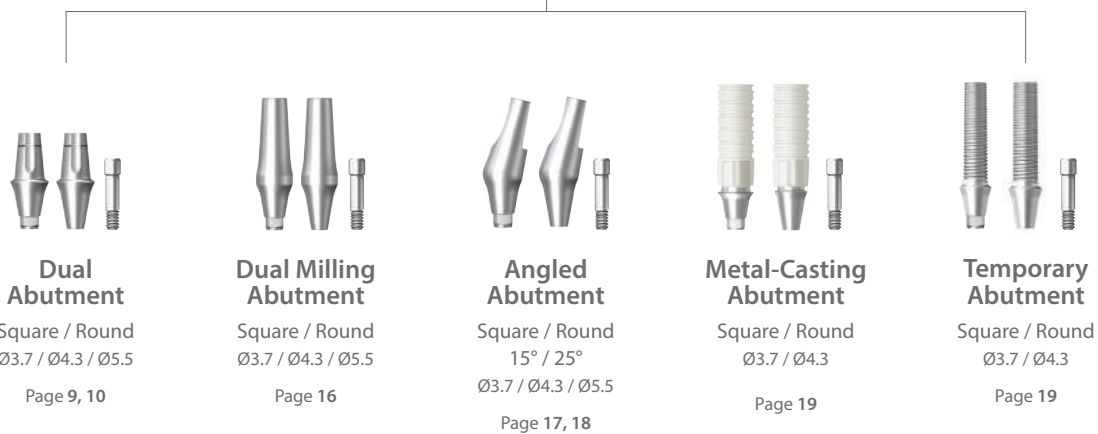
Open Tray Technique

Closed Tray Technique



Analog

Page 15



Modification

Modification

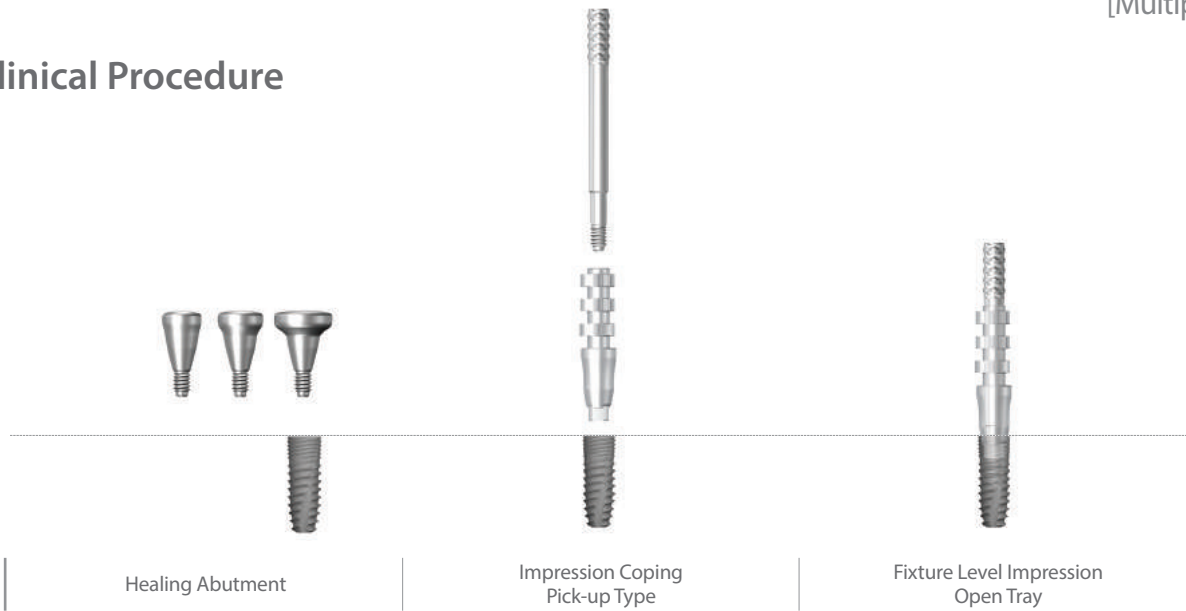
Cemented Restoration

Screw-Retained Restoration

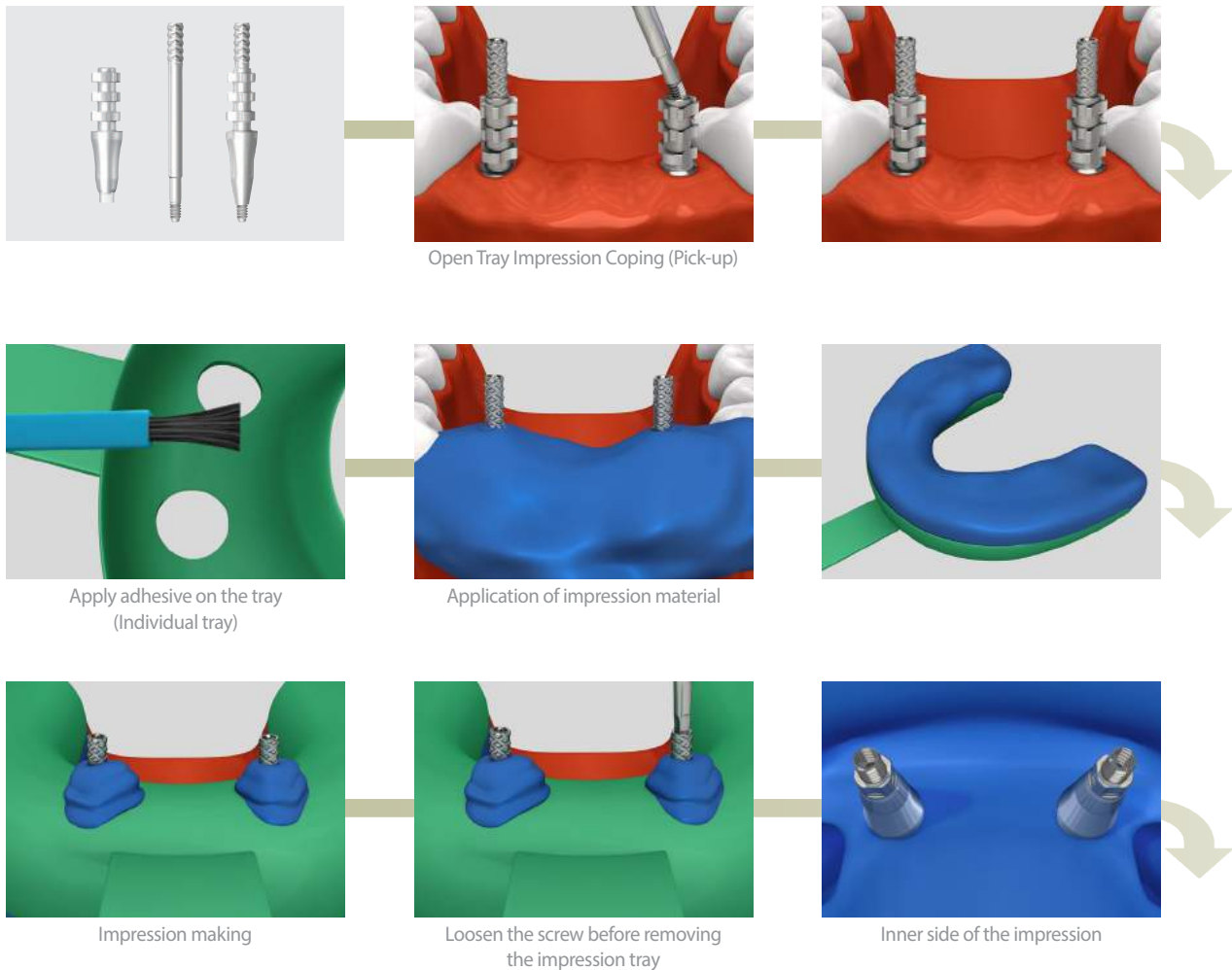
Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

Clinical Procedure



Chairside



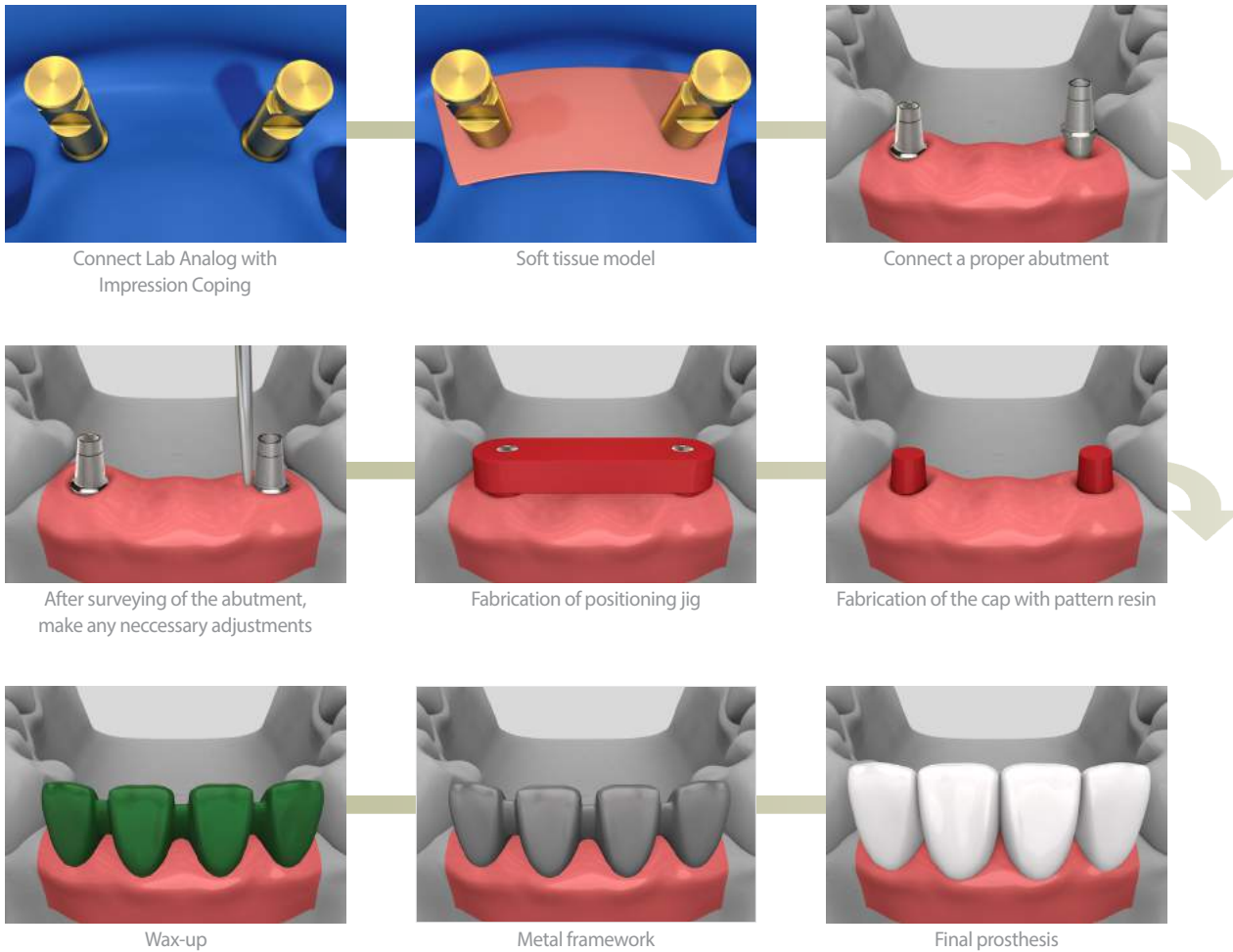
Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

Laboratory Procedure



Labside



Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

Chairside



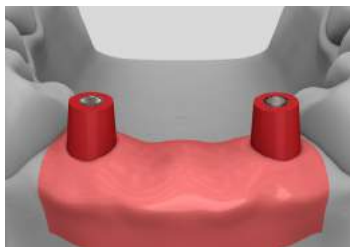
Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N-cm
Re-tighten after 15 minutes



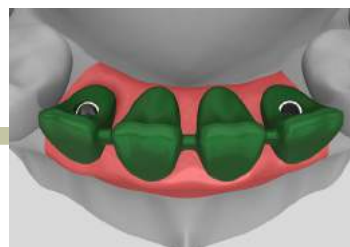
Placement of final prosthesis with occlusal adjustment

* In the process of seating the prosthesis, the prosthesis can be rebounded by the gingival tissue. In this case, it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

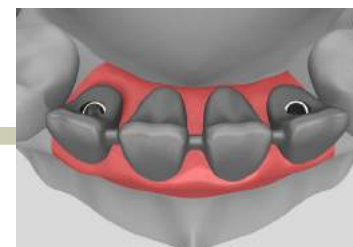
SCRP- Labside



Formation of access hole with long transfer coping screw



Wax-up



Metal framework



Final prosthesis



Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N-cm
Re-tighten after 15 minutes



Placement of final prosthesis with occlusal adjustment

* In the process of seating the prosthesis, the prosthesis can be rebounded by the gingival tissue. In this case, it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

Clinical Procedure



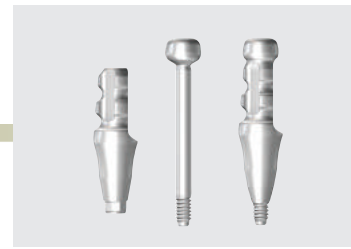
Chairside



Second stage surgery (Uncovering)



Soft tissue formed around Healing Abutment



Transfer Type Impression Coping



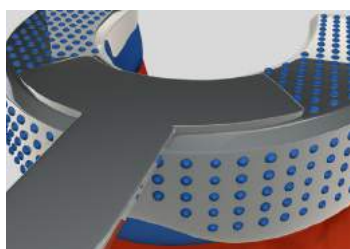
Seating the Impression Coping which has the same diameter as Healing Abutment



Impression at fixture level



Application of impression material



Impression taking



Inner side of the impression

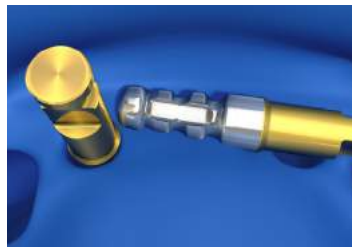
Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

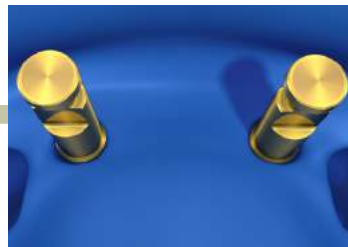
Laboratory Procedure



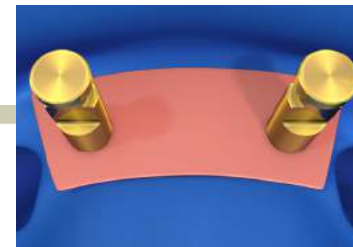
Labside



Impression coping and analog connection. Insert impression coping into the impression



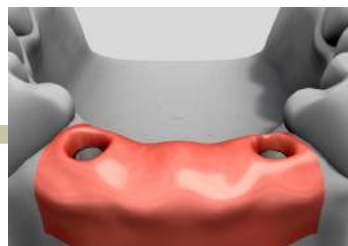
Make sure the impression coping is fully seated into the impression



Soft tissue model



Fabrication of master model



Soft tissue condition after removal of impression coping



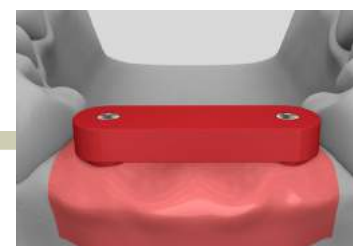
Measuring gingival height with depth gauge



Selection of the Dual Abutment of proper diameter and gingival height



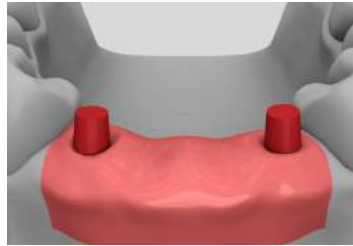
After surveying of the abutment, make any necessary adjustments



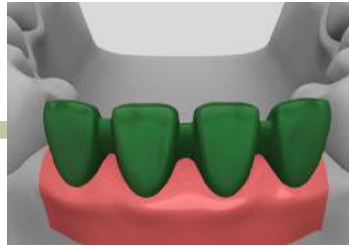
Fabrication of positioning jig

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]



Seat the cap with pattern resin



Wax-up



Metal framework



Final prosthesis



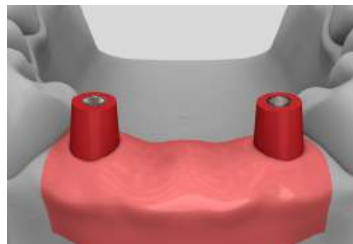
Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N-cm
Re-tighten after 15 minutes



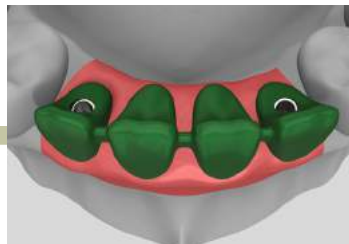
Placement of final prosthesis with occlusal adjustment

Chairside

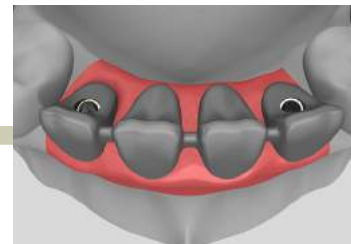
SCR- Labside



Make an access hole in the resin cap by using the long transfer coping screw



Completed wax-up



Metal framework



Final prosthesis



Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N-cm
Re-tighten after 15 minutes



Placement of final prosthesis with occlusal adjustment

SCR- Chairside

* In the process of seating the prosthesis, the prosthesis can be rebounded by the gingival tissue. In this case, it is advised to apply occlusal load on the prosthesis for 10~15 minutes.

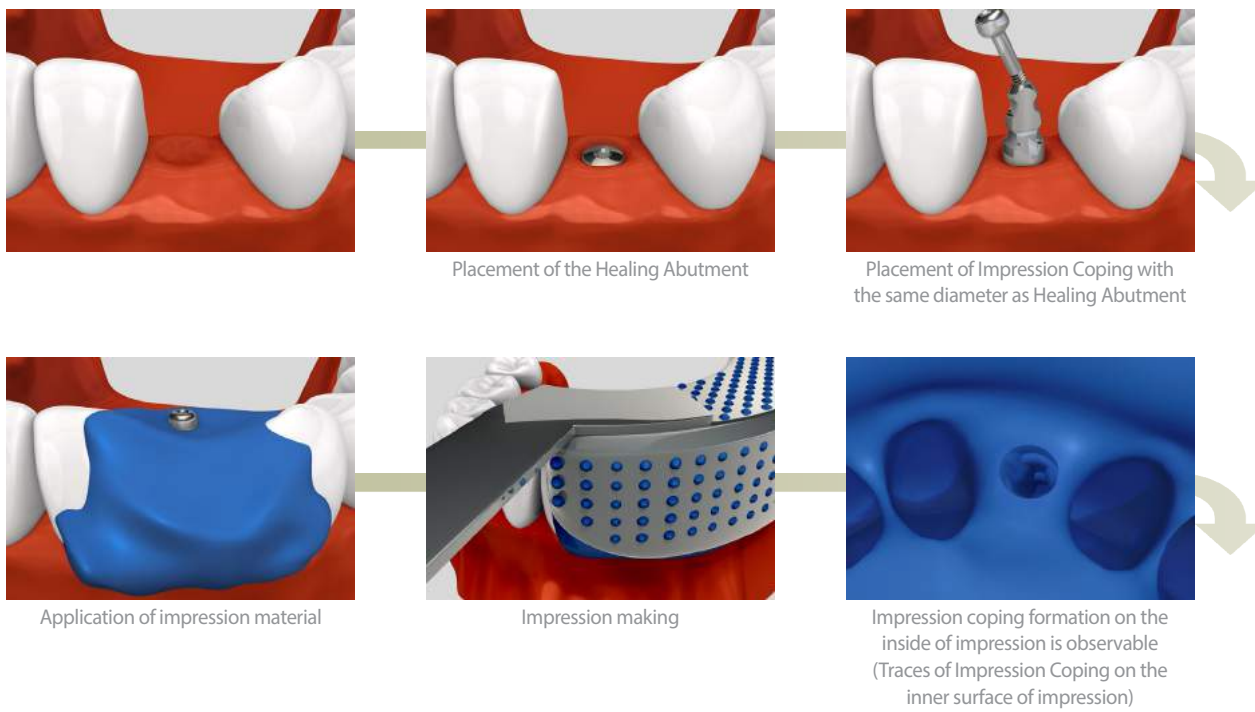
Fixture Level [Transfer Type]- Dual Milling Abutment

[Single Unit]

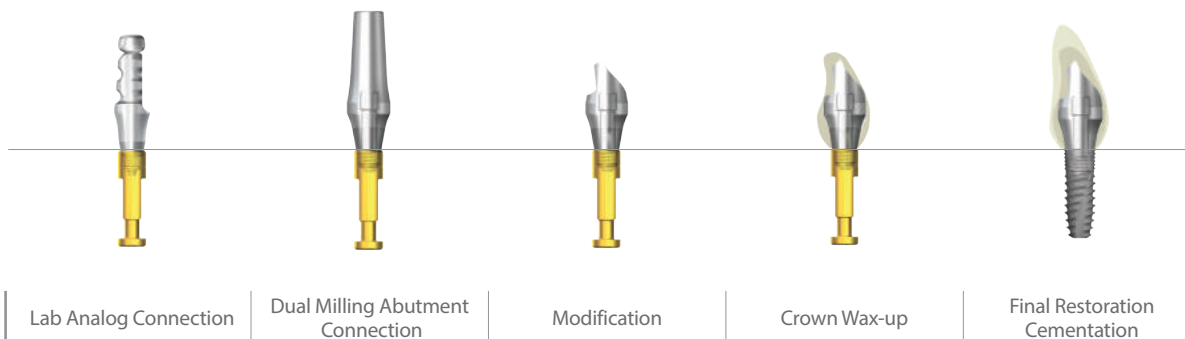
Clinical Procedure



Chairside



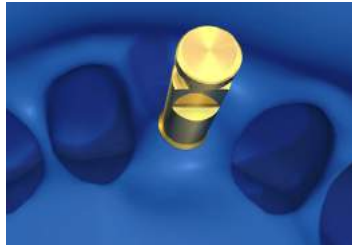
Laboratory Procedure



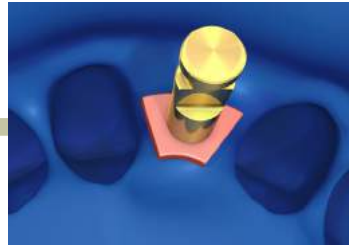
Fixture Level [Transfer Type]- Dual Milling Abutment

[Single Unit]

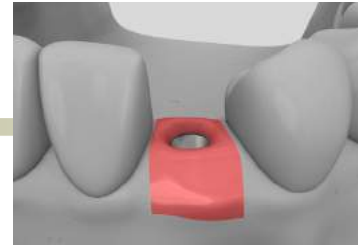
Labside



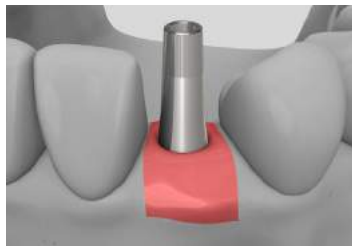
Impression coping and analog connection and insert impression coping into the impression



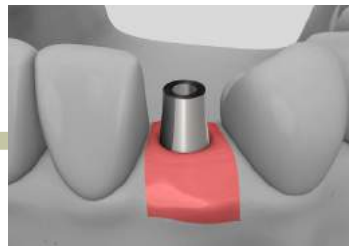
Soft tissue model



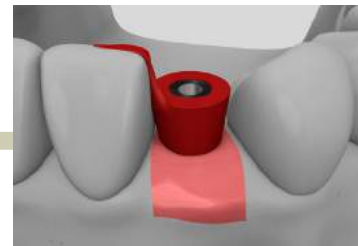
Master model



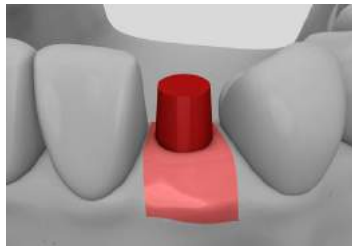
Selection of appropriate Dual Milling Abutment



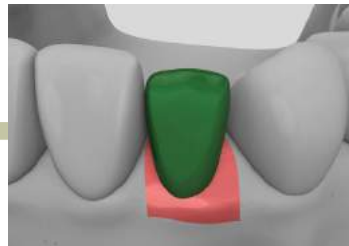
Abutment after milling process



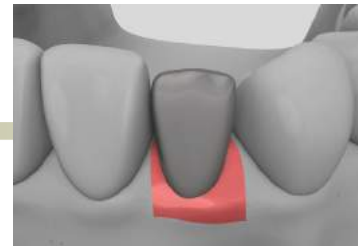
Fabrication of positioning jig



Fabrication of pattern resin cap



Wax-up



Metal framework



Final prosthesis

Chairside



Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N-cm
Re-tighten after 15 minutes



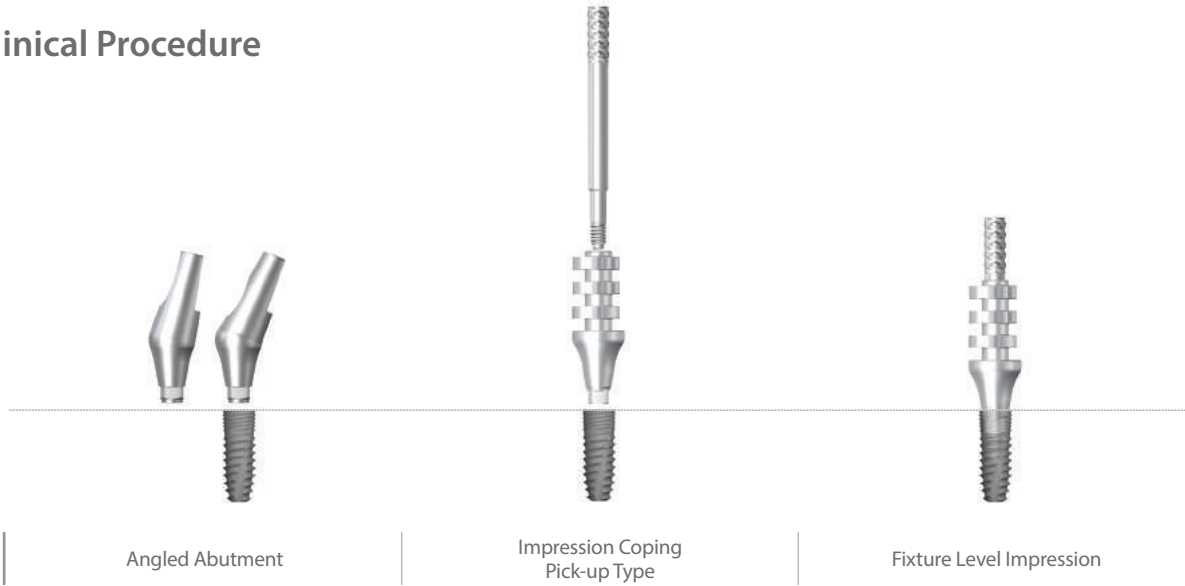
Placement of final prosthesis with occlusal adjustment

* In the process of seating the prosthesis, the prosthesis can be rebounded by the gingival tissue. In this case, it is advised to apply acclusal load on the prosthesis for 10~15 minutes.

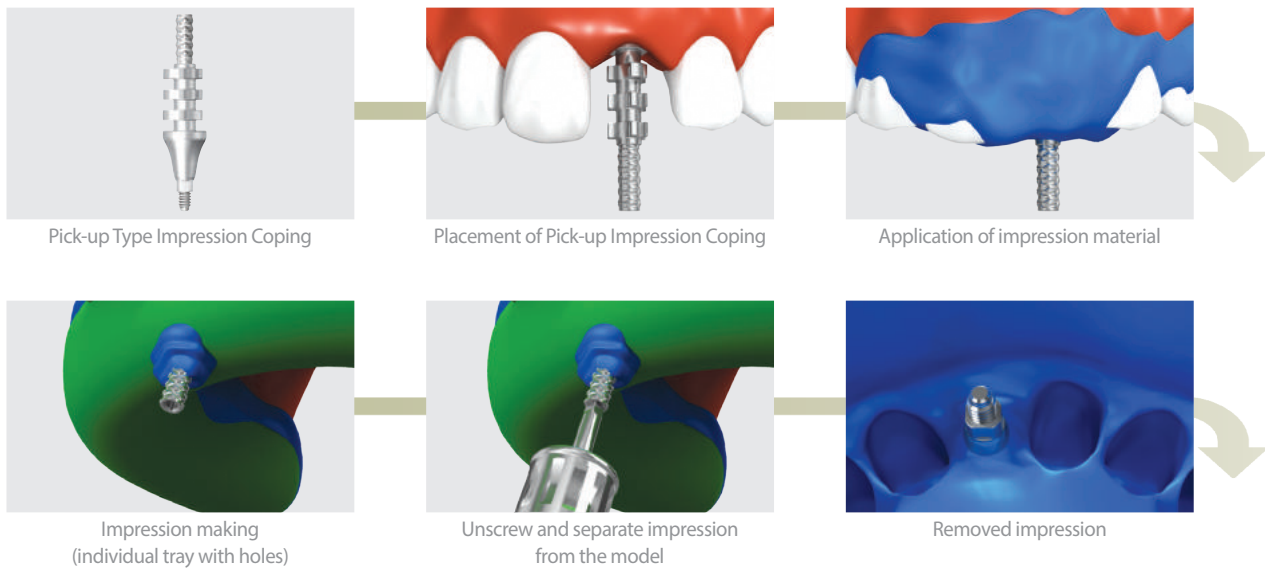
Fixture Level [Pick-up Type]- Angled Abutment

[Single Unit]

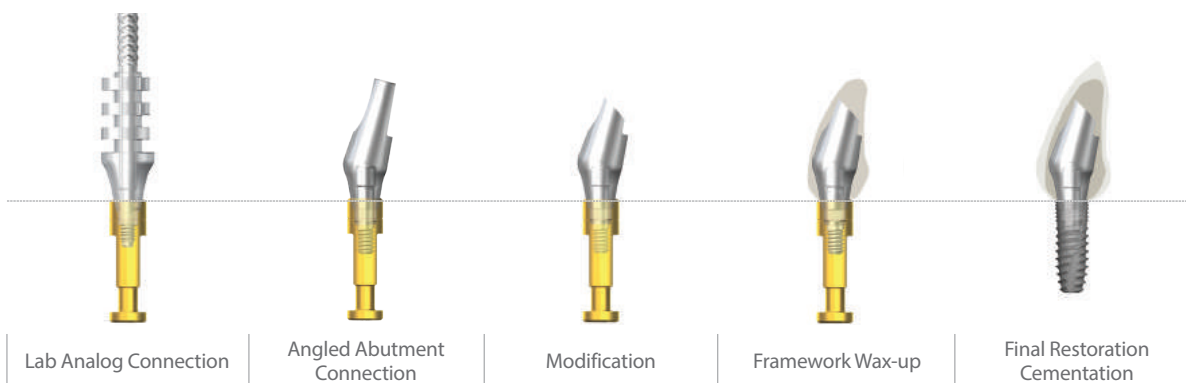
Clinical Procedure



Chairside



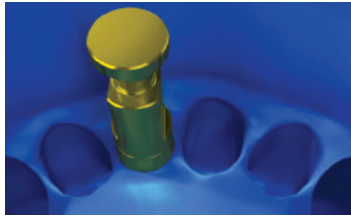
Laboratory Procedure



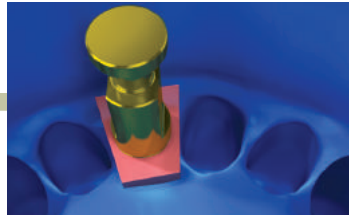
Fixture Level [Pick-up Type]- Angled Abutment

[Single Unit]

Labside



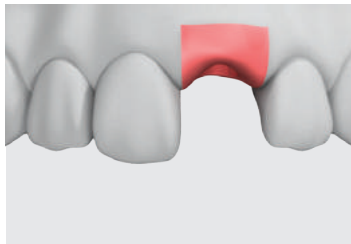
Impression Coping with Lab Analog connections



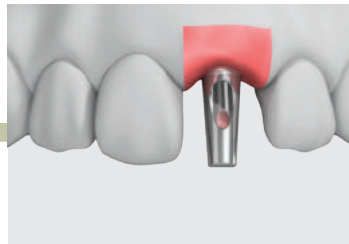
Soft tissue formation and fabrication of master model



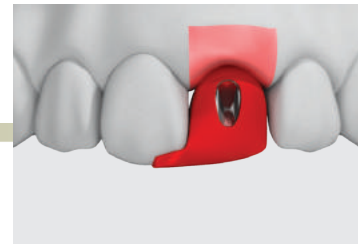
Unscrew and separate impression from the model



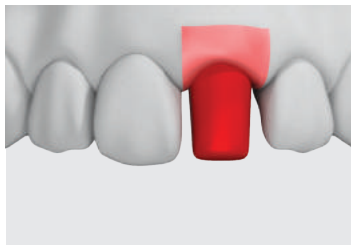
Master model



Selection of an Angled Abutment



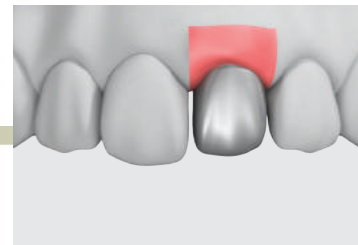
Adjustment of Angled Abutment and fabrication of positioning jig



Fabrication of pattern resin cap

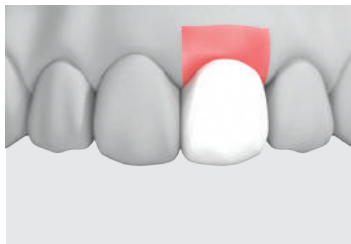


Wax-up



Metal or zirconia framework

Chairside



Final prosthesis



Insertion of the Angled Abutment using positioning jig



Placement of final prosthesis with occlusal adjustment

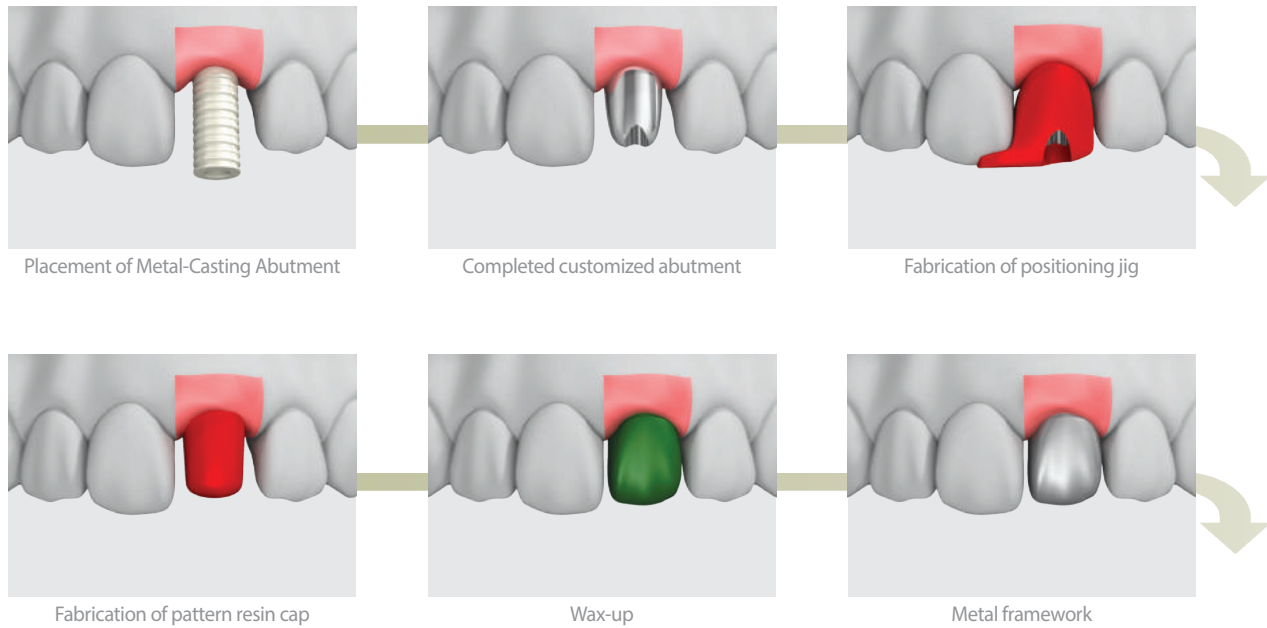
Fixture Level- Metal-Casting Abutment

[Single Unit]

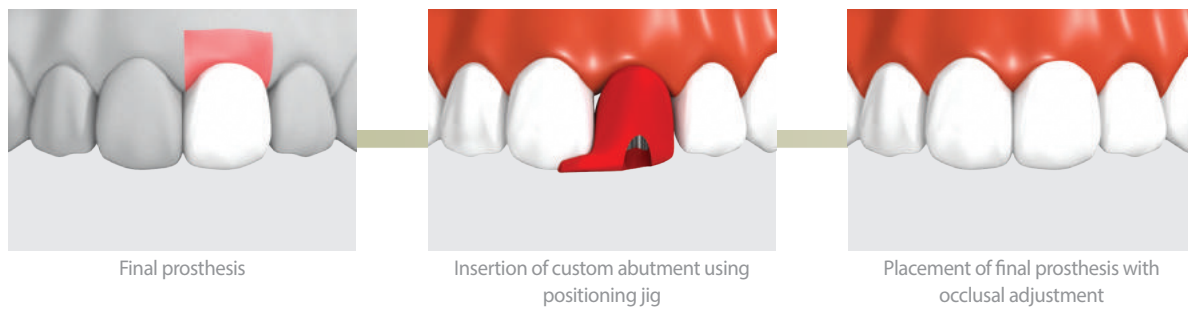
Laboratory Procedure



Labside



Chairside



Fixture Level [Pick-up Type]- Temporary Abutment

[Single Unit]



Temporary Abutment

<Using Temporary Abutment>



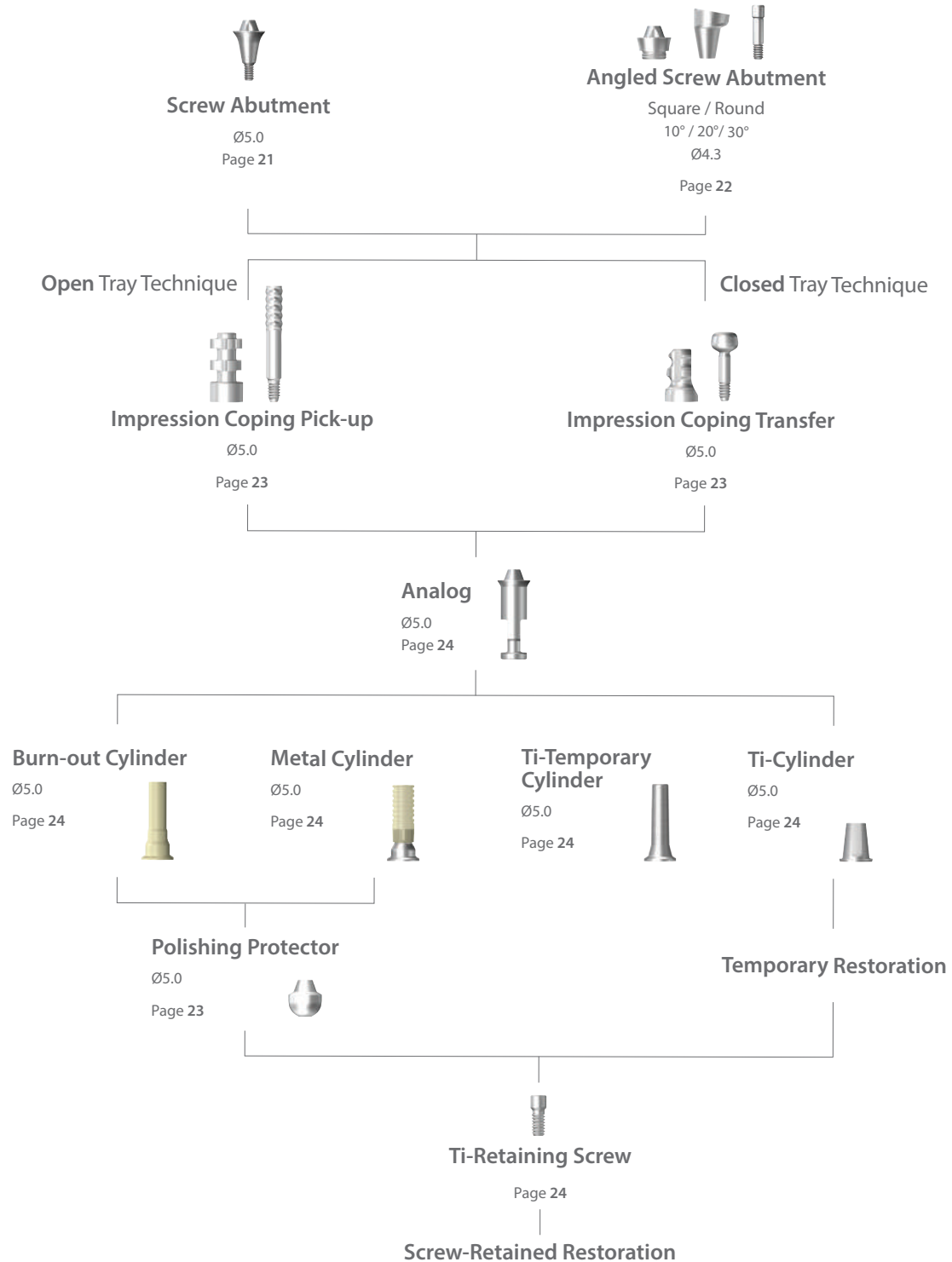
Considering the opposing teeth before seating the Temporary Abutment - adjust the height of the abutment as needed and complete the Temporary Abutment prosthesis with direct resin

Prosthetic Procedure 3

Impression Technique and Restoration Selection

Screw Abutment

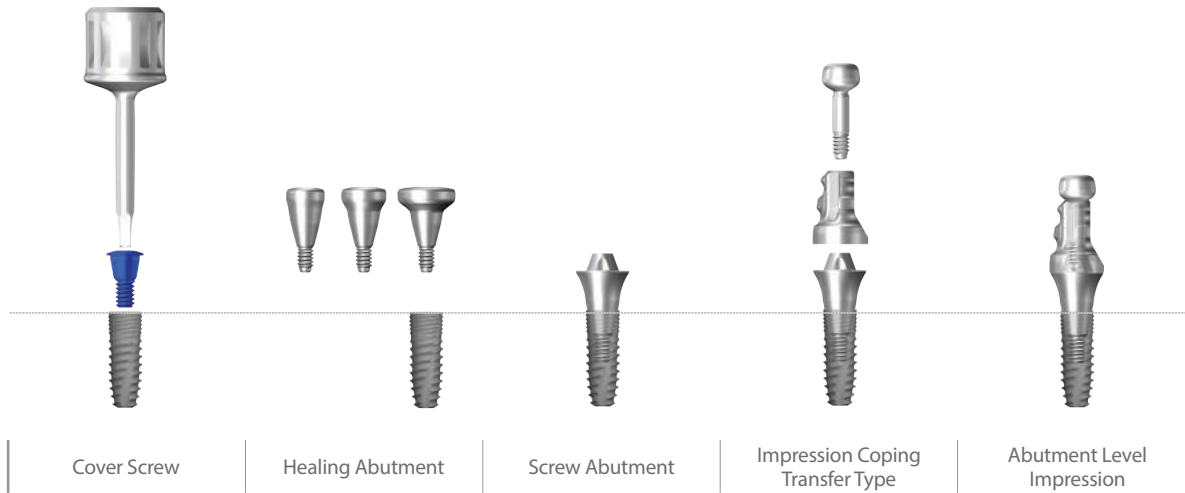
Abutment Level Impression



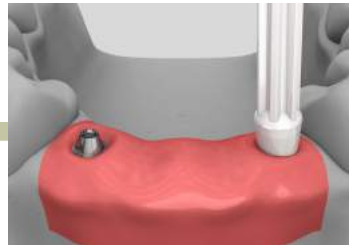
Abutment Level [Transfer Type]- Screw Abutment

[Multiple Units]

Clinical Procedure



Chairside



Select and seat an appropriate Screw Abutment with delivery holder



Tighten it to 20N-cm.
Re-tighten after 15 minutes with Screw Abutment adaptor



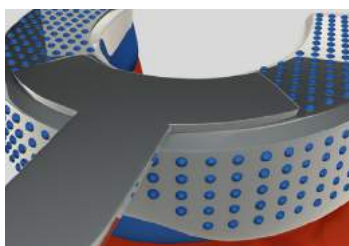
Screw Abutment transfer coping (Abutment Level)



Placement of impression copings



Application of impression material



Impression making



Inner-side of the impression

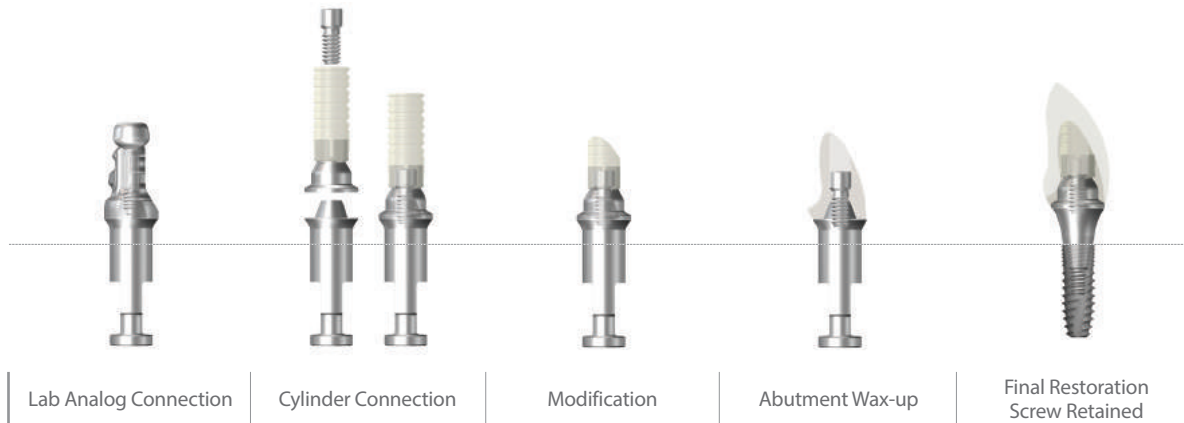


Placement of comfort cap on the Screw Abutment

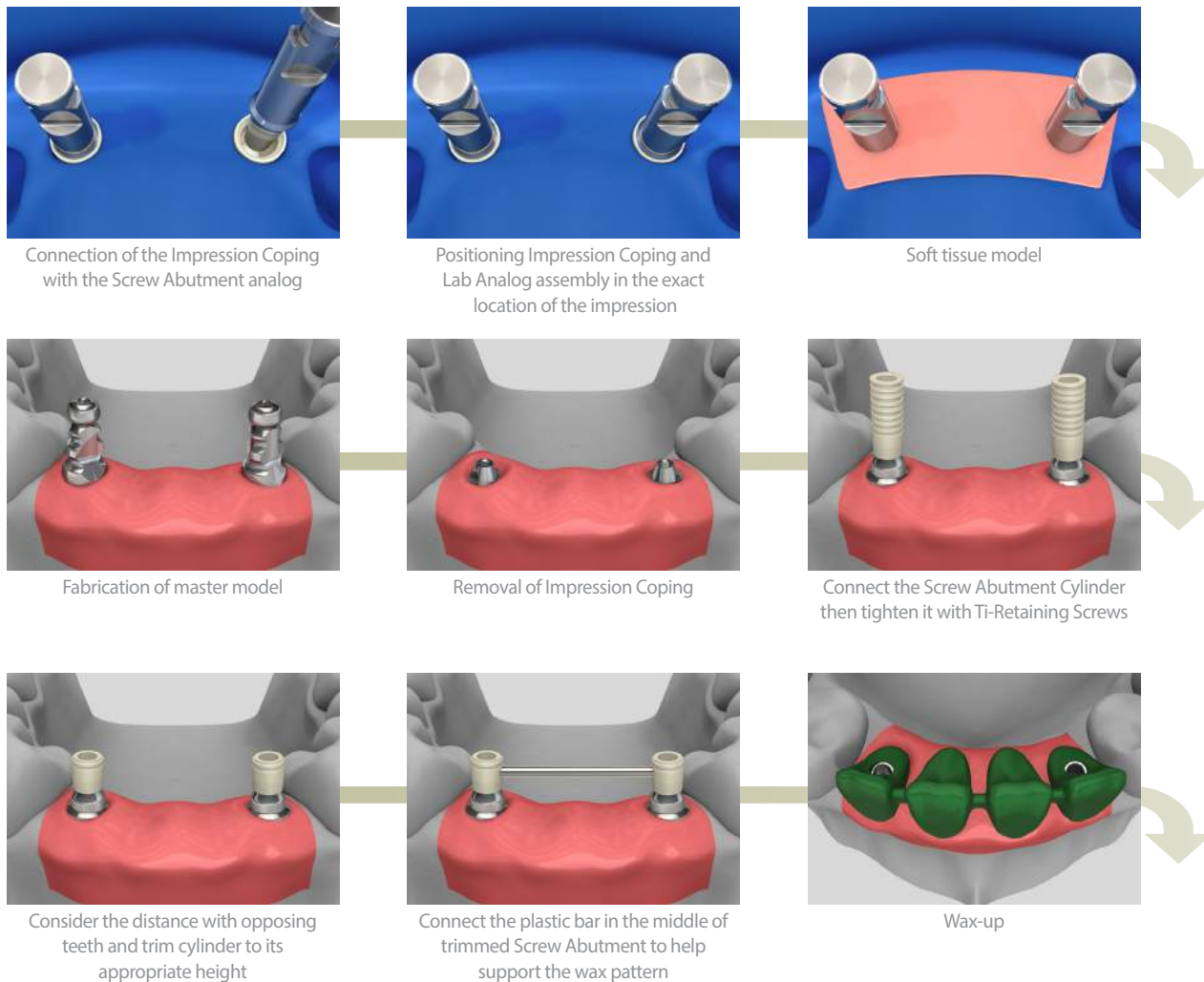
Abutment Level [Transfer Type]- Screw Abutment

[Multiple Units]

Laboratory Procedure

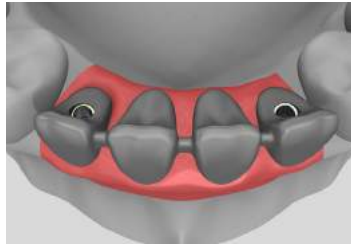


Labside

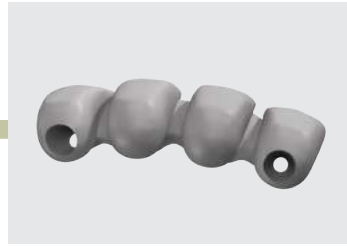


Abutment Level [Transfer Type]- Screw Abutment

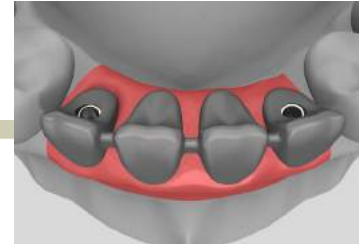
[Multiple Units]



Metal framework



Removal of lip remnant in the interior of metal framework using reamer



Completion of metal framework



Completion of final prosthesis



Insertion of final prosthesis and occlusal adjustment. Tighten with Ti-Retaining Screw (20N-cm)

Cementation Repair Method (SCRIP)

[Screw & Cement Retained Prosthesis]

In Light of Implant Prosthesis:

- A screw type restoration helps to simplify prosthesis repair, including insertion and removal of the prosthesis if necessary.
- Cement type restoration tend to have a stable occlusion and may enhance the adaptability. However, the weak point is that it cannot be removed after permanent cementation.
- A Dual Abutment can be cemented or screw retained.

In Case of Screw Loosening or if Prosthesis Repair is Needed



In case of the following:
screw loosening or prosthesis repair



Form access hole on the occlusal surface
with a bur



Unscrew and remove the prosthesis from
the oral cavity



Both cemented prosthesis and
abutment are removed



Finish the repair then seat it inside
the oral cavity
* Caution: Must be careful of insertion path



Tighten the prosthesis with
20N-cm using a screw driver
* It is recommended that the abutment screw is
re-tightened after 15 minutes



Fill the access hole with cotton



Fill the access hole composite resin



Final prosthesis

Cementation Repair Method (SCRIP)

[Screw & Cement Retained Prosthesis]

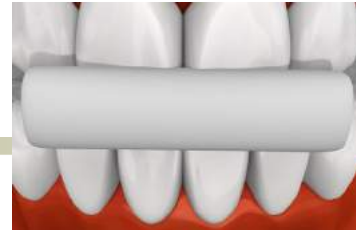
Separation of Prosthesis with Abutment Due to Cement Loss



Remove the screw completely with Square Driver and remove prosthesis from the patient's mouth



Apply cement to the prosthesis



Place it back into the patient's mouth



After the cement sets, unscrew and remove the excessive cement

* Caution: Implants must be nearly parallel otherwise use screw abutment



Finish the repair and seat it inside the patient's mouth



Tighten the prosthesis with 20N-cm with a Square Driver

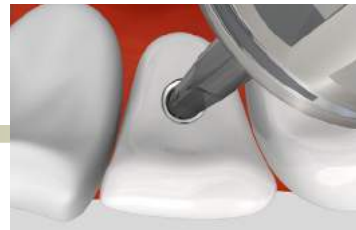
Adding to the Interproximal Contact Surface due to Prosthesis Loosening



Prosthesis loosening due to contact loosening



Form access hole using bur



Unscrew, then remove the cemented prosthesis with abutment in the oral cavity



Add resin on the prepared under space and light-cure it



Try-in and polish the contact area



Position the prosthesis in the oral cavity and tighten the screw with 20N-cm, then fill up the access hole



* Caution: Interproximal contacts are adjusted with shim stock to allow the adjacent natural tooth to move vertically during function

Prosthetic Procedure 4

Impression Technique and Restoration Selection

Overdenture Procedure Mini Ball Abutment / Angled Mini Ball Abutment

Abutment Level Impression



Mini Ball Abutment

Ø3.5
Page 26



Angled Mini Ball Abutment

Square / Round
10° / 20° / 30°
Ø4.3

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Mini Ball Impression Coping

Page 26



Mini Ball Analog

Page 26



Socket Spacer

Page 26



Mini Denture Socket

Page 26



Mini O-ring

Page 26

**Mini Ball and Socket Attachment
for Overdenture**

Mini Ball Attachment

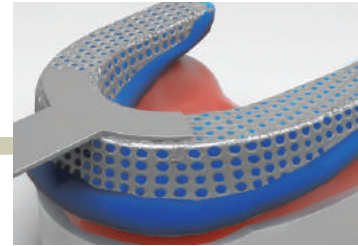
Chairside



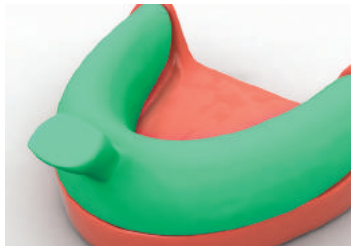
Connect the Mini Ball Abutment onto the fixture



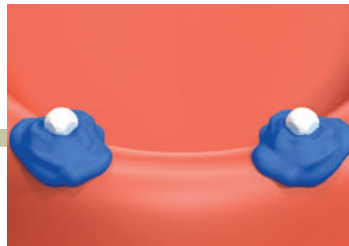
Affix the impression coping on the Mini Ball Abutment



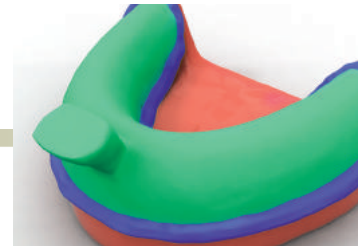
Make impression for the making of individual tray



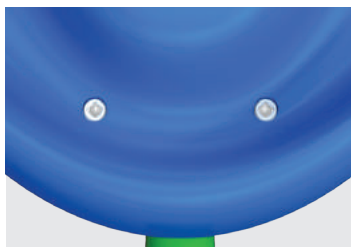
Produce the individual tray for denture impression



Apply the impression material



Make the final impression with the prepared individual tray



After the impression material is set, discard the individual tray

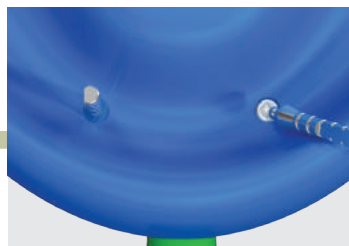


Image of the final impression (with impression coping)

Labside



Mini Ball Analog



Insert analogs into the embedded impression coping



Create the master model



Socket spacer



Fabrication of denture with conventional method

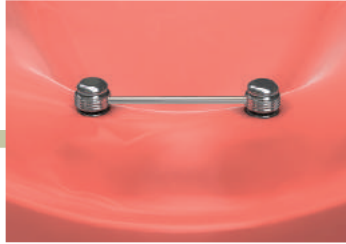
Mini Ball Attachment

Case 1



Secure spaces for the female sockets

Chairside



Connect the female sockets to the Mini Ball Abutments in the intraoral



Apply small amount of the resin into the secured area



Position the denture in the oral cavity and wait until the resin is completely set



Female sockets are placed in the denture



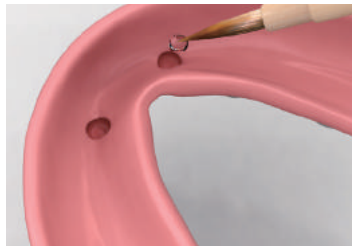
After polishing, the overdenture is completed

Angled Mini Ball Attachment

Case 1



Secure spaces for the female sockets



Apply small amount of the resin into the secured area



After polishing, the overdenture is completed

Chairside



Connect the female sockets to the Angled Mini Ball Abutments in the intraoral



Position the denture in the oral cavity and wait until the resin is completely set



Female sockets are placed in the denture

Angled Mini Ball Attachment

Case 2

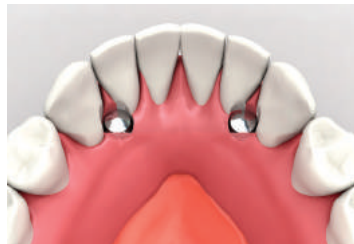


Create holes for placement of female sockets

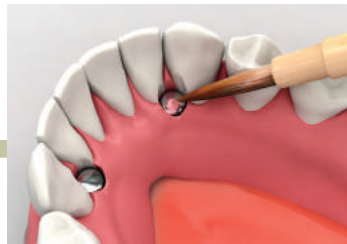
Chairside



Connect the female sockets to the Angled Mini Ball Abutments in the intraoral



Examine the interference between inner surface of the holes and the female sockets



Apply the resin into the holes and wait until it is completely set



Female sockets are placed in the denture



Apply resin around the female sockets



After polishing, the overdenture is completed

DENTIUM LONG-TERM CLINICAL DATA

2002

2003

2004

2005

2006

2007

2008



2002. 05. 17
Pre-op



2002. 09. 04
Post-op



2003. 03. 15
Final prosthesis

DentiumUSA

2009

2010

2011

2012

2013

2014

2015

11 YEARS



2008. 04. 14
5 years



2013. 12. 05
11 years

over
10 years
of Long
term
data

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Some products listed in this catalog are not available in the market due to pending approval.

PN 2999-1

