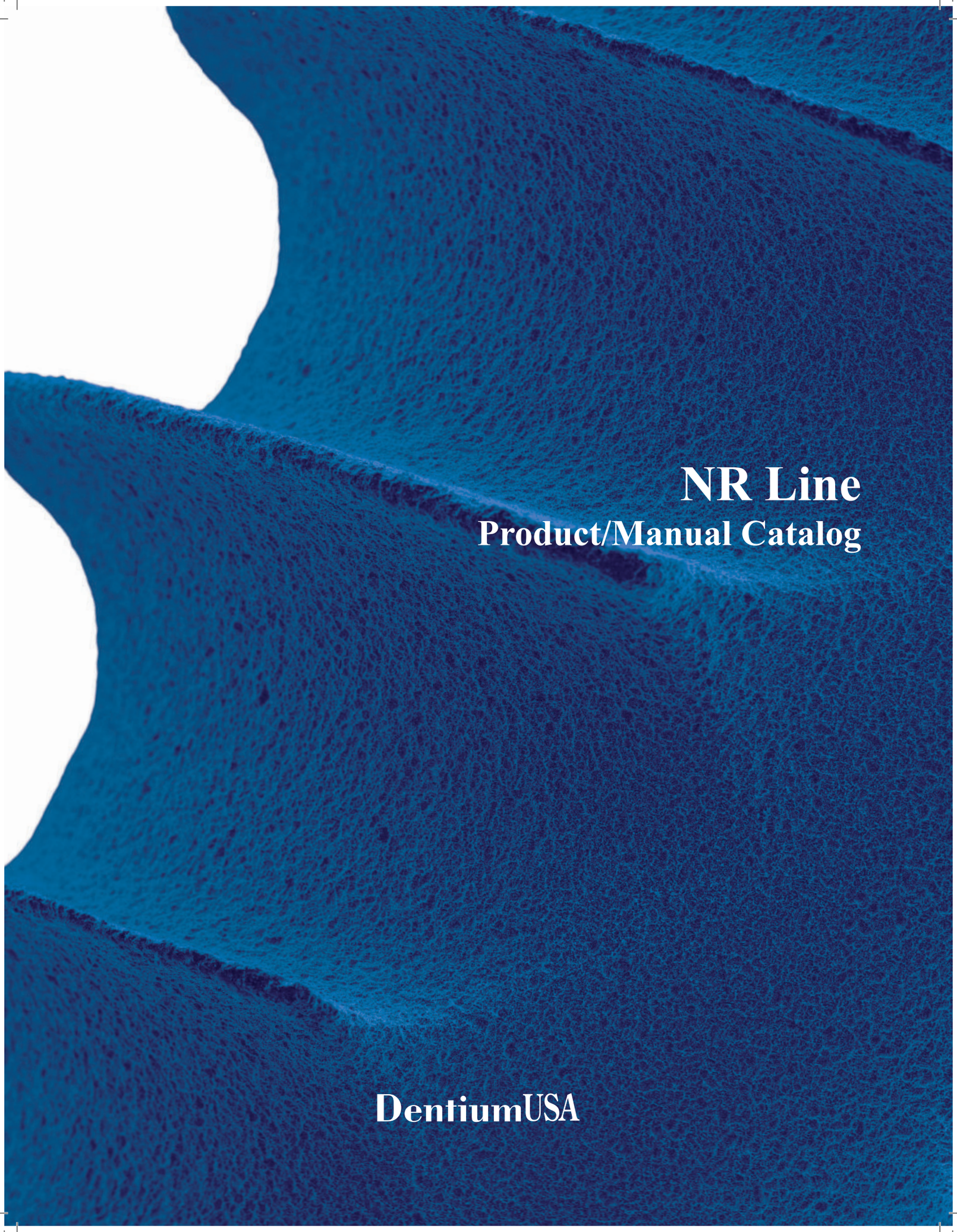


NR Line
Product/Manual Catalog

DentiumUSA

NR Line

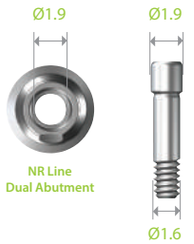
Narrow Diameter Implant

Contents

NR Line Characteristics

Abutment Screw

• Ø1.9mm hole size for abutment screw

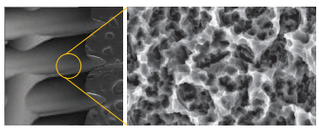


S.L.A. Surface

(Sandblasted with Large grits and Acid etched)

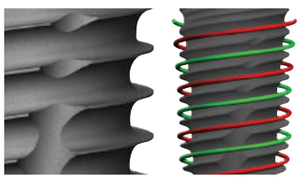
• Easy application combined with simplified GBR procedure on narrow ridges

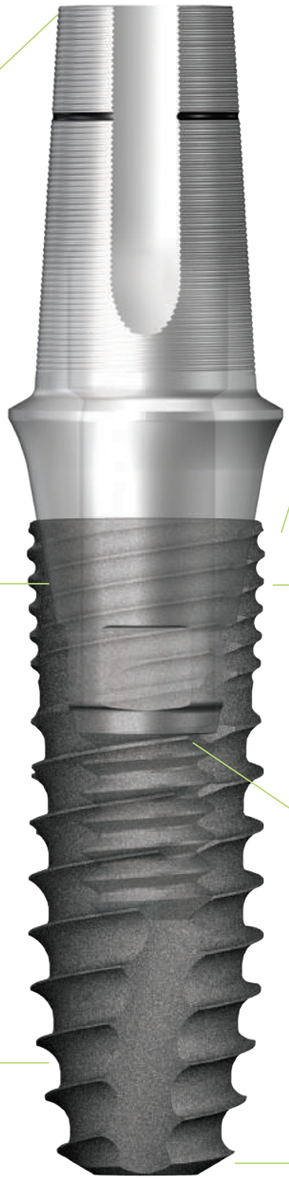
Reference: Kim H., et. al. "The Biocompatability of SLA-treated Titanium Implants" Biomed. Mater. 2008; 3(2):025011



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 Maxillofac ial Implants 2016;30:382-290

Narrow Diameter Implant

• Ø3.1mm 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

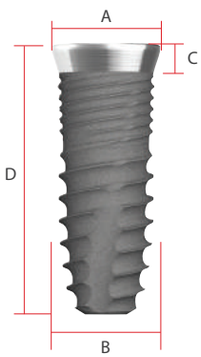
• The 3-blade self-tapping design can minimize bone destruction

• 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

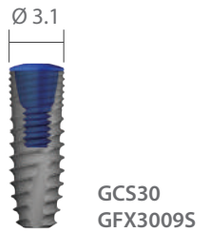
L	REF
9	GFX 30 **09**
11	GFX 30 **11**
13	GFX 30 **13**

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

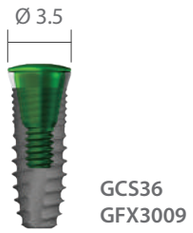
Cover Screw

- Single use only
- Must sterilize prior to use

Unit: mm, Scale 1 : 1.5



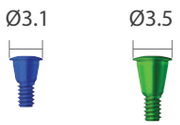
GCS30
GFX3009S



GCS36
GFX3009

Cover Screw

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

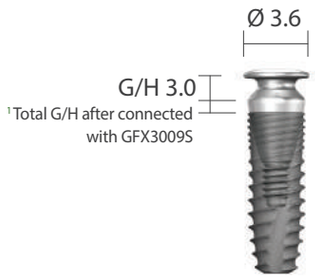


※ Square Driver: Use no more than 5N·cm of torque when screwing a cover screw to a fixture.
If square is stripped, slot on the head of the product can be used as an alternative.

GBR Healing Abutment

- Single use only
- Please sterilize prior to use

Unit: mm, Scale 1 : 1.5



GBHA3620
GFX3009S

GBHA3620
GFX3009

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

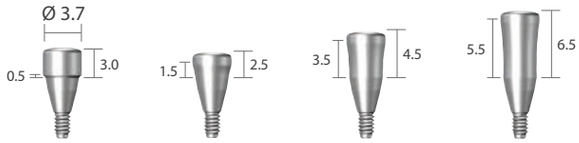
Unit: mm, Scale 1 : 1.5

GHAB371525
GFX3009S

GHAB371525
GFX3009

Diameter Ø 3.7

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.

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

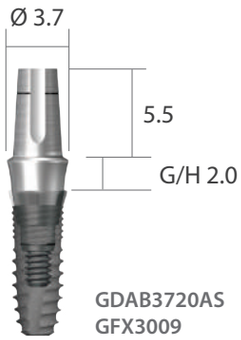
* Impression Coping can be used as a Burn-out Cylinder, an Abutment Holder and a Scan Body for Dual Abutment.

Dual Abutment [Square]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

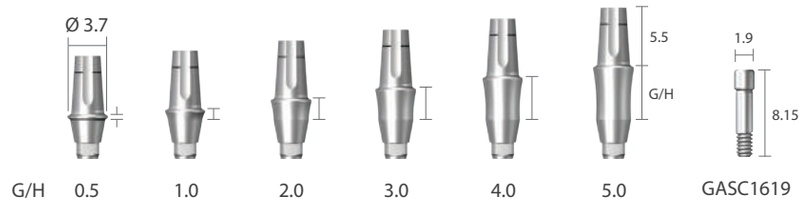
GDAB3720AS
GFX3009S



GDAB3720AS
GFX3009

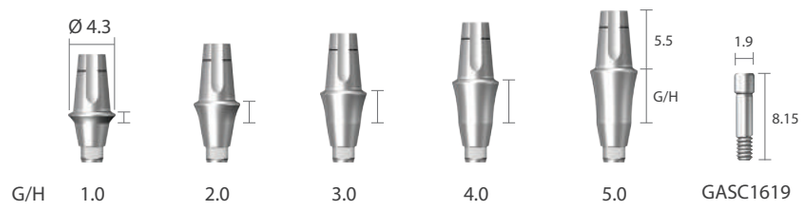
Diameter Ø3.7 | Square

G/H	REF
0.5	GDAB 37 **05 AS**
1.0	GDAB 37 **10 AS**
2.0	GDAB 37 **20 AS**
3.0	GDAB 37 **30 AS**
4.0	GDAB 37 **40 AS**
5.0	GDAB 37 **50 AS**



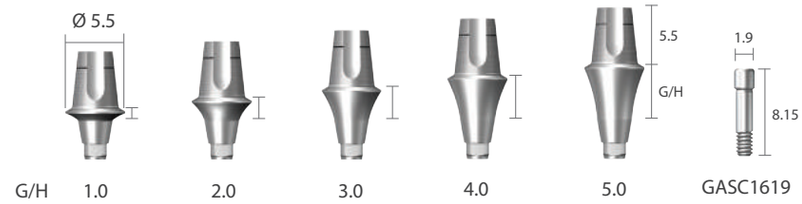
Diameter Ø4.3 | Square

G/H	REF
1.0	GDAB 43 **10 AS**
2.0	GDAB 43 **20 AS**
3.0	GDAB 43 **30 AS**
4.0	GDAB 43 **40 AS**
5.0	GDAB 43 **50 AS**



Diameter Ø5.5 | Square

G/H	REF
1.0	GDAB 55 **10 AS**
2.0	GDAB 55 **20 AS**
3.0	GDAB 55 **30 AS**
4.0	GDAB 55 **40 AS**
5.0	GDAB 55 **50 AS**



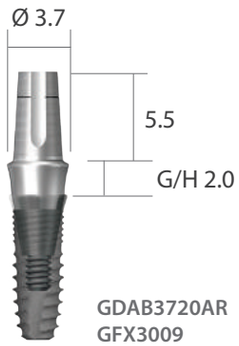
※ Note: [1] When NR Line fixture with size of 3.2mm platform is used, abutment will sit 1mm higher than other platform size fixtures.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Dual Abutment [Round]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

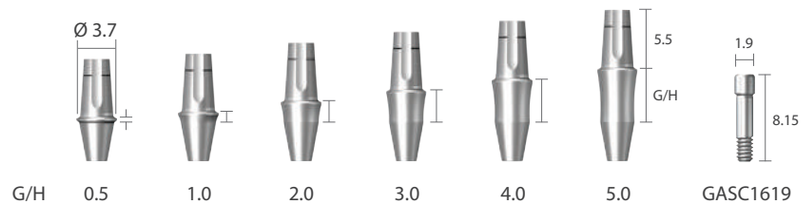
GDAB3720AR
GFX3009S



GDAB3720AR
GFX3009

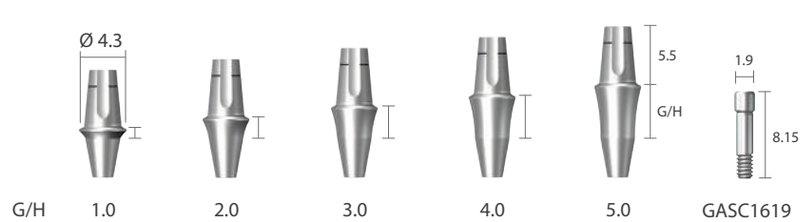
Diameter Ø3.7 | Round

G/H	REF
0.5	GDAB 37 **05 AR**
1.0	GDAB 37 **10 AR**
2.0	GDAB 37 **20 AR**
3.0	GDAB 37 **30 AR**
4.0	GDAB 37 **40 AR**
5.0	GDAB 37 **50 AR**



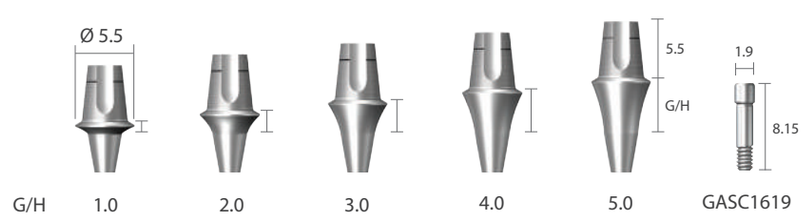
Diameter Ø4.3 | Round

G/H	REF
1.0	GDAB 43 **10 AR**
2.0	GDAB 43 **20 AR**
3.0	GDAB 43 **30 AR**
4.0	GDAB 43 **40 AR**
5.0	GDAB 43 **50 AR**



Diameter Ø5.5 | Round

G/H	REF
1.0	GDAB 55 **10 AR**
2.0	GDAB 55 **20 AR**
3.0	GDAB 55 **30 AR**
4.0	GDAB 55 **40 AR**
5.0	GDAB 55 **50 AR**



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Abutment Level Impression Components

Unit: mm, Scale 1 : 1.5

Comfort Cap

Diameter	REF
Ø3.7	GCC **37**
Ø4.3	GCC **43**
Ø5.5	GCC **55**

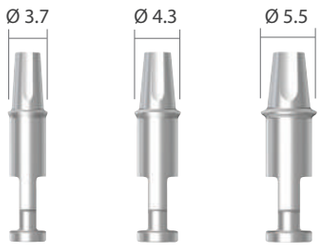
Impression Coping

Diameter	REF
Ø3.7	GADH **37**
Ø4.3	GADH **43**
Ø5.5	GADH **55**

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

Analog

Diameter	REF
Ø3.7	GCAN **37**
Ø4.3	GCAN **43**
Ø5.5	GCAN **55**



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

Impression Coping Pick-up
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **13**

Square Round

Impression Coping Transfer
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **14**

Square Round

Analog
Page **15**

Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **9, 10**

Dual Milling Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **16**

Angled Abutment
Square / Round
15° / 25°
Ø3.7 / Ø4.3 / Ø5.5
Page **17, 18**

Metal-Casting Abutment
Square / Round
Ø3.7 / Ø4.3
Page **19**

Temporary Abutment
Square / Round
Ø3.7 / Ø4.3
Page **19**

Modification

Cemented Restoration

Modification

Screw-Retained Restoration

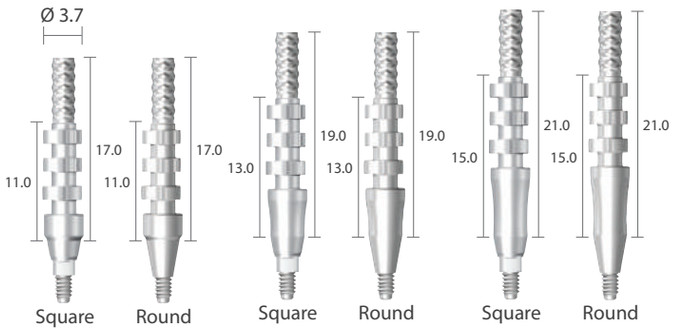
Fixture Level Impression Components

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

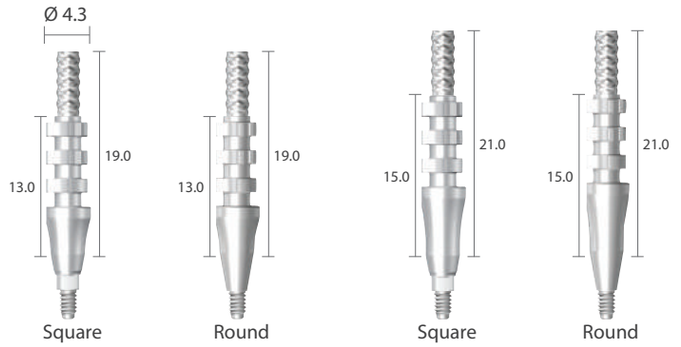
Impression Coping Pick-up Ø 3.7

Length	Type	REF
11	**Square**	GDPU **37** 11 **S**
11	**Round**	GDPU **37** 11 **R**
13	**Square**	GDPU **37** 13 **S**
13	**Round**	GDPU **37** 13 **R**
15	**Square**	GDPU **37** 15 **S**
15	**Round**	GDPU **37** 15 **R**



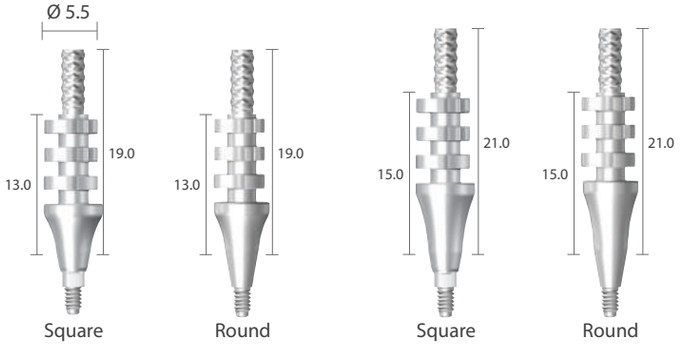
Impression Coping Pick-up Ø 4.3

Length	Type	REF
13	**Square**	GDPU **43** 13 **S**
13	**Round**	GDPU **43** 13 **R**
15	**Square**	GDPU **43** 15 **S**
15	**Round**	GDPU **43** 15 **R**



Impression Coping Pick-up Ø 5.5

Length	Type	REF
13	**Square**	GDPU **55** 13 **S**
13	**Round**	GDPU **55** 13 **R**
15	**Square**	GDPU **55** 15 **S**
15	**Round**	GDPU **55** 15 **R**



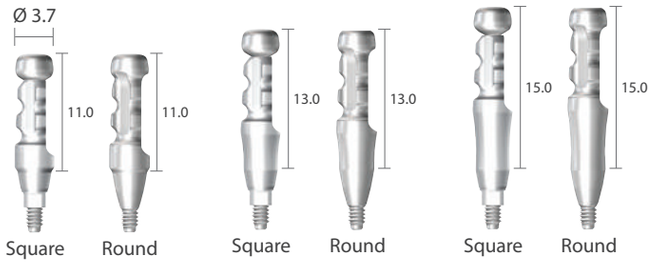
Fixture Level Impression Components

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

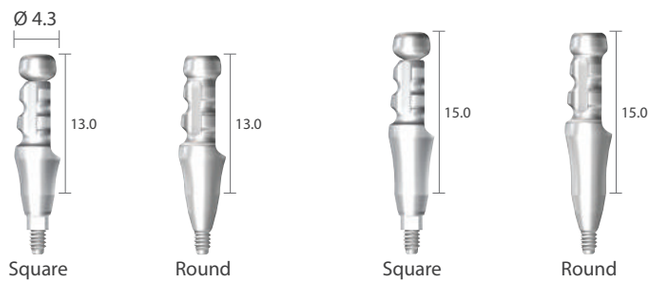
Impression Coping Transfer Ø 3.7

Length	Type	REF
11	**Square**	GDTF **37** 11 **S**
11	**Round**	GDTF **37** 11 **R**
13	**Square**	GDTF **37** 13 **S**
13	**Round**	GDTF **37** 13 **R**
15	**Square**	GDTF **37** 15 **S**
15	**Round**	GDTF **37** 15 **R**



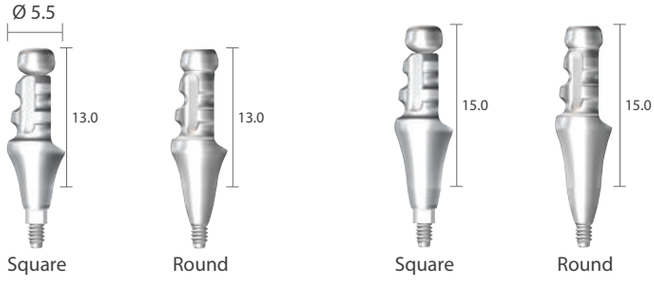
Impression Coping Transfer Ø 4.3

Length	Type	REF
13	**Square**	GDTF **43** 13 **S**
13	**Round**	GDTF **43** 13 **R**
15	**Square**	GDTF **43** 15 **S**
15	**Round**	GDTF **43** 15 **R**



Impression Coping Transfer Ø 5.5

Length	Type	REF
13	**Square**	GDTF **55** 13 **S**
13	**Round**	GDTF **55** 13 **R**
15	**Square**	GDTF **55** 15 **S**
15	**Round**	GDTF **55** 15 **R**



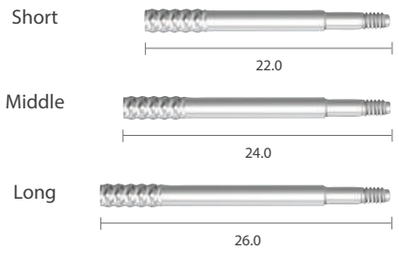
Fixture Level Impression Components

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

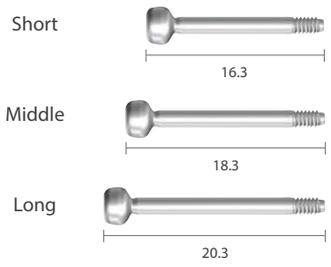
Impression Coping Pick-up Screw

Length	REF
11	GDPS **11**
13	GDPS **13**
15	GDPS **15**



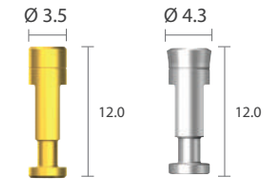
Impression Coping Transfer Screw

Length	REF
11	GDTS **11**
13	GDTS **13**
15	GDTS **15**



Analog

Fixture Platform	REF
Ø3.2	GDANR **30**
Ø3.6	GDANR **36**



GDANR **30** GDANR **36**

Dual Milling Abutment

• Abutment screw is included

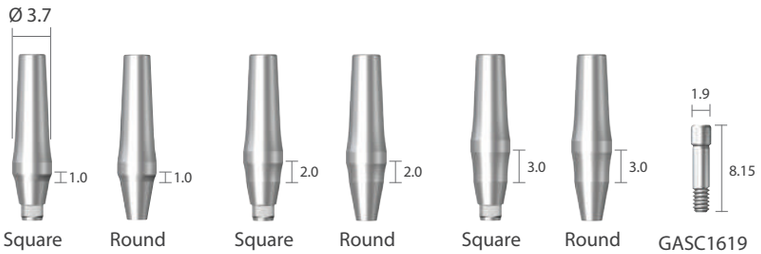
Unit: mm, Scale 1 : 1.5

GMAB3720AS
GFX3009S

GMAB3720AS
GFX3009

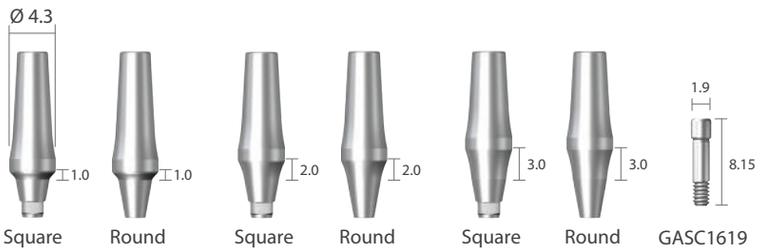
Diameter Ø 3.7

G/H	Type	REF
1.0	**Square**	GMAB 37 10 **AS**
1.0	**Round**	GMAB 37 10 **AR**
2.0	**Square**	GMAB 37 20 **AS**
2.0	**Round**	GMAB 37 20 **AR**
3.0	**Square**	GMAB 37 30 **AS**
3.0	**Round**	GMAB 37 30 **AR**



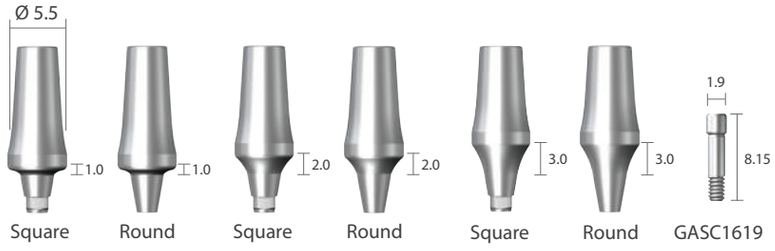
Diameter Ø 4.3

G/H	Type	REF
1.0	**Square**	GMAB 43 10 **AS**
1.0	**Round**	GMAB 43 10 **AR**
2.0	**Square**	GMAB 43 20 **AS**
2.0	**Round**	GMAB 43 20 **AR**
3.0	**Square**	GMAB 43 30 **AS**
3.0	**Round**	GMAB 43 30 **AR**



Diameter Ø 5.5

G/H	Type	REF
1.0	**Square**	GMAB 55 10 **AS**
1.0	**Round**	GMAB 55 10 **AR**
2.0	**Square**	GMAB 55 20 **AS**
2.0	**Round**	GMAB 55 20 **AR**
3.0	**Square**	GMAB 55 30 **AS**
3.0	**Round**	GMAB 55 30 **AR**



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

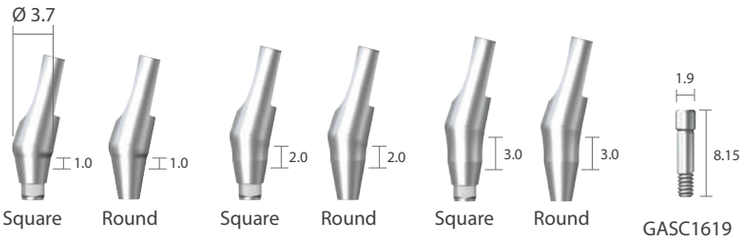
Angled Abutment [15°]

• Abutment screw is included

Unit: mm, Scale 1 : 1.5

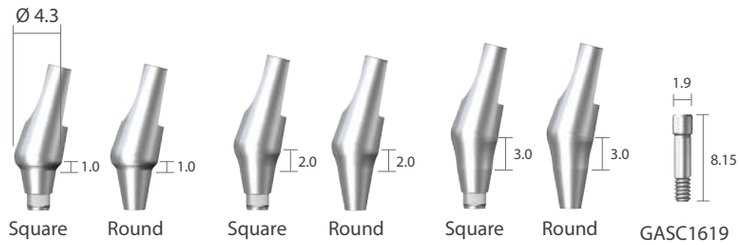
Diameter Ø 3.7 | Angle 15°

G/H	Type	REF
1.0	**Square**	GAAB 15 37 10 **AS**
1.0	**Round**	GAAB 15 37 10 **AR**
2.0	**Square**	GAAB 15 37 20 **AS**
2.0	**Round**	GAAB 15 37 20 **AR**
3.0	**Square**	GAAB 15 37 30 **AS**
3.0	**Round**	GAAB 15 37 30 **AR**



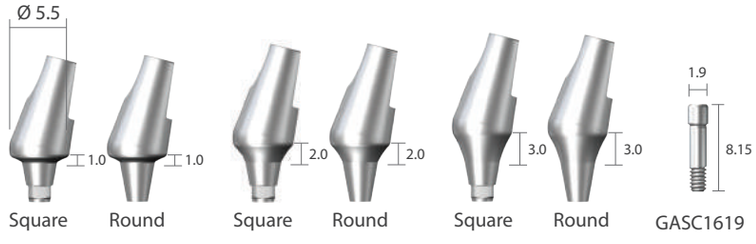
Diameter Ø 4.3 | Angle 15°

G/H	Type	REF
1.0	**Square**	GAAB 15 43 10 **AS**
1.0	**Round**	GAAB 15 43 10 **AR**
2.0	**Square**	GAAB 15 43 20 **AS**
2.0	**Round**	GAAB 15 43 20 **AR**
3.0	**Square**	GAAB 15 43 30 **AS**
3.0	**Round**	GAAB 15 43 30 **AR**



Diameter Ø 5.5 | Angle 15°

G/H	Type	REF
1.0	**Square**	GAAB 15 55 10 **AS**
1.0	**Round**	GAAB 15 55 10 **AR**
2.0	**Square**	GAAB 15 55 20 **AS**
2.0	**Round**	GAAB 15 55 20 **AR**
3.0	**Square**	GAAB 15 55 30 **AS**
3.0	**Round**	GAAB 15 55 30 **AR**



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Angled Abutment [25°]

• Abutment screw is included

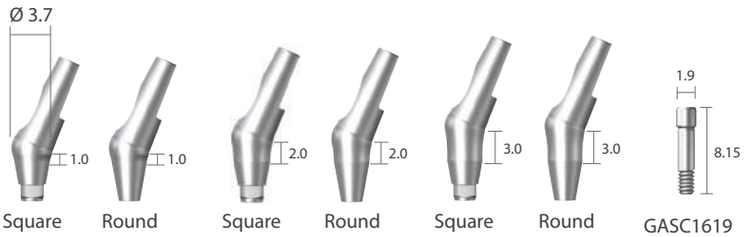
Unit: mm, Scale 1 : 1.5

GAAB253720AS
GFX3009S

GAAB253720AS
GFX3009

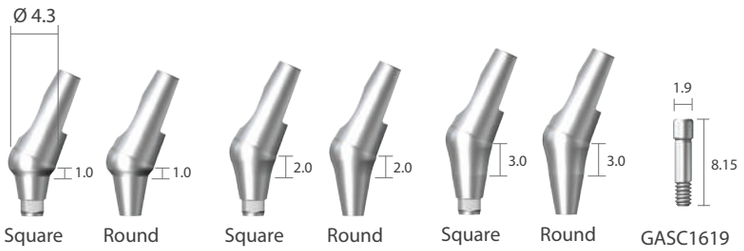
Diameter Ø 3.7 | Angle 25°

G/H	Type	REF
1.0	**Square**	GAAB 25 37 10 **AS**
1.0	**Round**	GAAB 25 37 10 **AR**
2.0	**Square**	GAAB 25 37 20 **AS**
2.0	**Round**	GAAB 25 37 20 **AR**
3.0	**Square**	GAAB 25 37 30 **AS**
3.0	**Round**	GAAB 25 37 30 **AR**



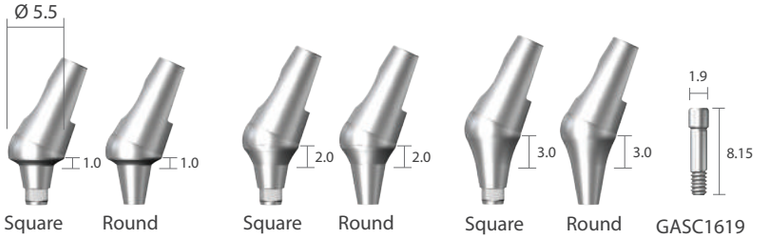
Diameter Ø 4.3 | Angle 25°

G/H	Type	REF
1.0	**Square**	GAAB 25 43 10 **AS**
1.0	**Round**	GAAB 25 43 10 **AR**
2.0	**Square**	GAAB 25 43 20 **AS**
2.0	**Round**	GAAB 25 43 20 **AR**
3.0	**Square**	GAAB 25 43 30 **AS**
3.0	**Round**	GAAB 25 43 30 **AR**



Diameter Ø 5.5 | Angle 25°

G/H	Type	REF
1.0	**Square**	GAAB 25 55 10 **AS**
1.0	**Round**	GAAB 25 55 10 **AR**
2.0	**Square**	GAAB 25 55 20 **AS**
2.0	**Round**	GAAB 25 55 20 **AR**
3.0	**Square**	GAAB 25 55 30 **AS**
3.0	**Round**	GAAB 25 55 30 **AR**

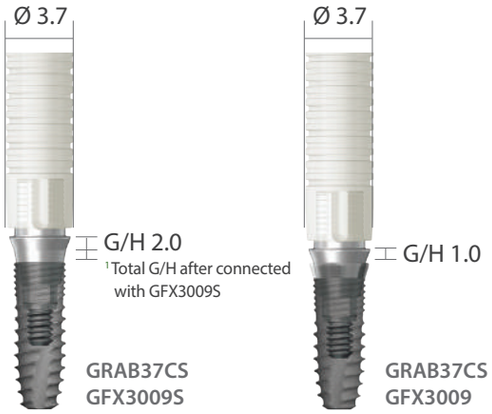


※ Note: [1] When NR Line fixture with the size of 3.2mm platform is used, abutments will sit 1mm higher than on fixtures with different platform sizes.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Metal Casting Abutment

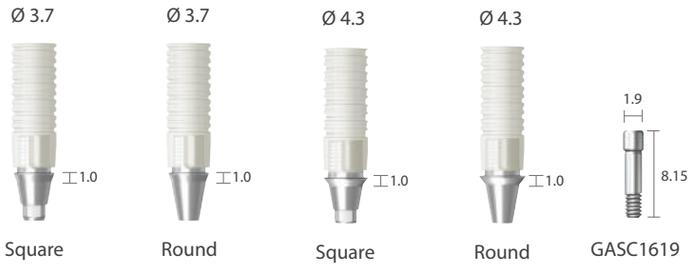
• Abutment screw is included

Unit: mm, Scale 1 : 1.5



Metal-Casting Abutment

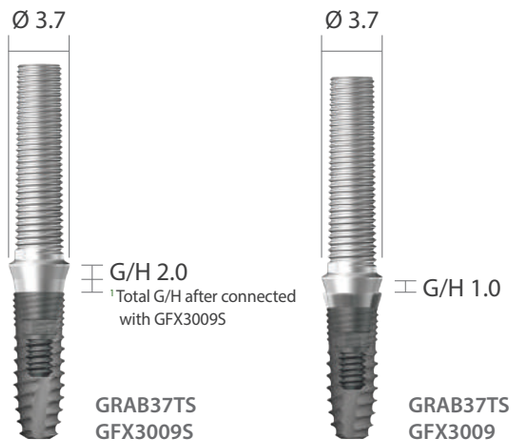
G/H	Type	REF
1.0	**Square**	GRAB 37 C**S**
1.0	**Round**	GRAB 37 C**R**
1.0	**Square**	GRAB 43 C**S**
1.0	**Round**	GRAB 43 C**R**



Temporary Abutment

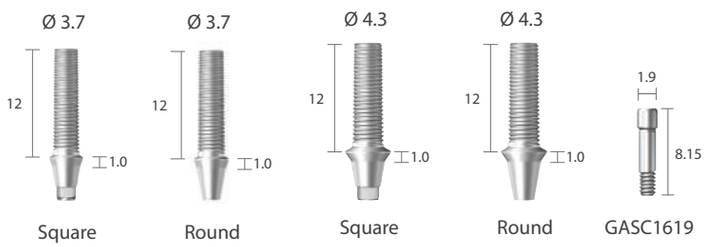
• Abutment screw is included

Unit: mm, Scale 1 : 1.5



Ti-Temporary Abutment

G/H	Type	REF
1.0	**Square**	GRAB 37 TS
1.0	**Round**	GRAB 37 TR
1.0	**Square**	GRAB 43 TS
1.0	**Round**	GRAB 43 TR



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Prosthetic Procedure 3

Impression Technique and Restoration Selection

Screw Abutment

Abutment Level Impression

Screw Abutment

Ø5.0

Page **21**

Angled Screw Abutment

Square / Round

10° / 20°/ 30°

Ø4.3

Page **22**

Open Tray Technique

Closed Tray Technique

Impression Coping Pick-up

Ø5.0

Page **23**

Impression Coping Transfer

Ø5.0

Page **23**

Analog

Ø5.0

Page **24**

Burn-out Cylinder

Ø5.0

Page **24**

Metal Cylinder

Ø5.0

Page **24**

Ti-Temporary Cylinder

Ø5.0

Page **24**

Ti-Cylinder

Ø5.0

Page **24**

Polishing Protector

Ø5.0

Page **23**

Temporary Restoration

Ti-Retaining Screw

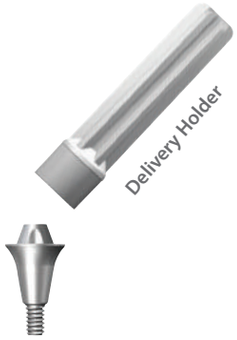
Page **24**

Screw-Retained Restoration

Screw Abutment

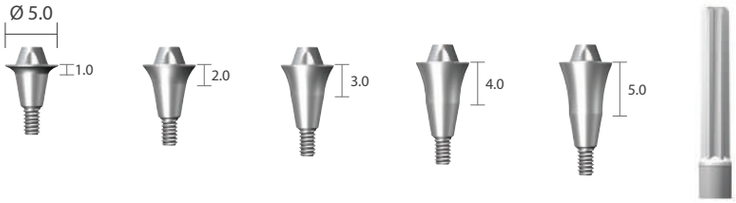
• Delivery holder is included

Unit: mm, Scale 1 : 1.5



Diameter Ø 5.0

G/H	REF
1.0	GSAB 50 **10** A
2.0	GSAB 50 **20** A
3.0	GSAB 50 **30** A
4.0	GSAB 50 **40** A
5.0	GSAB 50 **50** A

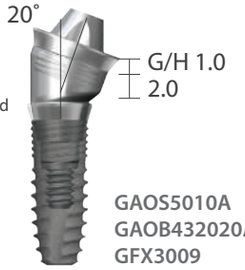


※ Note: [1] When NR Line fixture with the size of 3.2mm platform is used, abutments will sit 1mm higher than on fixtures with different platform sizes.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Angled Screw Abutment Components

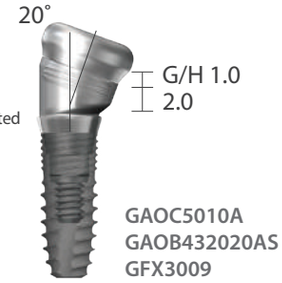
Unit: mm, Scale 1 : 1.5

GAOS5010A
GAOB432020AS
GFX3009S



GAOS5010A
GAOB432020AS
GFX3009

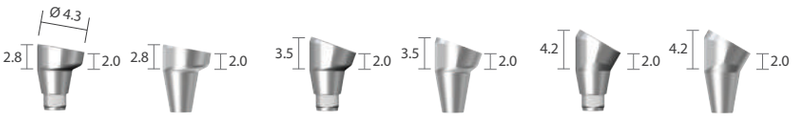
GAOC5010A
GAOB432020AS
GFX3009S



GAOC5010A
GAOB432020AS
GFX3009

Base Abutment

Diameter	Angle	REF
Ø4.3	**10°**	GAOB 43 20 **10 AS**
Ø4.3	**10°**	GAOB 43 20 **10 AR**
Ø4.3	**20°**	GAOB 43 20 **20 AS**
Ø4.3	**20°**	GAOB 43 20 **20 AR**
Ø4.3	**30°**	GAOB 43 20 **30 AS**
Ø4.3	**30°**	GAOB 43 20 **30 AR**



Screw Cap

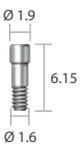
G/H	REF
1.0	GAOS 50 **10** A
2.0	GAOS 50 **20** A
3.0	GAOS 50 **30** A

Healing Abutment

G/H	REF
1.0	GAOC 50 **10** A
2.0	GAOC 50 **20** A
3.0	GAOC 50 **30** A

Base Abutment Screw

GAOSC1619



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Screw Abutment Impression Components

• Impression coping screw is included with Impression coping

Unit: mm, Scale 1 : 1.5

Impression Coping Pick-up | Bridge

Diameter	REF
Ø5.0	GSPU **50**

Impression Coping Transfer | Bridge

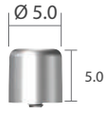
Diameter	REF
Ø5.0	GSTF **50**

Impression Coping Screw

Type	REF
Pick-up	GSPS **09**
Transfer	GSTS **09**

Comfort Cap

Diameter	REF
Ø5.0	GSCC **50**



Polishing Protector

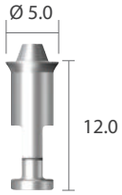
Diameter	REF
Ø5.0	GSPP **50**

Screw Abutment Impression Components

Unit: mm, Scale 1 : 1.5

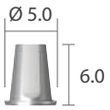
Analog

Diameter	REF
Ø**5.0**	GSAN **50**



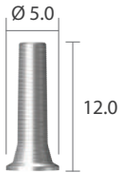
Ti-Cylinder

Diameter	REF
Ø**5.0**	GSTA **50** A



Ti-Temporary Cylinder

Diameter	REF
Ø**5.0**	GSTC **50** AT

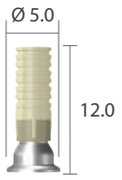


Burn-out Cylinder

Diameter	REF
Ø**5.0**	GSBC **50**

Metal Cylinder

Diameter	REF
Ø**5.0**	GSGC **50** C



Ti-Retaining Screw

GSRS 16 T

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

Page **27**

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

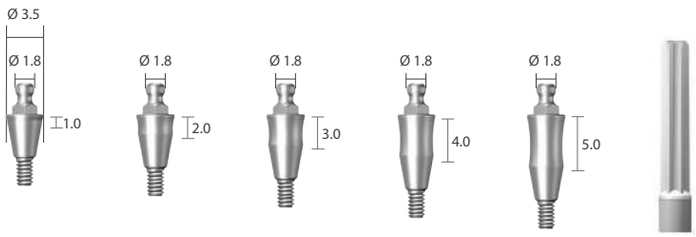
Mini Ball Attachment Components

• Delivery holder is included

Unit: mm, Scale 1 : 1.5

Mini Ball Abutment

G/H	REF
1.0	GBAB 35 **10**
2.0	GBAB 35 **20**
3.0	GBAB 35 **30**
4.0	GBAB 35 **40**
5.0	GBAB 35 **50**



Mini Ball Impression Coping

GICA

Mini Ball Analog

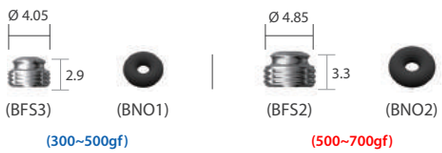
BANL

Socket Spacer

REF	GBIC3L GBIC2L

Female Socket

REF	BPF3 (300~500gf) BPF2 (500~700gf)



※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.
※Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Angled Mini Ball Attachment Components

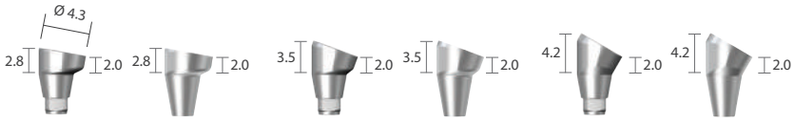
Unit: mm, Scale 1 : 1.5

GAOB4310A
GAOB432010AS
GFX3009S

GAOB4310A
GAOB432010AS
GFX3009

Base Abutment

Diameter	Angle	REF
Ø4.3	**10°**	GAOB 43 20 **10 AS**
Ø4.3	**10°**	GAOB 43 20 **10 AR**
Ø4.3	**20°**	GAOB 43 20 **20 AS**
Ø4.3	**20°**	GAOB 43 20 **20 AR**
Ø4.3	**30°**	GAOB 43 20 **30 AS**
Ø4.3	**30°**	GAOB 43 20 **30 AR**



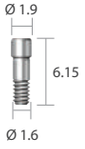
Square 10˚ | Round 10˚ | Square 20˚ | Round 20˚ | Square 30˚ | Round 30˚

Mini Ball Cap

G/H	REF
1.0	GAOB 43 **10** A
2.0	GAOB 43 **20** A
3.0	GAOB 43 **30** A

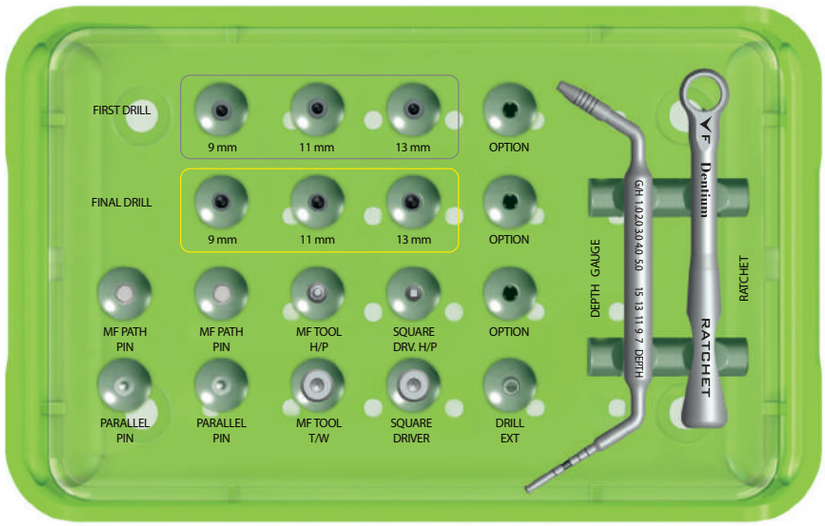
Angled Overdenture Screw

GAOSC1619



※ 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.
※ Torque: It is recommended to keep the torque level at 20N·cm to tighten the abutment to the fixture.

Surgical Kit



NR Line Surgical Kit GXIFU

Kit Includes


GLD 30 09 GLD 30 11 GLD 30 13


GFD 30 09 GFD 30 11 GFD 30 13


GXMFPA


GXMFPA


GXID 30 H

GXSD 25 H


GXPP 16 22 43


GXPP 16 22 43


GXID 26 W

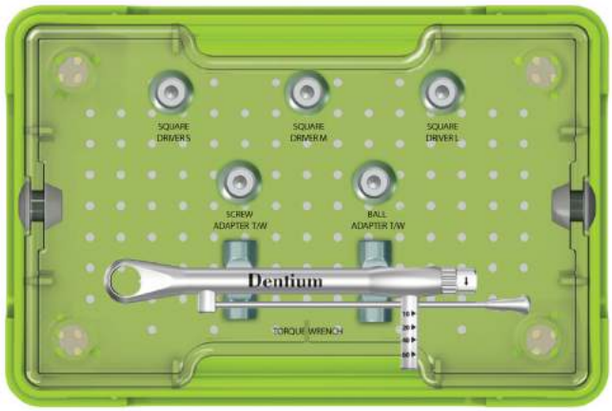

GXSD 25 W


XDE

GXDGU

GXRCA

Prosthetic Kit



NR Line Prosthetic Kit GXNP

Kit Includes

GXSD 15 W

GXSD 21 W

GXSD 28 W

GXSA 21W

GXBA 21W

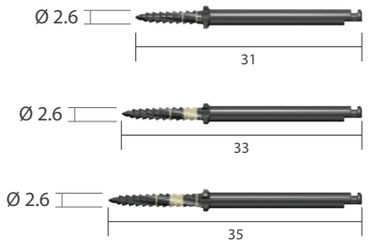
GXNTW

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**



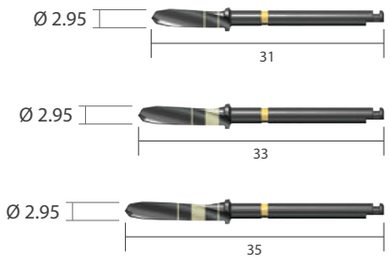
GLD 30 09

GLD 30 11

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**



GFD 30 09

GFD 30 11

GFD 30 13

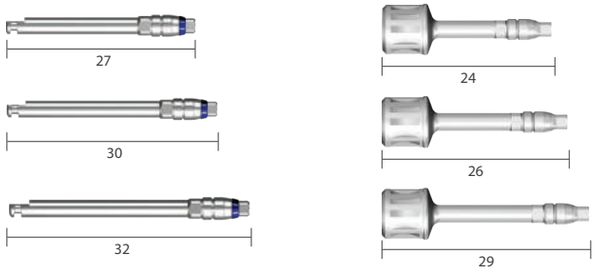
※ Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

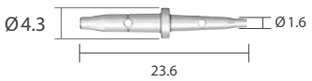
Adapter

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

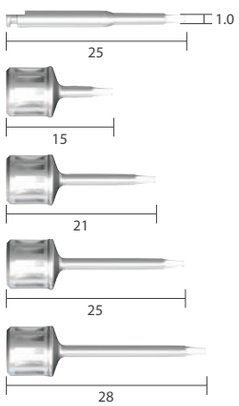


Path Pin

L	REF
17.3	GXMFPA

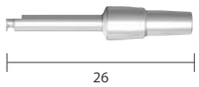
Square Driver

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



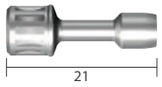
※ Note: Drill speed 1,000rpm, 30~45N·cm with irrigation

Instrument

Unit: mm, Scale 1 : 1

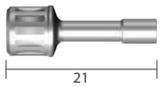
Adapter for Screw Abutment

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

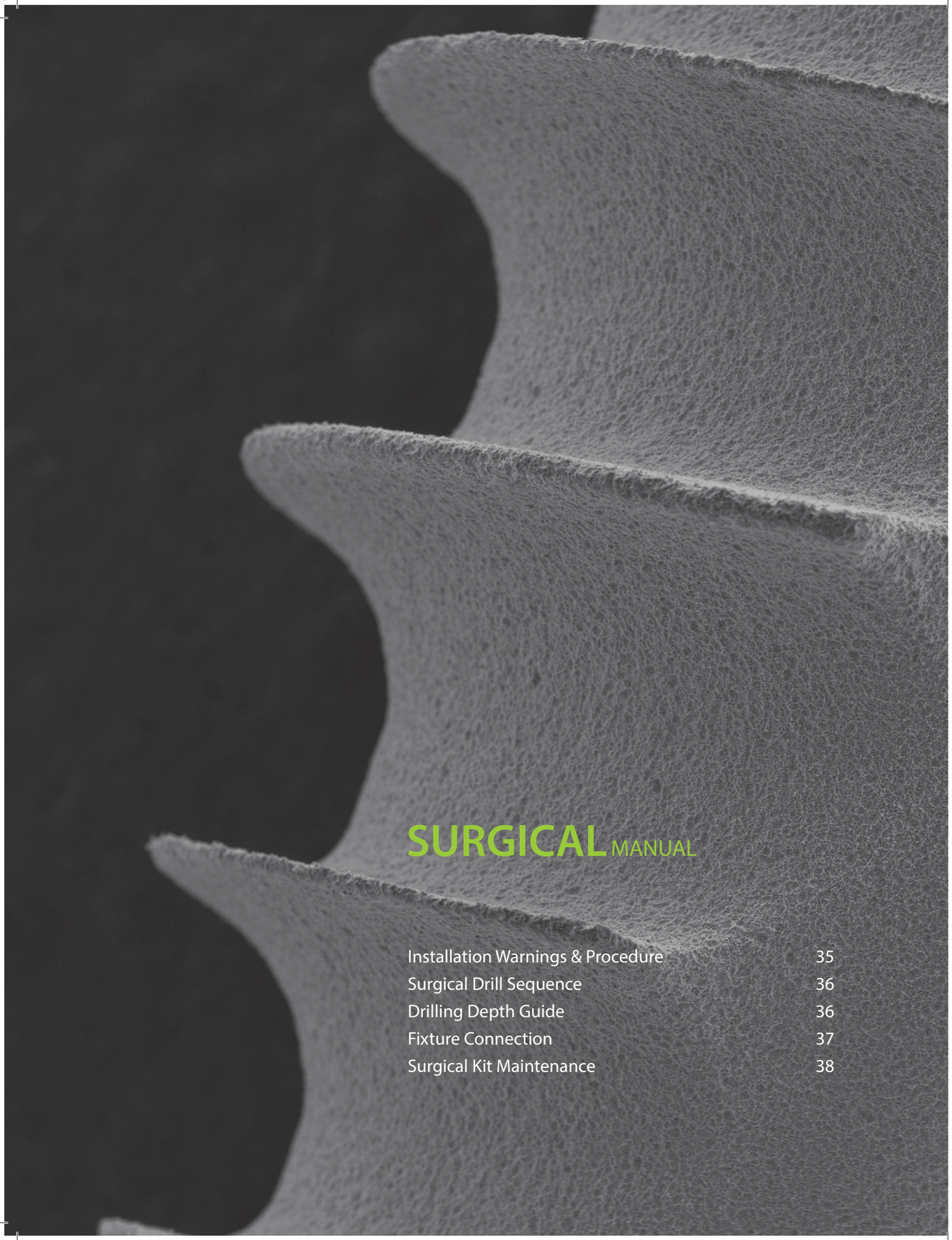
GSRG

Reamer

GSRM

Reamer Handle

CRH



SURGICAL MANUAL

Installation Warnings & Procedure

Warnings

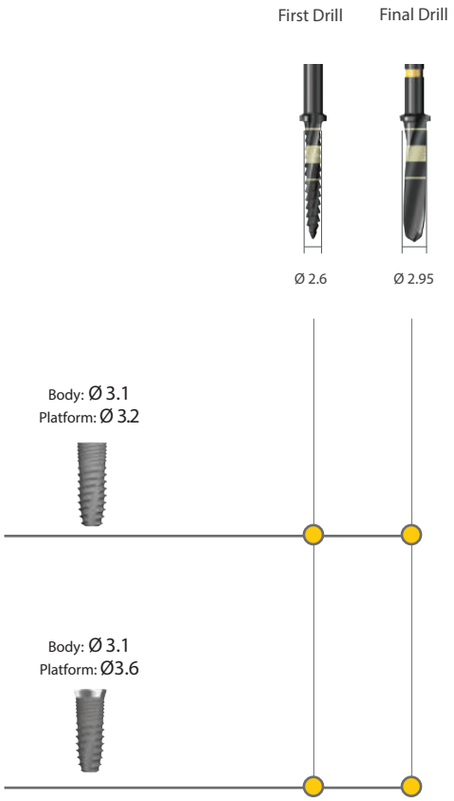
Dental Implant surgery and restoration involve complex dental procedures. Appropriate and adequate training in proper technique is mandatory recommended prior to use.

- 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 osseointergration 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:

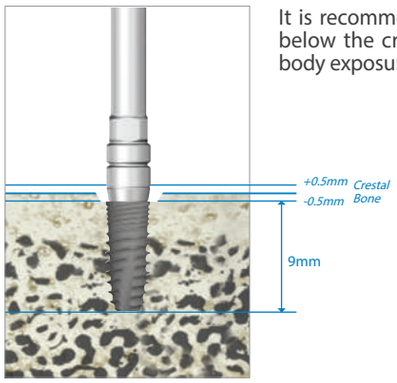
01 Inadequate number of implants are placed.
02 Implant width and/or length are inappropriate for a treatment site.
03 Prosthesis which has excessive cantilever length due to inadequate biomechanical design
04 Continuous occlusal force are generated by incomplete connection between implant and abutment 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

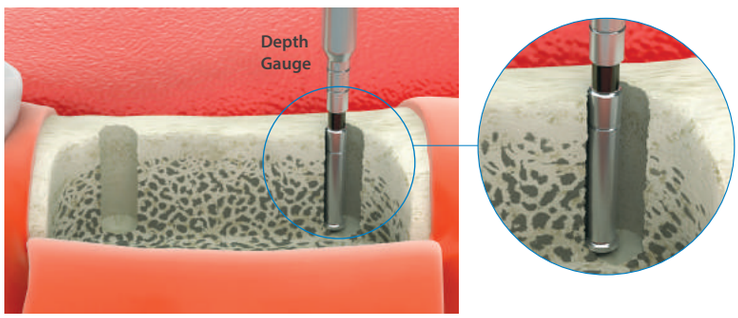


Determination of Fixture Placement Depth



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

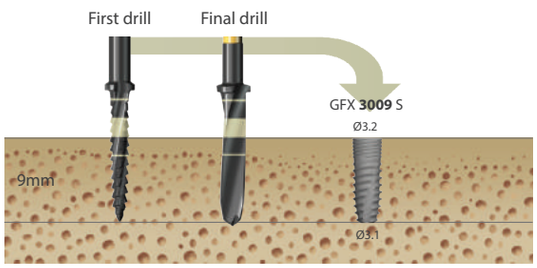
Depth Indication



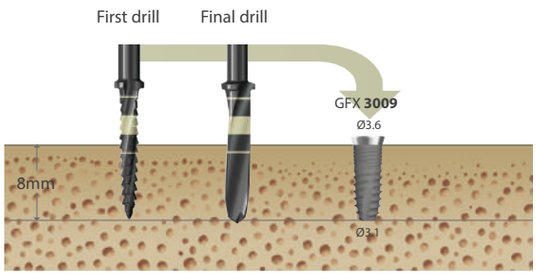
• Use the depth gauge to measure the depth of the osteotomy.

Drilling Depth Guide

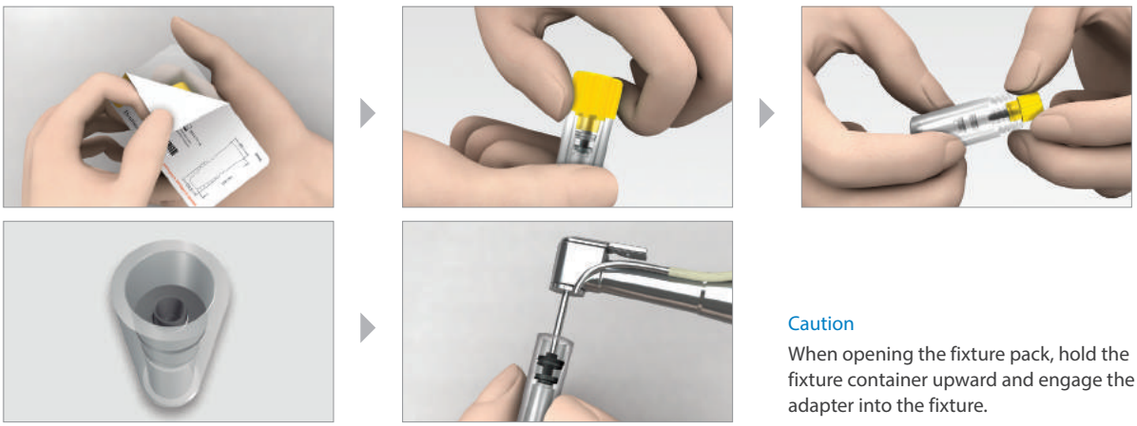
Body: Ø 3.1 / Platform: Ø 3.2 **(800~1,200rpm / 30~45N·cm)**



Body: Ø 3.1 / Platform: Ø 3.6 **(800~1,200rpm / 30~45N·cm)**

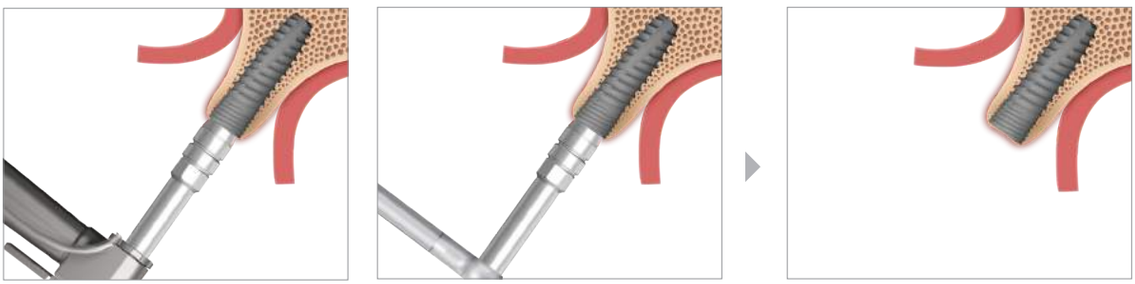


Fixture Connection



Caution

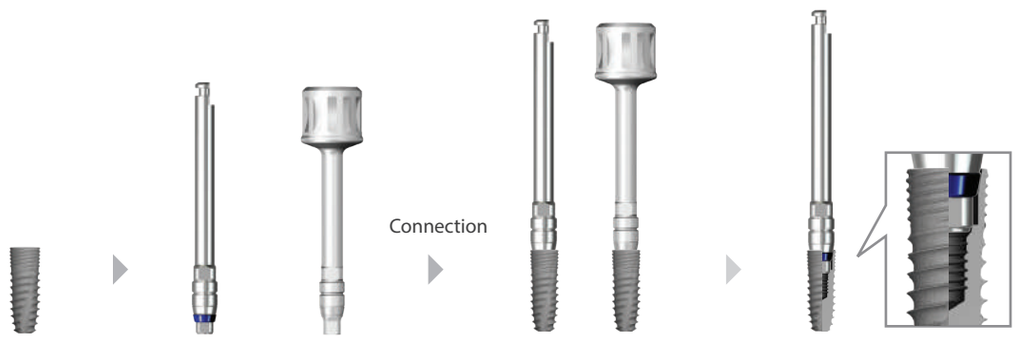
When opening the fixture pack, hold the fixture container upward and engage the adapter into the fixture.



When using handpiece:
20rpm / 35N·cm

When using ratchet

Directions Using the Handpiece / Ratchet Adapter

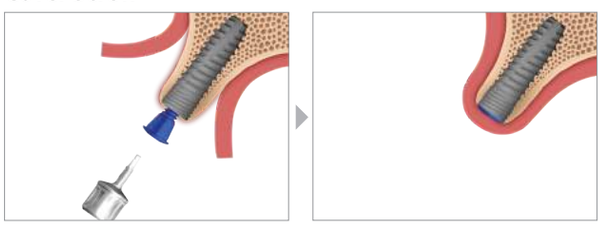


Handpiece Adapter

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.

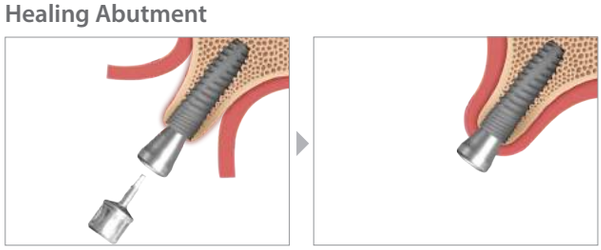
Cover Screw



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

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

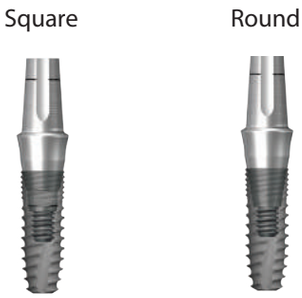
- Screw Abutment
- Angled Screw Abutment (10°/ 20°/ 30°)

— Screw-Retained (Abutment Level)

- Mini Ball Attachment
- Angled Mini Ball Attachment

— For Denture Use

Dual Abutment



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

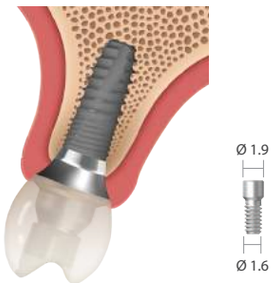
Abutment Holder
for Screw Abutment and
Angled Screw Abutment

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.

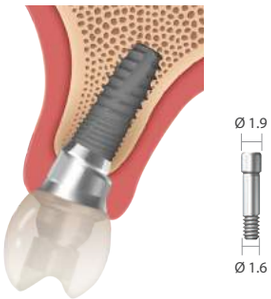
Ti-Retaining Screw (1.6mm - Body Diameter)

- 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

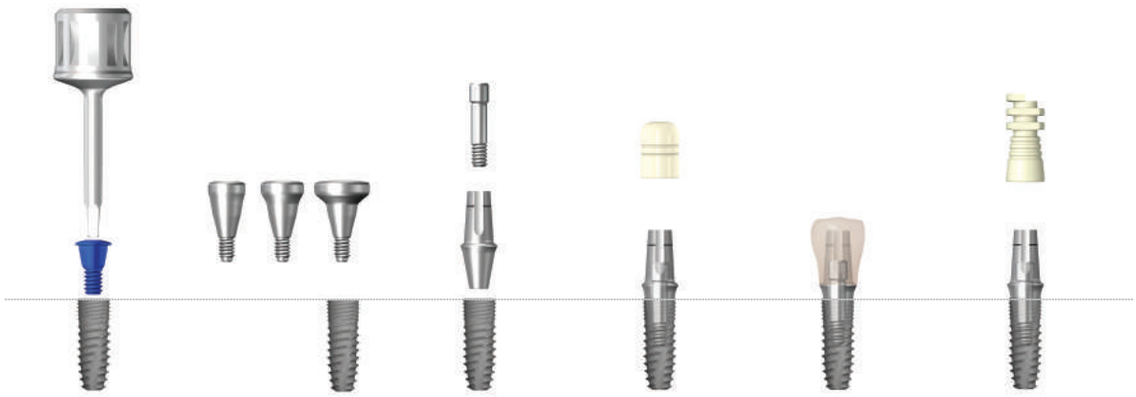
Cemented Restoration

* 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]

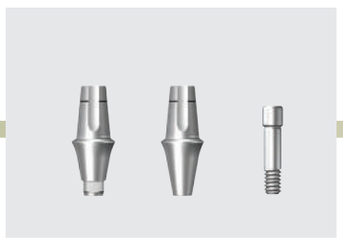
Clinical Procedure



Cover Screw | Healing Abutment | Dual Abutment | Comfort Cap | Temporary Restoration | Abutment Level Impression

Chairside

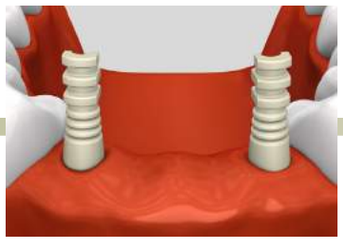
Remove the Healing Abutment after the soft tissue healing



Select the Dual Abutment by diameter and gingival height

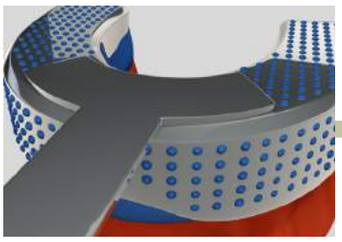
Connect the abutment to the fixture using abutment screw

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



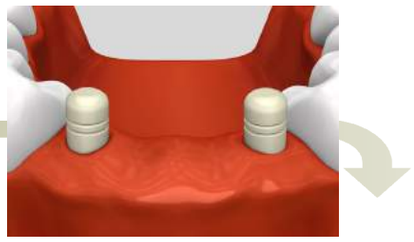
Seat the abutment level Dual Abutment Impression Coping over the Dual Abutment

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]

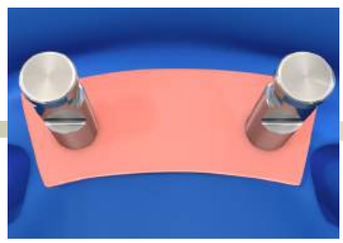
Laboratory Procedure

Lab Analog Connection | Crown Wax-up | Final Restoration Cementation Type

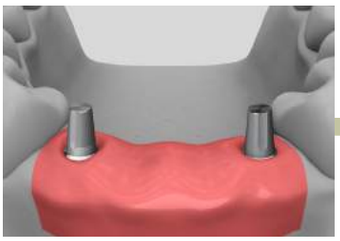
Labside

Insertion of abutment level analog into impression

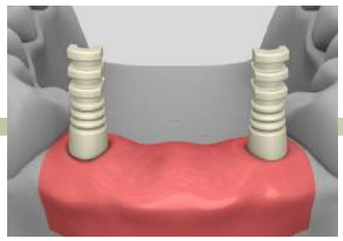
Make sure analog sits securely into the Impression Coping (line up the flat side of analog to the flat side of the Impression Coping)



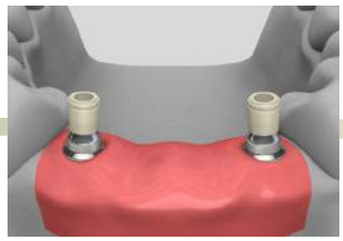
Soft tissue model



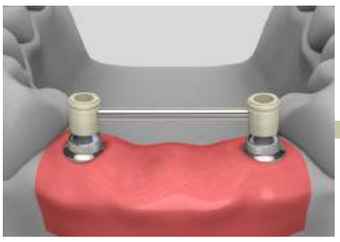
Fabrication of master model



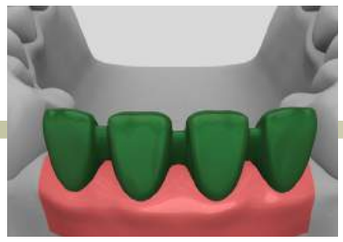
Connect the Burn-out Cylinder securely into analog



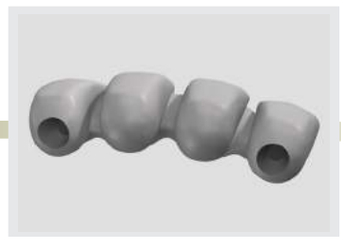
Consider distance of opposing teeth, modify Burn-out Cylinder to its proper height if needed



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



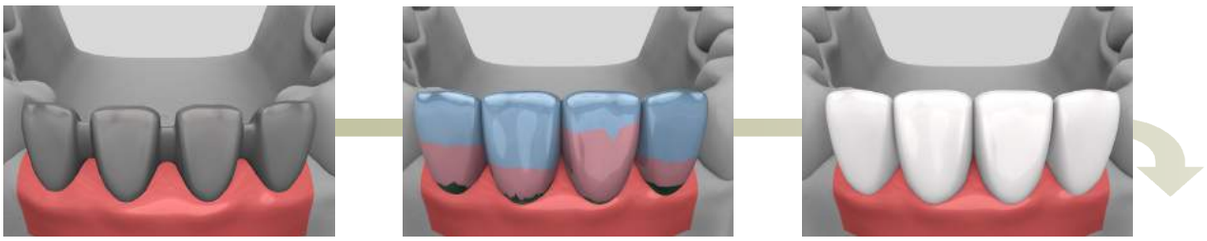
Completion of wax-up



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

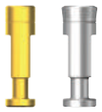
Impression Coping Pick-up
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **13**

Square Round

Impression Coping Transfer
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **14**

Square Round

Analog
Page **15**



Dual Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **9, 10**

Dual Milling Abutment
Square / Round
Ø3.7 / Ø4.3 / Ø5.5
Page **16**

Angled Abutment
Square / Round
15° / 25°
Ø3.7 / Ø4.3 / Ø5.5
Page **17, 18**

Metal-Casting Abutment
Square / Round
Ø3.7 / Ø4.3
Page **19**

Temporary Abutment
Square / Round
Ø3.7 / Ø4.3
Page **19**

Modification

Cemented Restoration

Modification

Screw-Retained Restoration

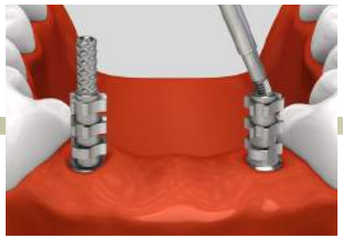
Fixture Level [Pick-up Type]- Dual Abutment

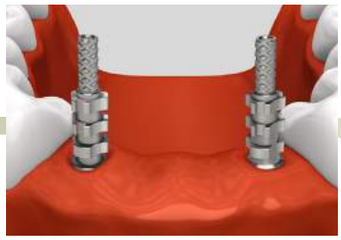
[Multiple Units]

Clinical Procedure

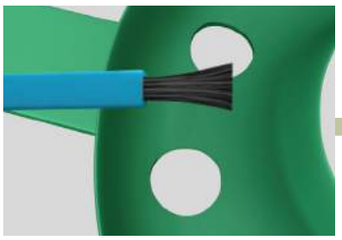
Healing Abutment | Impression Coping Pick-up Type | Fixture Level Impression Open Tray

Chairside

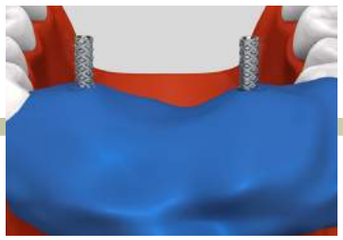




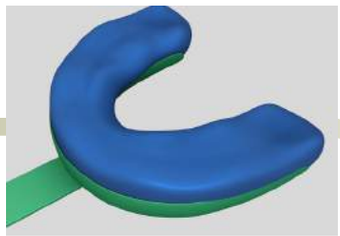
Open Tray Impression Coping (Pick-up)

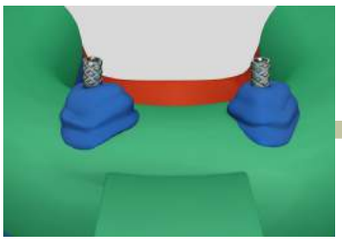


Apply adhesive on the tray (Individual tray)

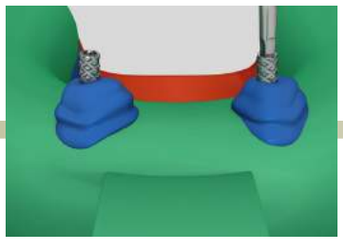


Application of impression material





Impression making



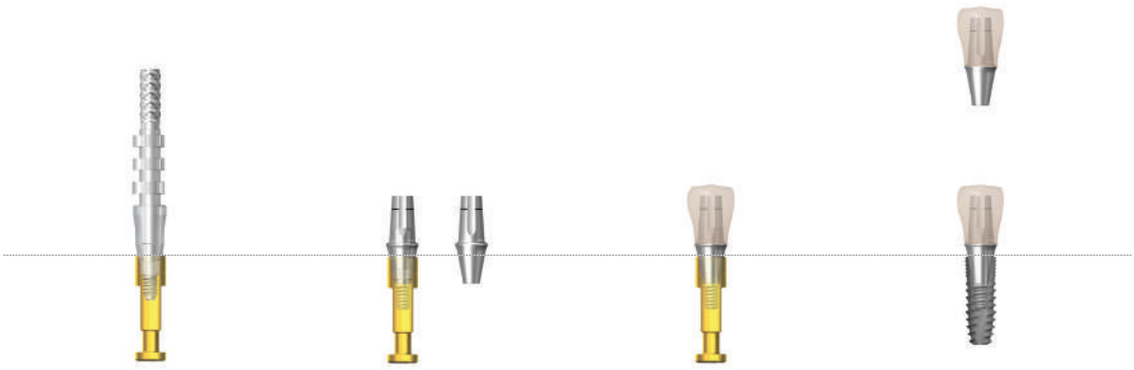
Loosen the screw before removing the impression tray

Inner side of the impression

Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

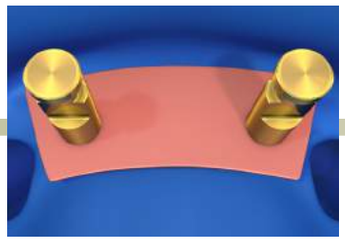
Laboratory Procedure



Lab Analog Connection	Height Modification of Dual Abutment	Crown Wax-up	Final Restoration Cementation Type

Labside

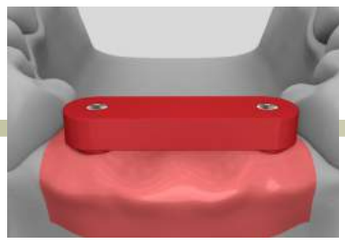
Connect Lab Analog with Impression Coping



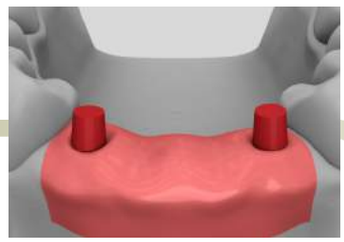
Soft tissue model

Connect a proper abutment

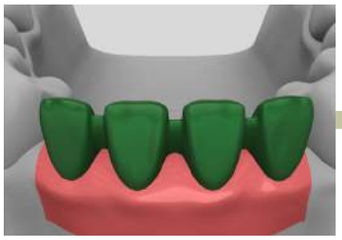
After surveying of the abutment, make any neccessary adjustments



Fabrication of positioning jig



Fabrication of the cap with pattern resin



Wax-up

Metal framework

Final prosthesis

Fixture Level [Pick-up Type]- Dual Abutment

[Multiple Units]

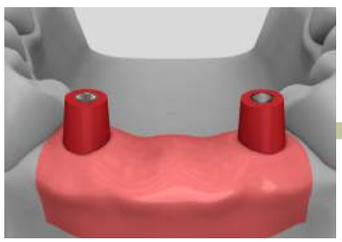
Chairside

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

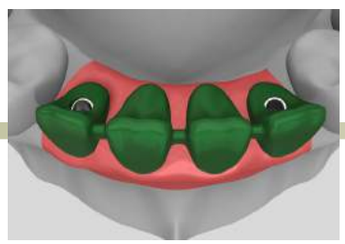
Placement of final prosthesis with occlusal adjustment

* 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.

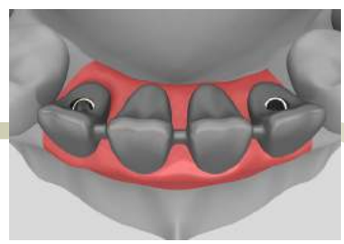
SCRP- Labside



Formation of access hole with long transfer coping screw



Wax-up



Metal framework

SCRP- Chairside

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

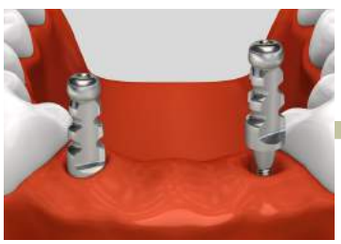
Healing Abutment	Impression Coping Transfer Type	Fixture Level Impression Closed Tray

Chairside

Second stage surgery (Uncovering)

Soft tissue formed around Healing Abutment

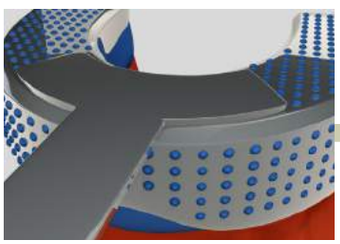
Transfer Type Impression Coping



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

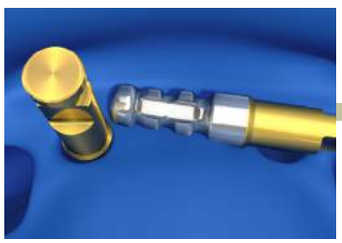
Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]

Laboratory Procedure

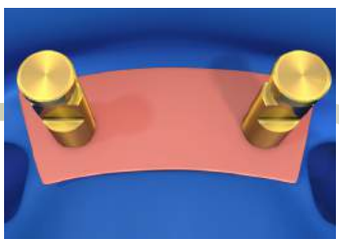
Lab Analog Connection | Height Modification of Dual Abutment | Crown Wax-up | Final Restoration Cementation Type

Labside



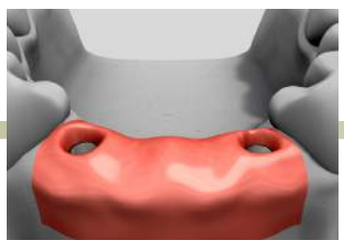
Impression coping and analog connection. Insert impression coping into the impression

Make sure the impression coping is fully seated into the impression

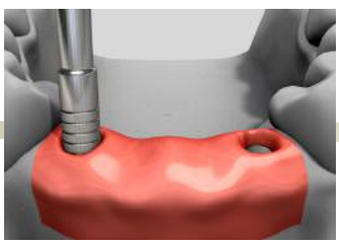


Soft tissue model

Fabrication of master model

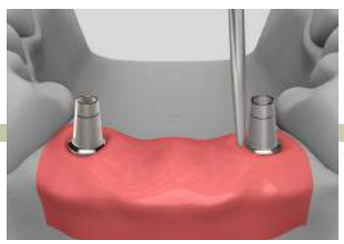


Soft tissue condition after removal of impression coping

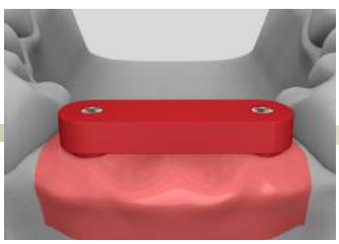


Measuring gingival height with depth gauge

Selection of the Dual Abutment of proper diameter and gingival height



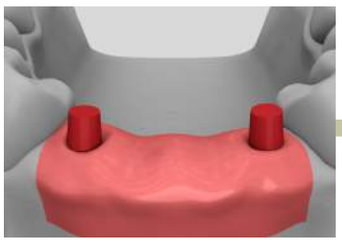
After surveying of the abutment, make any neccessary adjustments



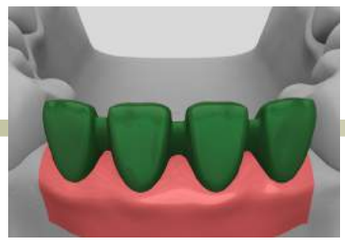
Fabrication of positioning jig

Fixture Level [Transfer Type]- Dual Abutment

[Multiple Units]



Seat the cap with pattern resin



Wax-up

Metal framework

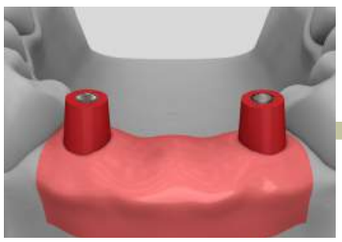
Chairside

Final prosthesis

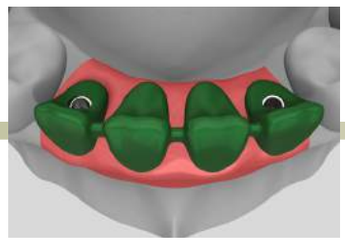
Use positioning jig to transfer the abutment in model to oral cavity then tighten it to 20N·cm
Re-tighten after 15 minutes

Placement of final prosthesis with occlusal adjustment

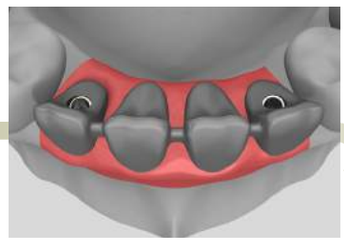
SCRP- Labside



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



Completed wax-up



Metal framework

SCRP- Chairside

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 Milling Abutment

[Single Unit]

Clinical Procedure

Healing Abutment | Impression Coping Transfer Type | Fixture Level Impression

Chairside

Placement of the Healing Abutment

Placement of Impression Coping with the same diameter as Healing Abutment

Application of impression material

Impression making

Impression coping formation on the inside of impression is observable (Traces of Impression Coping on the inner surface of impression)

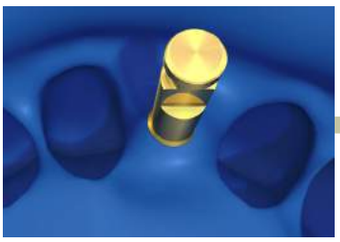
Laboratory Procedure

Lab Analog Connection | Dual Milling Abutment Connection | Modification | Crown Wax-up | Final Restoration Cementation

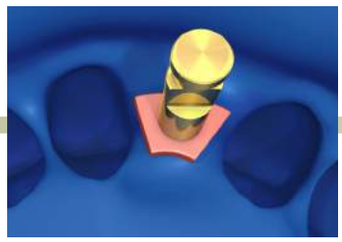
Fixture Level [Transfer Type]- Dual Milling Abutment

[Single Unit]

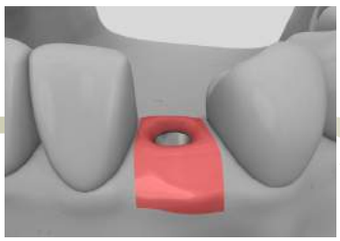
Labside



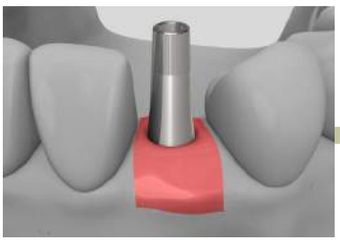
Impression coping and analog connection and insert impression coping into the impression



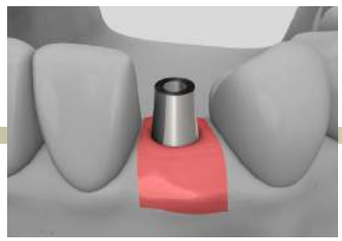
Soft tissue model



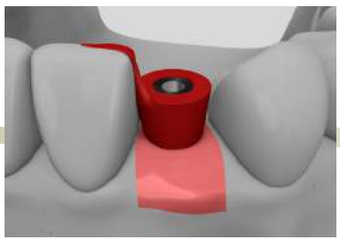
Master model



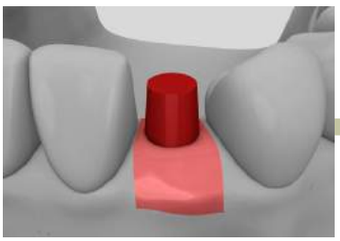
Selection of appropriate Dual Milling Abutment



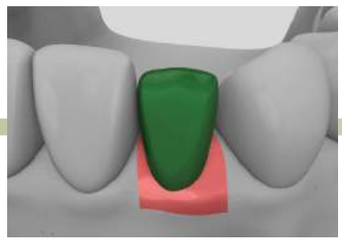
Abutment after milling process



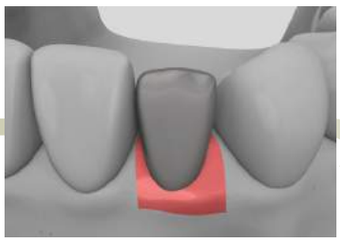
Fabrication of positioning jig



Fabrication of pattern resin cap

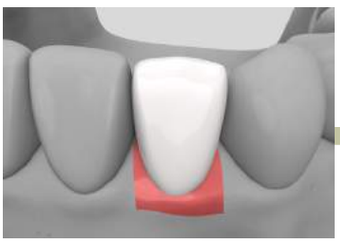


Wax-up

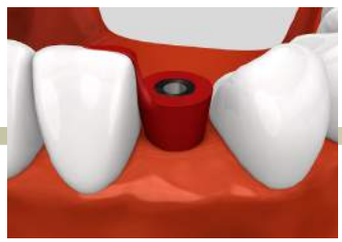


Metal framework

Chairside



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 acclusal load on the prosthesis for 10~15 minutes.

Fixture Level [Pick-up Type]- Angled Abutment

[Single Unit]

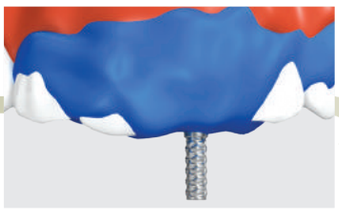
Clinical Procedure

Angled Abutment | Impression Coping Pick-up Type | Fixture Level Impression

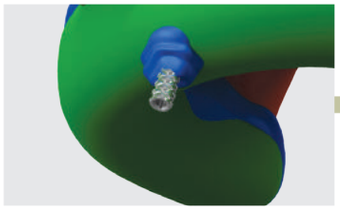
Chairside

Pick-up Type Impression Coping

Placement of Pick-up Impression Coping



Application of impression material



Impression making (individual tray with holes)

Unscrew and separate impression from the model

Removed impression

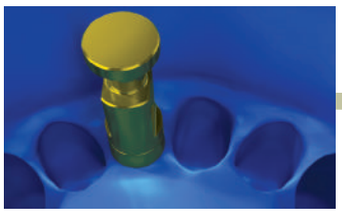
Laboratory Procedure

Lab Analog Connection | Angled Abutment Connection | Modification | Framework Wax-up | Final Restoration Cementation

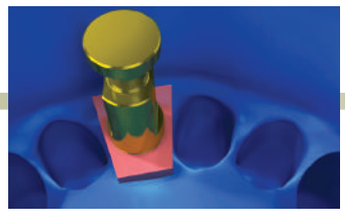
Fixture Level [Pick-up Type]- Angled Abutment

[Single Unit]

Labside

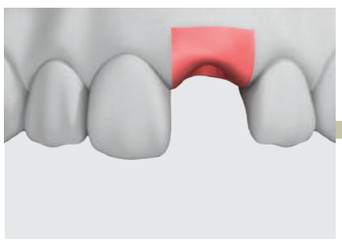


Impression Coping with Lab Analog connections

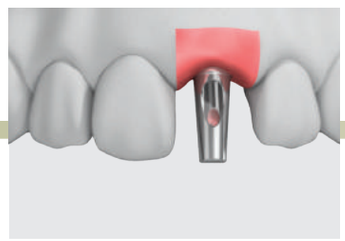


Soft tissue formation and fabrication of master model

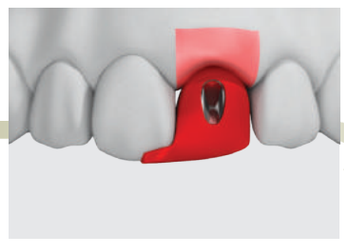
Unscrew and separate impression from the model



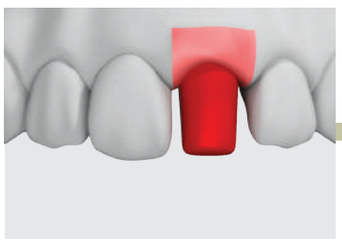
Master model



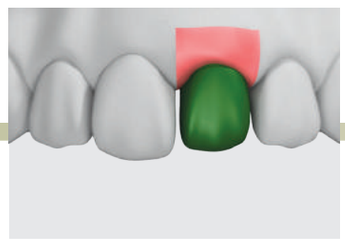
Selection of an Angled Abutment



Adjustment of Angled Abutment and fabrication of positioning jig



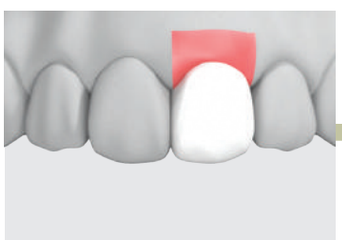
Fabrication of pattern resin cap



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

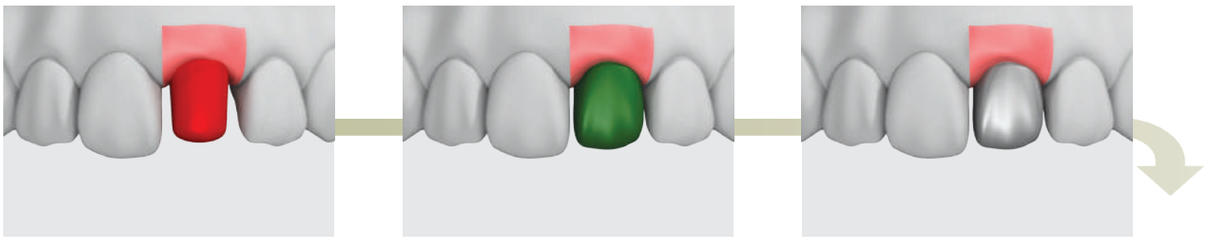
[Single Unit]

Laboratory Procedure

Lab Analog Connection | Metal-Casting Abutment Connection | Modification | Abutment Wax-up | Final Restoration Cementation

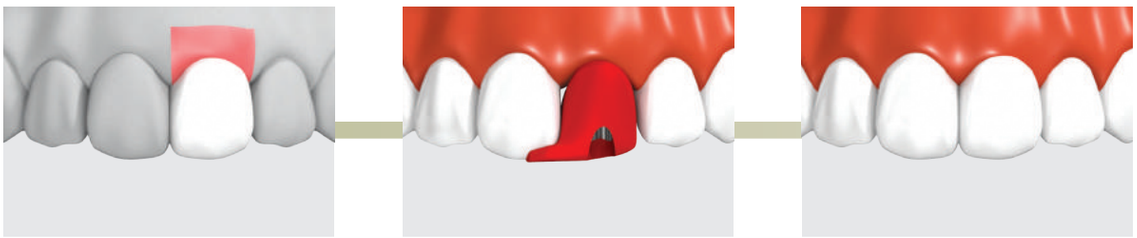
Labside

Placement of Metal-Casting Abutment | Completed customized abutment | Fabrication of positioning jig



Fabrication of pattern resin cap | Wax-up | Metal framework

Chairside



Final prosthesis | Insertion of custom abutment using positioning jig | Placement of final prosthesis with occlusal adjustment

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

Screw Abutment

Ø5.0

Page **21**

Angled Screw Abutment

Square / Round

10° / 20° / 30°

Ø4.3

Page **22**

Open Tray Technique

Closed Tray Technique

Impression Coping Pick-up

Ø5.0

Page **23**

Impression Coping Transfer

Ø5.0

Page **23**

Analog

Ø5.0

Page **24**

Burn-out Cylinder

Ø5.0

Page **24**

Metal Cylinder

Ø5.0

Page **24**

Ti-Temporary Cylinder

Ø5.0

Page **24**

Ti-Cylinder

Ø5.0

Page **24**

Polishing Protector

Ø5.0

Page **23**

Temporary Restoration

Ti-Retaining Screw

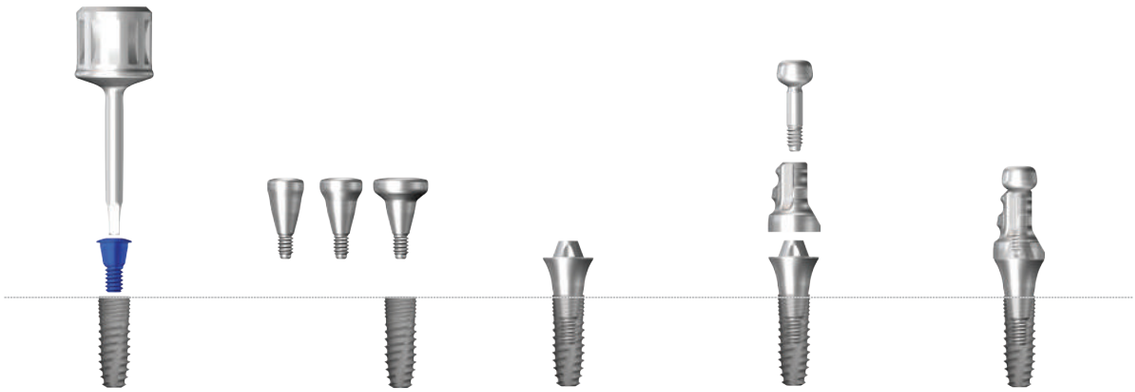
Page **24**

Screw-Retained Restoration

Abutment Level [Transfer Type]- Screw Abutment

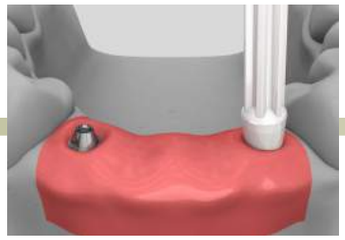
[Multiple Units]

Clinical Procedure



Cover Screw	Healing Abutment	Screw Abutment	Impression Coping Transfer Type	Abutment Level Impression

Chairside

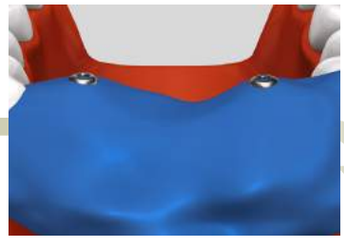


Select and seat an appropriate Screw Abutment with delivery holder

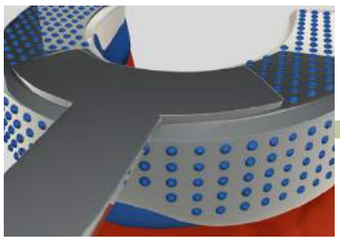
Tighten it to 20N·cm.
Re-tighten after 15 minutes with Screw Abutment adaptor

Screw Abutment transfer coping (Abutment Level)

Placement of impression copings



Application of impression material



Impression making

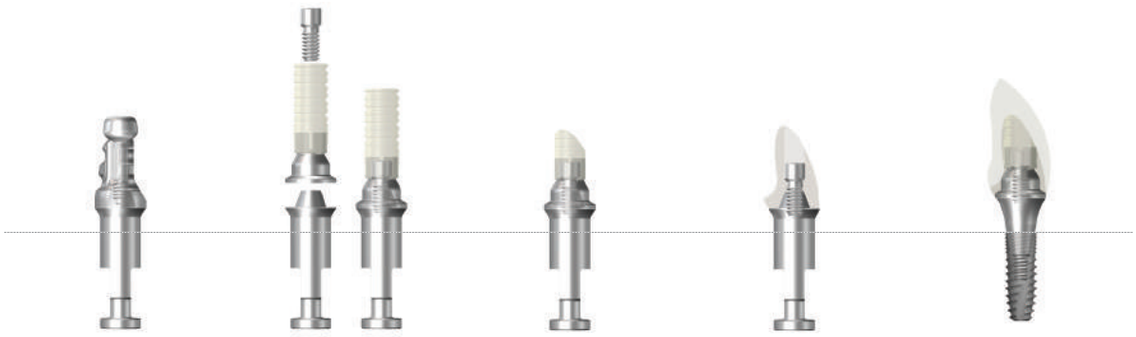
Inner-side of the impression

Placement of comfort cap on the Screw Abutment

Abutment Level [Transfer Type]- Screw Abutment

[Multiple Units]

Laboratory Procedure

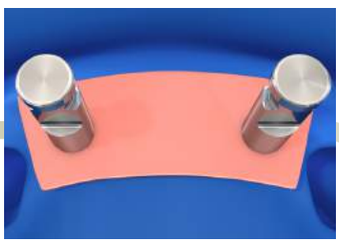


Lab Analog Connection | Cylinder Connection | Modification | Abutment Wax-up | Final Restoration Screw Retained

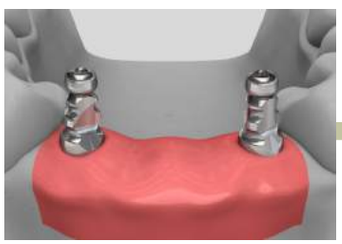
Labside

Connection of the Impression Coping with the Screw Abutment analog

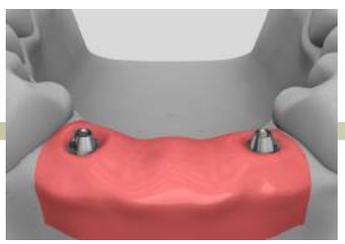
Positioning Impression Coping and Lab Analog assembly in the exact location of the impression



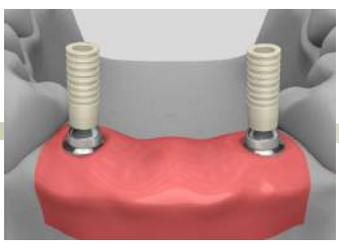
Soft tissue model



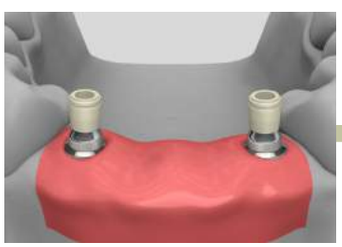
Fabrication of master model



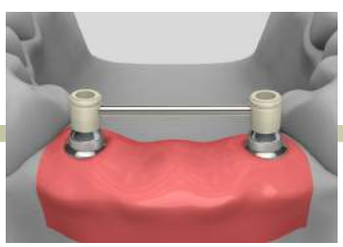
Removal of Impression Coping



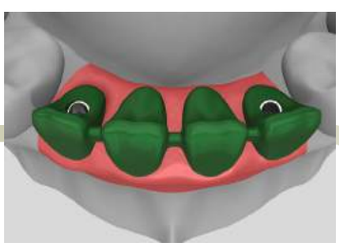
Connect the Screw Abutment Cylinder then tighten it with Ti-Retaining Screws



Consider the distance with opposing teeth and trim cylinder to its appropriate height



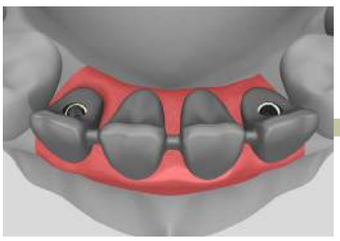
Connect the plastic bar in the middle of trimmed Screw Abutment to help support the wax pattern



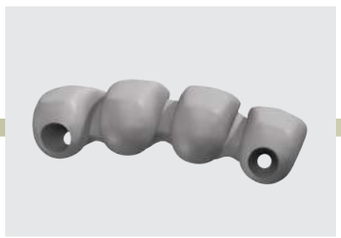
Wax-up

Abutment Level [Transfer Type]- Screw Abutment

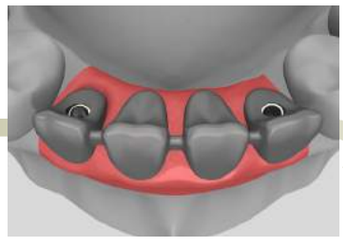
[Multiple Units]



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 (SCRP)

[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.

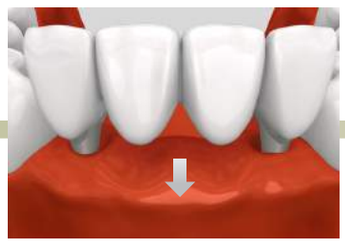
In Case of Screw Loosening or if Prosthesis Repair is Needed

In case of the following:
screw loosing 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

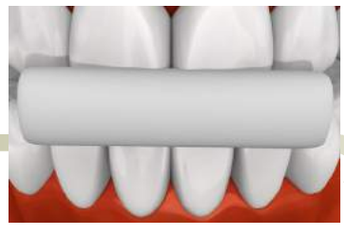
Cementation Repair Method (SCRP)

[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

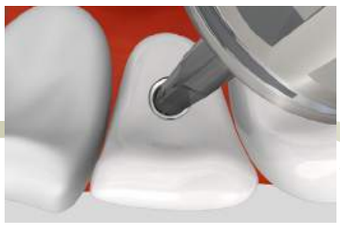
Finish the repair and seat it inside the patient's mouth

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

Page **27**

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**

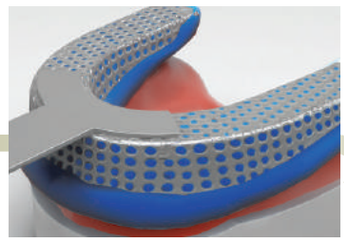
Mini Ball and Socket Attachment for Overdenture

Mini Ball Attachment

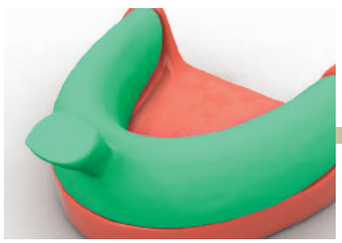
Chairside

Connect the Mini Ball Abutment onto the fixture

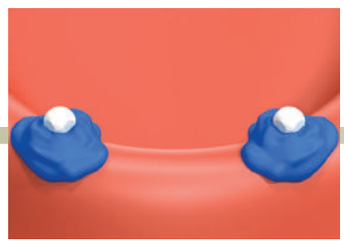
Affix the impression coping on the Mini Ball Abutment



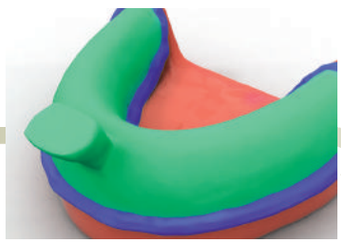
Make impression for the making of individual tray



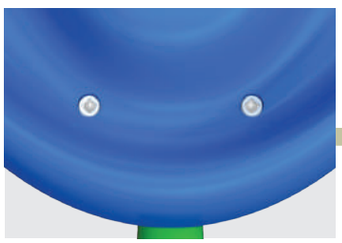
Produce the individual tray for denture impression



Apply the impression material



Make the final impression with the prepared individual tray

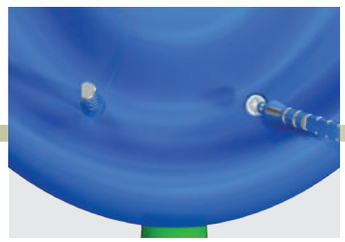


After the impression material is set, discard the individual tray

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

Chairside

Secure spaces for the female sockets

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

Chairside

Secure spaces for the female sockets

Connect the female sockets to the Angled 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

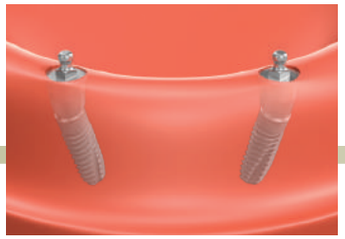
After polishing, the overdenture is completed

Angled Mini Ball Attachment

Case 2

Chairside

Create holes for placement of female sockets



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

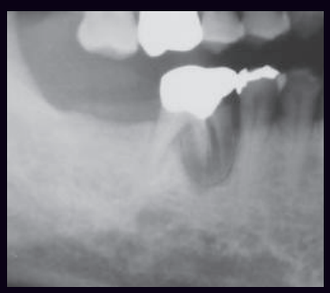
Female sockets are placed in the denture

Apply resin around the female sockets

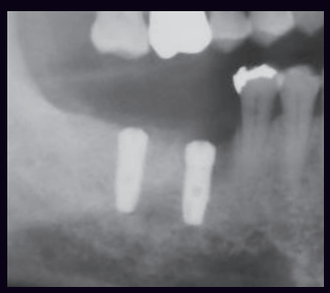
After polishing, the overdenture is completed

DENTIUM
LONG-TERM
CLINICAL
DATA

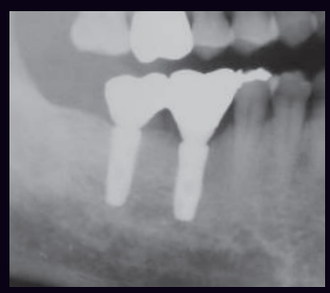
2002 2003 2004 2005 2006 2007 2008



2002. 05. 17
Pre-op



2002. 09. 04
Post-op



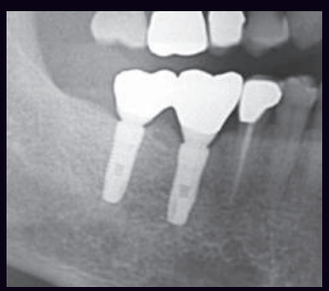
2003. 03. 15
Final prosthesis

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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