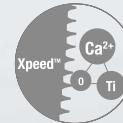


ARI®

by MEGA'GEN

A New
Game Changer in
Anterior Atrophic Ridge

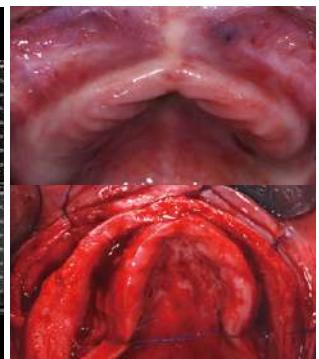
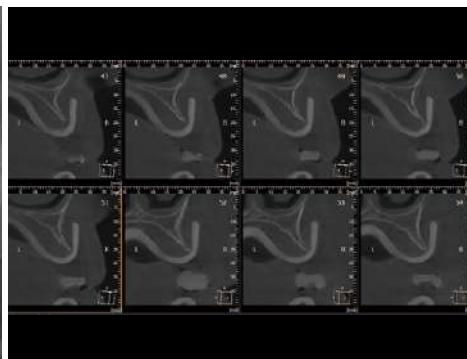


How would you treat these cases?

Q1

Is it possible to place implants in such an anterior atrophic thin ridge?

In this difficult case, a long pontic area is usually created in the anterior part.



Difficulty level

Give up or requires GBR or ridge split

Treatment period

Anterior teeth can only be placed after 12 months

Complications

Many complications can be expected

Q2

Very serious case of periodontitis, large defect with no bone, no labial plate, plus vertical bone loss. Can implants be placed?



Difficulty level

GBR required, 2-stage implant surgery

Treatment Period

more than 6 months

Complications

Many complications can be expected

Q3

Implants were placed after regeneration, but recession occurred 10 years after placement due to ridge resorption following extraction. There are so many cases like this.



Labial bone absorption begins after tooth extraction, regardless of GBR or implant placement.



ARI® provides a NEW SOLUTION for
Anterior Atrophic Ridge,
Following the achievements of AnyRidge.

- Can such patients have implants for their anterior teeth?
- Is immediate placement possible without GBR for bone volume recovery?
- Is immediate loading possible?
- Can peri-implantitis be eliminated when alveolar bone loss occurs after implant placement?

Yes, ARI® can!

Find the answer with **ARI®**





ARI[®]

by MEGA'GEN



Key Advantages

- Basal Bone implantation guarantees strong initial stability without Bone Volume restoration surgery
- Securing long-term stability without any effect even if alveolar bone loss occurs
- Special implant design that can be easily applied to Atrophic Ridges
- Minimize maintenance burden from alveolar bone recession, fracture, peri-implantitis, etc. that may occur after placement

06	Philosophy of ARI [®]	17	Abutment & Prosthetic Options
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14	II. Implant Size	22	1. Solid Abutment & Components
15	III. Packaging	24	ARI Kit
16	Cover Screw & Healing Abutment	24	I. Surgical Kit
		29	II. Optional components
30	Clinical Cases		

What makes ARI® a New Game Changer for Anterior Atrophic Ridge?

ARI® is a special implant design that acquires strong stability and osseointegration from the unresorbed basal bone instead of an atrophied alveolar bone. The implant body design is also more effective for post care, and long-term stability can be secured without concern, even if the alveolar bone is lost.

For Clinicians

- Implants can be placed in an anterior atrophic ridge, which was previously very difficult
- Fast and simple surgical protocol without bone volume recovery surgery
- Minimized maintenance burden after implantation
 - Resolving the alveolar bone recession issue: maintaining stability even when recession inevitably occurs
 - Resolving the implant fracture issue: guaranteeing maximum strength in relation to the diameter by distributing the stress concentration
 - Preventing peri-implantitis and easy treatment in case of occurrence

Any Ridge incisor



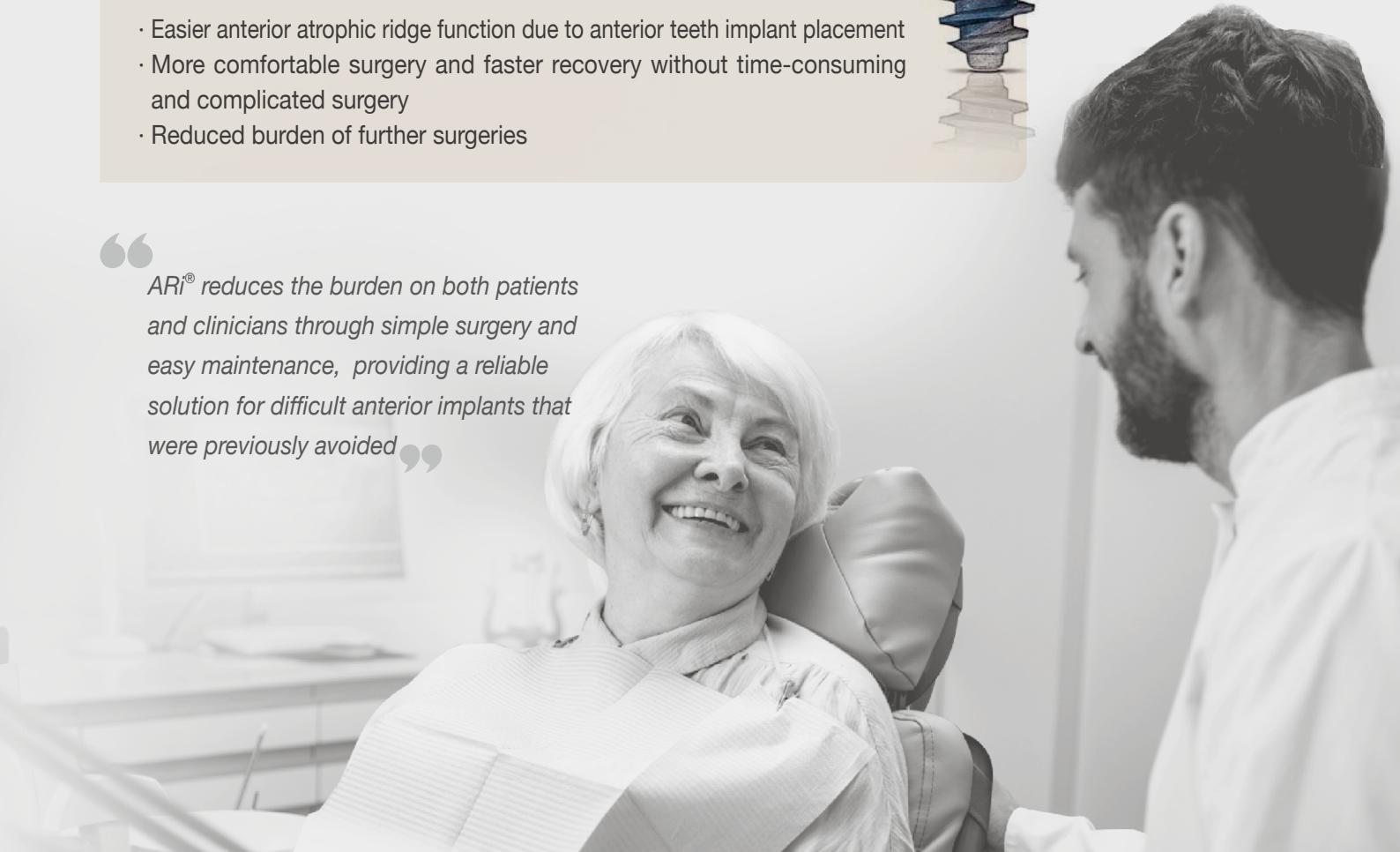
For Patients

- Easier anterior atrophic ridge function due to anterior teeth implant placement
- More comfortable surgery and faster recovery without time-consuming and complicated surgery
- Reduced burden of further surgeries

“

ARI® reduces the burden on both patients and clinicians through simple surgery and easy maintenance, providing a reliable solution for difficult anterior implants that were previously avoided

”



A New Game Changer in Anterior Atrophic Ridge



Strong joint stability

10° external conical hex provides strong bonding with abutment



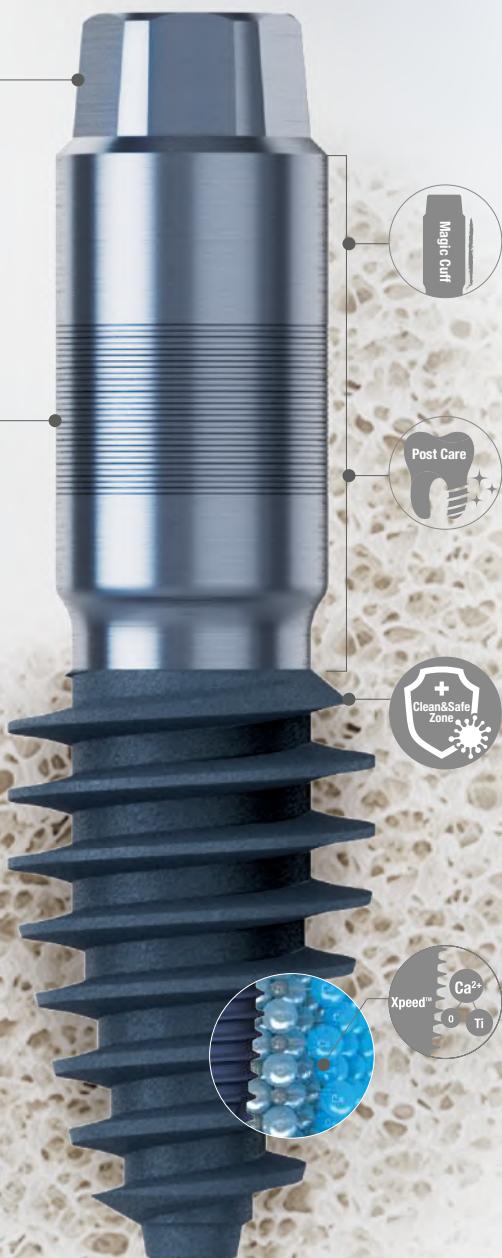
Soft Tissue Friendly Design

Rapid regeneration of soft tissue by facilitating generation and proliferation of HGF*-cells and subsidence prevention function (*Human Gingival Fibroblast)



Guaranteed strong initial stability from basal bone without bone volume restoration

- Deep & KnifeThread® design for smooth implantation without bone destruction
- Increased surface area
- Stable stress distribution



Favorable surface for prevention and management of peri-implantitis

Minimizes adhesion of foreign substances around implants, and easy removal of foreign substances if it occurs (Heights: 4/6/8/10mm)

High strength guaranteed even in narrow zones

200% (2-fold) improvement in strength (compared to our implant system for the narrow zone), and straight body design without stress concentration

Effective prevention of peri-implantitis

Significantly lower possibility of exposure to oral bacteria due to deep placement of rough surface

XPEED®

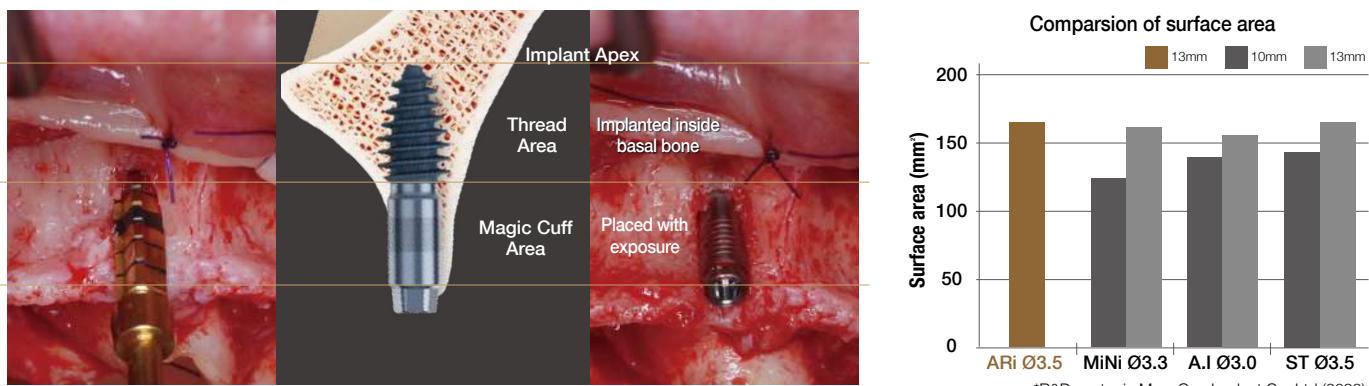
Strong osseointegration force in basal bone maintains stability even if alveolar bone is lost

Incorporating calcium ions that create bone on S-L-A surface increases rate of osseointegration by more than 15%. Blue surface color is evidence of calcium ions!

Guaranteed strong initial stability from basal bone without bone volume restoration^{1), 2)}

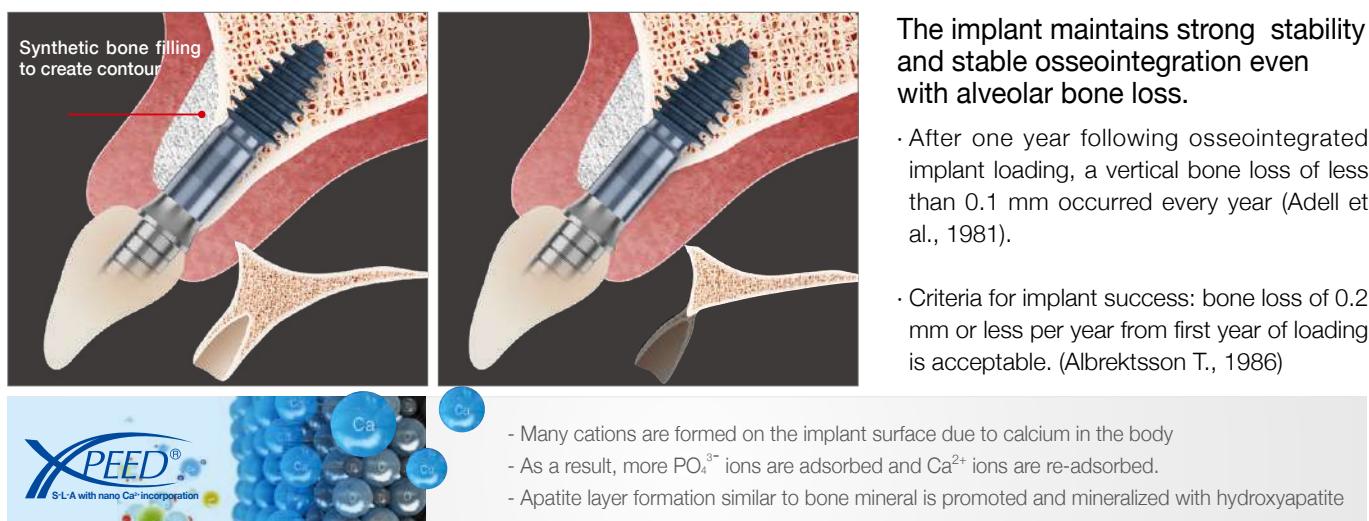
KnifeThread® located in basal bone zone guarantees higher ISQ value immediately after implantation.

The application of MegaGen's special Deep & KnifeThread® design secures a high initial stability, even in the basal bone, immediately after implantation. It also increases resistance to compressive force while minimizing the occurrence of shear force.



Securing long-term stability, even if alveolar bone loss occurs³⁾

The thread section with XPEED® surface treatment, which is implanted in the non-degenerated basal bone, maintains stable strong osseointegration, ensuring long-term implant stability even if the alveolar bone is lost.



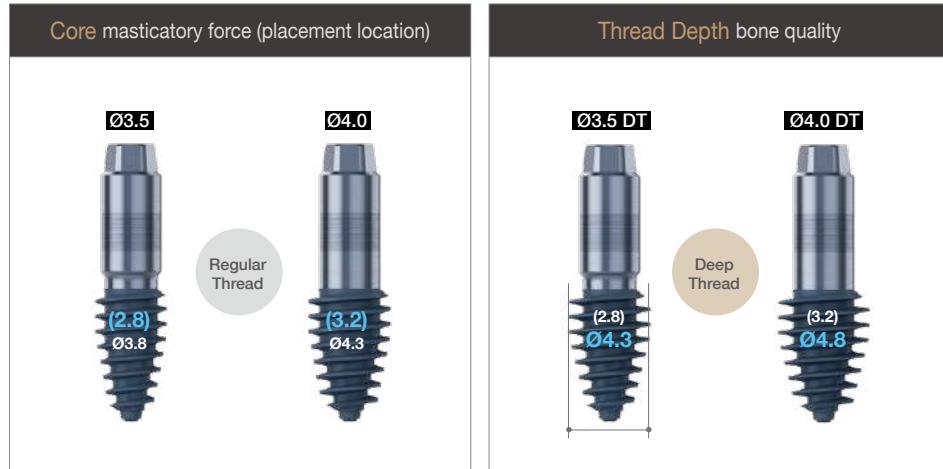
Article Review

- 1) A total of 256 bicortical screws and 84 blade implants were placed from 2002 to 2007, where 4 and 1 failed, respectively. The treatment success rate was over 98%, and the prosthetic success rate was 100%. (Strecha J., 2010)
- 2) Basal Implant can be an appropriate treatment for severely atrophied ridges where implants can no longer be placed. (Gupta A.D., 2017)
- 3) Implants placed in the basal bone not only enable immediate loading, but also reduce the possibility of failure due to infection because the implant is maintained at a site far from the surgical site. (Ali S.M., 2019)

Various implant options applicable to alveolar and basal bone types

ARI® provides various options depending on the masticatory force (placement location), bone quality, and length of the basal bone and alveolar bone, enabling stable implant placement in any situation.

Diameter selection Core & Thread Technique



Length selection Tapered Thread Length & Magic Cuff Height



Implant body design facilitates soft tissue generation, prevents subsidence, and is more effective for post care

The unique implant design supports cell adhesion, prevents continuous subsidence, averts complications such as peri-implantitis and fracture issues that can occur after restoration, and is easy to remove even when peri-implantitis occurs.

① Better surface for prevention and management of peri-implantitis Machined Magic Cuff design^{1), 2), 3), 4)}

Application of **XPEED®** machined surface with Ra (average roughness) of 0.2 μm or less to minimize plaque and bacteria adhesion. Also, easy to remove and manage if complications occur.

XPEED® Machined Surface



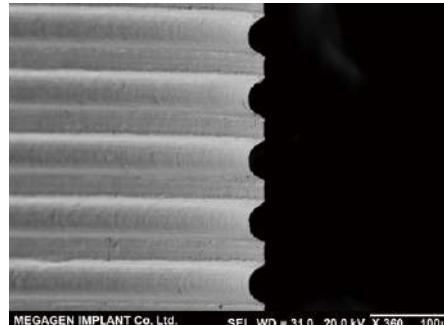
Fibroblasts Growth



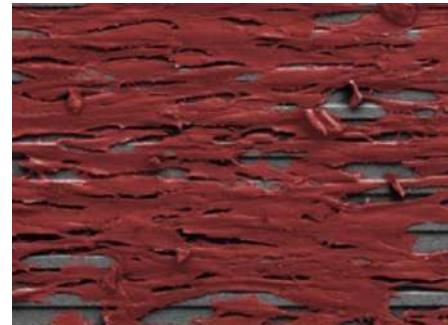
② Cellike® grooves facilitate soft tissue creationsoft tissue creation and prevent subsidence^{5), 6), 7)}

The use of 17 μm micro grooves induces cell attachment to 2mm section below the connection. Plus, a gingival recession limit line is formed to prevent continuous sinking.

Cellike® Groove Surface

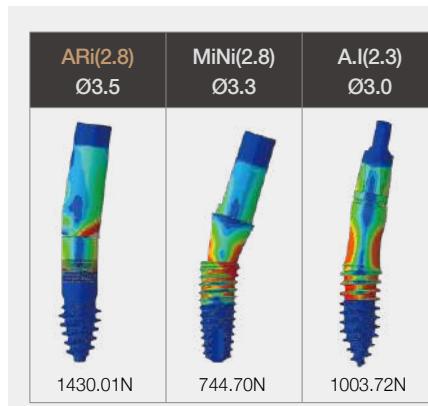


Fibroblasts Growth

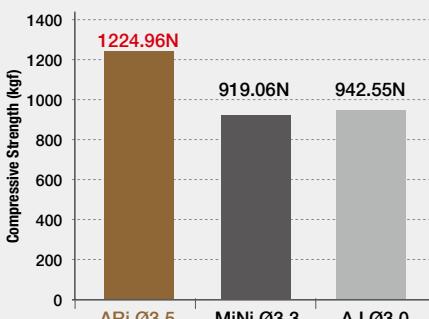


③ High strength guaranteed even in narrow zones

Maximum strength relative to diameter via dispersion of implant stress concentration section using computer simulation

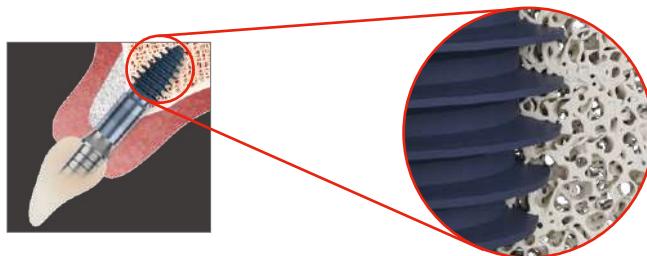


Comparison of Compressive Strength



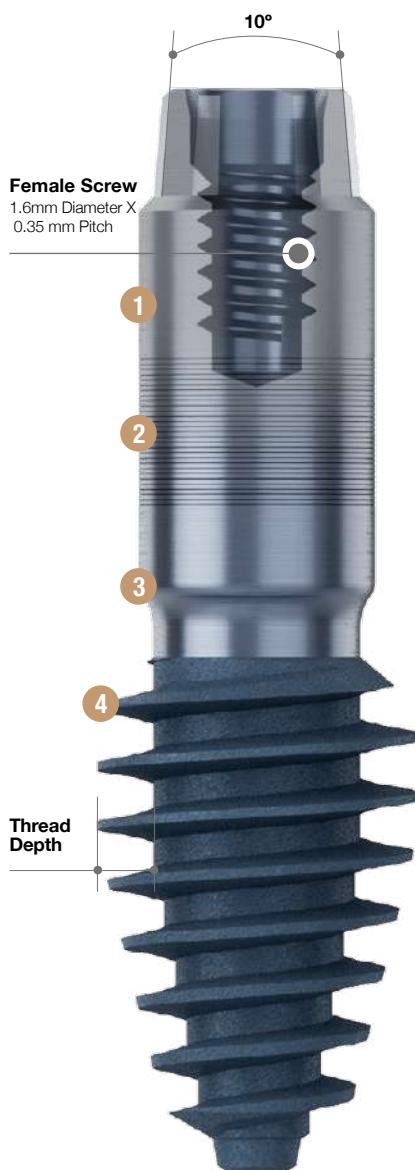
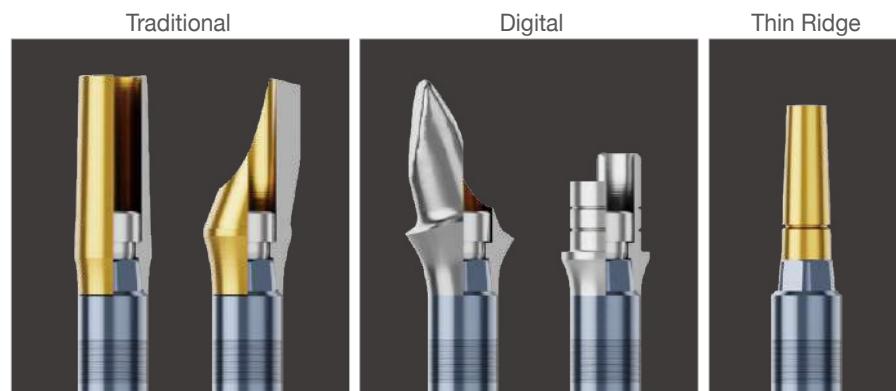
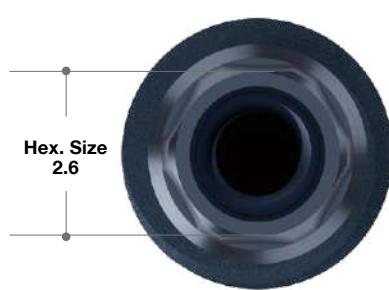
④ Clean & Safe Zone preventing exposure to oral bacteria⁸⁾

The possibility of exposure to oral bacteria is significantly lowered by placing the rough surface for fixation deep in the basal bone



External Conical Hex connection for strong joint stability and prosthetic options

The 10° external conical hex provides a strong bond with the abutment, facilitating conventional, digital, and thin ridge prosthetic options.

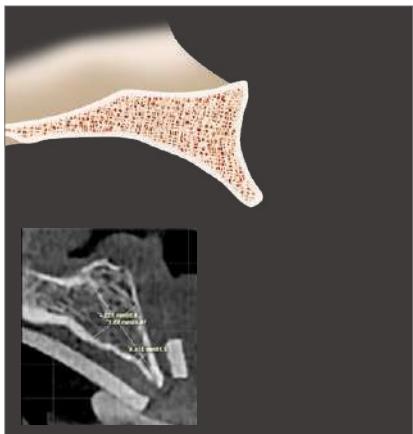


	EZ Post Abutment	Angled Abutment	TiGEN Abutment	ZrGEN Abutment	Solid Abutment
Single crown					
Cement -retained	✓	✓	✓	✓	✓
Screw -retained	✓	✓	✓	✓	
Bridge					
Cement -retained	✓	✓	✓	✓	✓
Screw -retained					
Impression					
Implant Level	✓	✓	✓	✓	
Abutment Level					✓
Custom					
Custom			✓	✓	
Recommended Tightening Torque					
Torque (Ncm)	35	35	35	35	25

Article Review

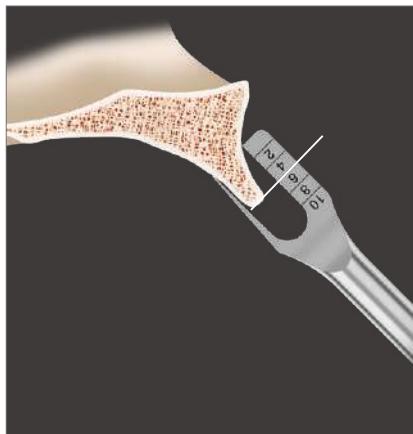
- As a result of evaluating plaque formation for 3 months on standard (R_a ; 0.3 mm) and rough surfaces (R_a ; 0.8 mm), fewer cocci were observed on the rough surface, but more mature plaques were observed (Quirynen et al., 1993)
- R_a 0.2 μ m or less (smooth surface) showed no significant change in the total amount of attached bacteria \rightarrow 0.2 μ m was suggested as the critical surface roughness (Bollen et al., 1997)
- When observing the plaque formation during the initial 24 hours on the surface of titanium specimens using SEM, the same amount of bacteria inhabited the smooth surface, while the number was much higher on the rough surface (Rimondini et al., 1997).
- Rough surfaces are difficult to clean, and biofilm regrows quickly due to remaining bacteria (Quirynen & Bollen, 1955)
- The higher the SFE, the more susceptible to bacterial attachment (Glantz, 1969; Quirynen et al., 1990)
- Titanium implants with microgrooves in the coronal portion showed firm adhesion to the soft tissue around the implants. (Lee H.J., 2015)
- The generation and spread of HGF-Cell is maximized in the area of micro grooves of 7.5~20 μ m. (Patrick W., 2021)
- Immediate loading is possible on an implant placed in the basal bone, and the possibility of failure due to infection is reduced because the implant is maintained at a site far from the surgical site. (Ali S.M., 2019)

Implant Selection and Drilling Sequence



Check total length (cuff + thread length) of implant that can be placed using panoramic picture.

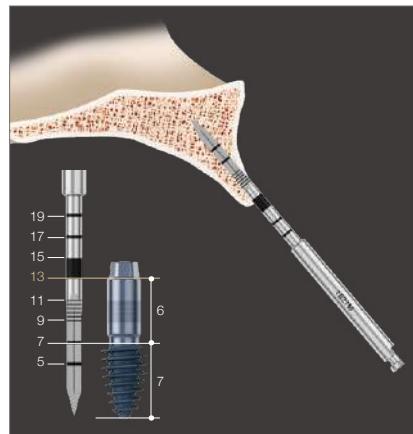
Ex) 13mm



Measure height of 5 mm thick point of alveolar bone using bone calipers. Measured height is cuff height.

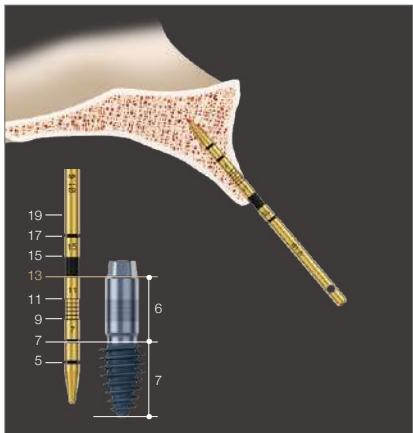
Ex) 6mm

Total 13mm (Cuff Length 6mm+Thread Length 7mm)



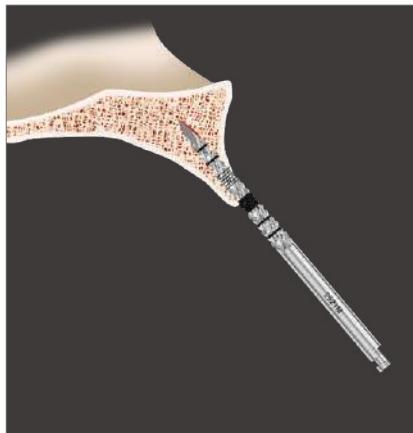
Use lance drill to drill parallel to palatal bone wall to prevent defects in labial direction.

Ex) 13mm

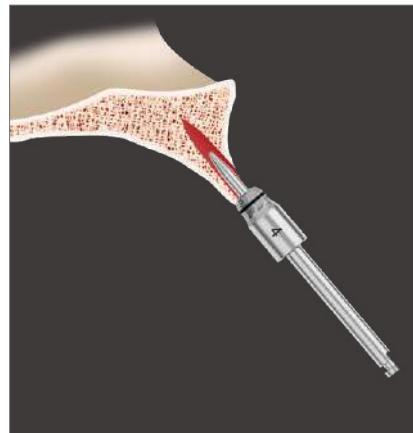


Check path and depth of drilled hole using direction indicator.

Ex) 13mm

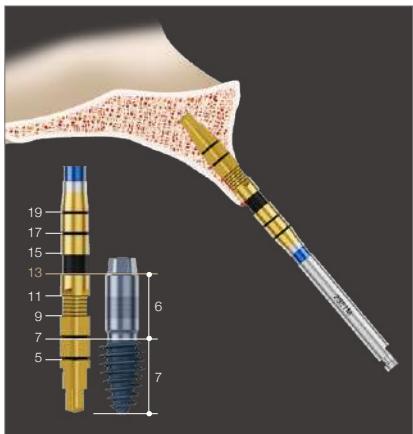


If path of drilled hole does not match, use Lindemann Drill to adjust path.



If bone interference is anticipated for healing abutment or final prosthesis, remove this bone using profile drill.

Ex) Drilling depth: Marking line



Perform drilling sequence until final drill.

Ex) 13mm

$\varnothing 2.5$ drill $\rightarrow \varnothing 2.9$ drill $\rightarrow (\varnothing 2.9$ direction indicator) \rightarrow sequential drilling until final drill

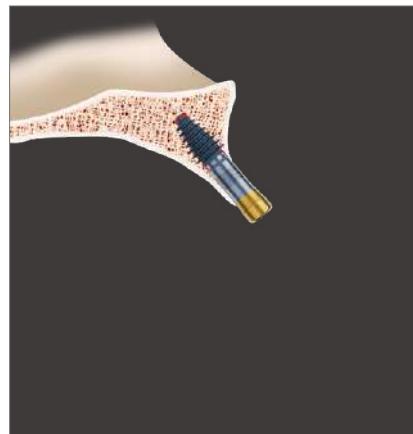


Place implant using handpiece connector.

Ex) Place up to interface between implant and mount.

* Recommended torque: 45Ncm

Less than 80Ncm when using ratchet connector

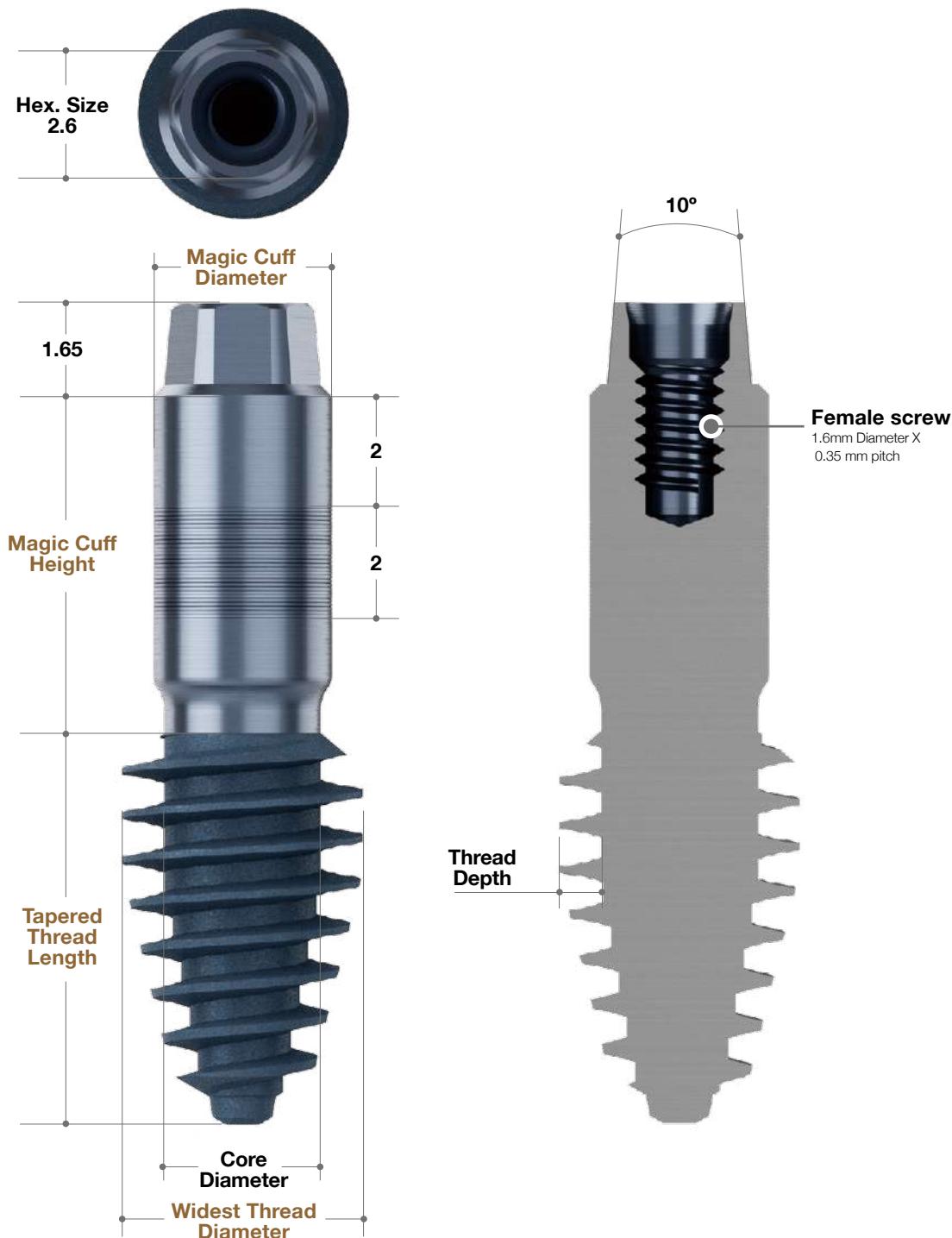


Remove mount and attach healing abutment or cover screw.

* If reinforcing gingiva volume is needed, add bone grafting material.

Implant Product & Packaging

I. Implant Dimension



*ARI ExCon Implant

Implant Diameter	Core Diameter	Widest Thread Diameter	Thread Depth	Tapered Length	Magic Cuff Height	Magic Cuff Diameter	Hex. Size
Ø3.5	Ø2.8	Ø3.8	0.5	5/ 7/ 9	4/ 6/ 8/(10)	Ø3.2	2.6
	Ø2.8	Ø4.3	0.75				
Ø4.0	Ø3.2	Ø4.3	0.5				
	Ø3.2	Ø4.8	0.75				

II. Implant Size

$\varnothing 3.5$

(2.8) $\varnothing 3.8 \times$ Thread L (C.H)

- Implant Mount is assembled

Widest Thread Diameter	Core Diameter	Thread Length (mm)	Cuff Height (mm)	Ref.C
$\varnothing 3.8$	$\varnothing 2.8$	5	4	ARIE283554M
			6	ARIE283556M
			8	ARIE283558M
			10	ARIE283550M
		7	4	ARIE283574M
			6	ARIE283576M
			8	ARIE283578M
			10	ARIE283570M
		9	4	ARIE283594M
			6	ARIE283596M
			8	ARIE283598M



$\varnothing 3.5$ Deep Thread

(2.8) $\varnothing 4.3 \times$ Thread L (C.H)

- Implant Mount is assembled

Widest Thread Diameter	Core Diameter	Thread Length (mm)	Cuff Height (mm)	Ref.C
$\varnothing 4.3$	$\varnothing 2.8$	5	4	ARIE284054M
			6	ARIE284056M
			8	ARIE284058M
			10	ARIE284050M
		7	4	ARIE284074M
			6	ARIE284076M
			8	ARIE284078M
			10	ARIE284070M
		9	4	ARIE284094M
			6	ARIE284096M
			8	ARIE284098M

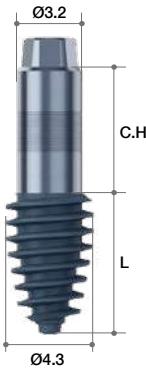


$\varnothing 4.0$

(3.2) $\varnothing 4.3 \times$ Thread L (C.H)

- Implant Mount is assembled

Widest Thread Diameter	Core Diameter	Thread Length (mm)	Cuff Height (mm)	Ref.C
$\varnothing 4.3$	$\varnothing 3.2$	5	4	ARIE324054M
			6	ARIE324056M
			8	ARIE324058M
			10	ARIE324050M
		7	4	ARIE324074M
			6	ARIE324076M
			8	ARIE324078M
			10	ARIE324070M
		9	4	ARIE324094M
			6	ARIE324096M
			8	ARIE324098M



$\varnothing 4.0$ Deep Thread

(3.2) $\varnothing 4.8 \times$ Thread L (C.H)

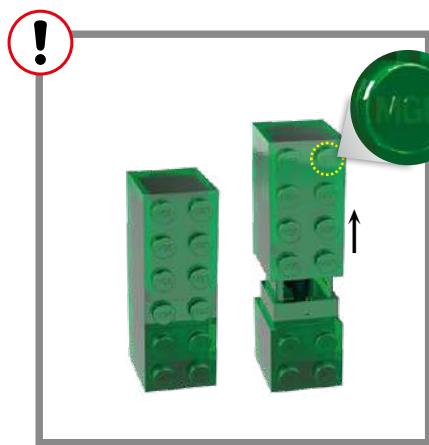
- Implant Mount is assembled

Widest Thread Diameter	Core Diameter	Thread Length (mm)	Cuff Height (mm)	Ref.C
$\varnothing 4.8$	$\varnothing 3.2$	5	4	ARIE324554M
			6	ARIE324556M
			8	ARIE324558M
			10	ARIE324550M
		7	4	ARIE324574M
			6	ARIE324576M
			8	ARIE324578M
			10	ARIE324570M
		9	4	ARIE324594M
			6	ARIE324596M
			8	ARIE324598M

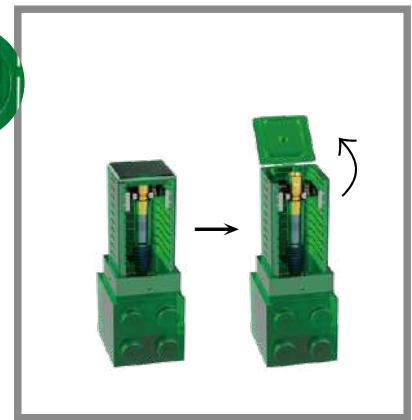


III. Packaging

- Ampule



Set long side upwards and push up



Open cover of inner ampule



Pick up Implant by connecting handpiece connector with mount



Implant fixture in drilled hole



Loosen mount Screw and dismantle mount



Attach healing abutment or cover screw to Implant



MegaGen ampule is re-usable as building block (after cleaning & sterilization) reducing plastic waste!

Cover Screw & Healing Abutment

Implant Mount

- Neck fracture at 120N
- Recommended torque: by hand (5~8Ncm)
- Use hand driver or right angle driver (1.2 Hex)

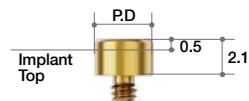
Profile Diameter	Height (mm)	Ref.C
Ø4.0	9	ARIEMNT



Cover Screw

- Use for submerged-type surgery
- Recommended torque: by hand (5~8Ncm)
- Use hand driver or right angle driver (1.2 Hex)

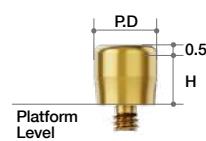
Profile Diameter	Height (mm)	Ref.C
Ø3.4	0.5	ARIECSN3405



Healing Abutment

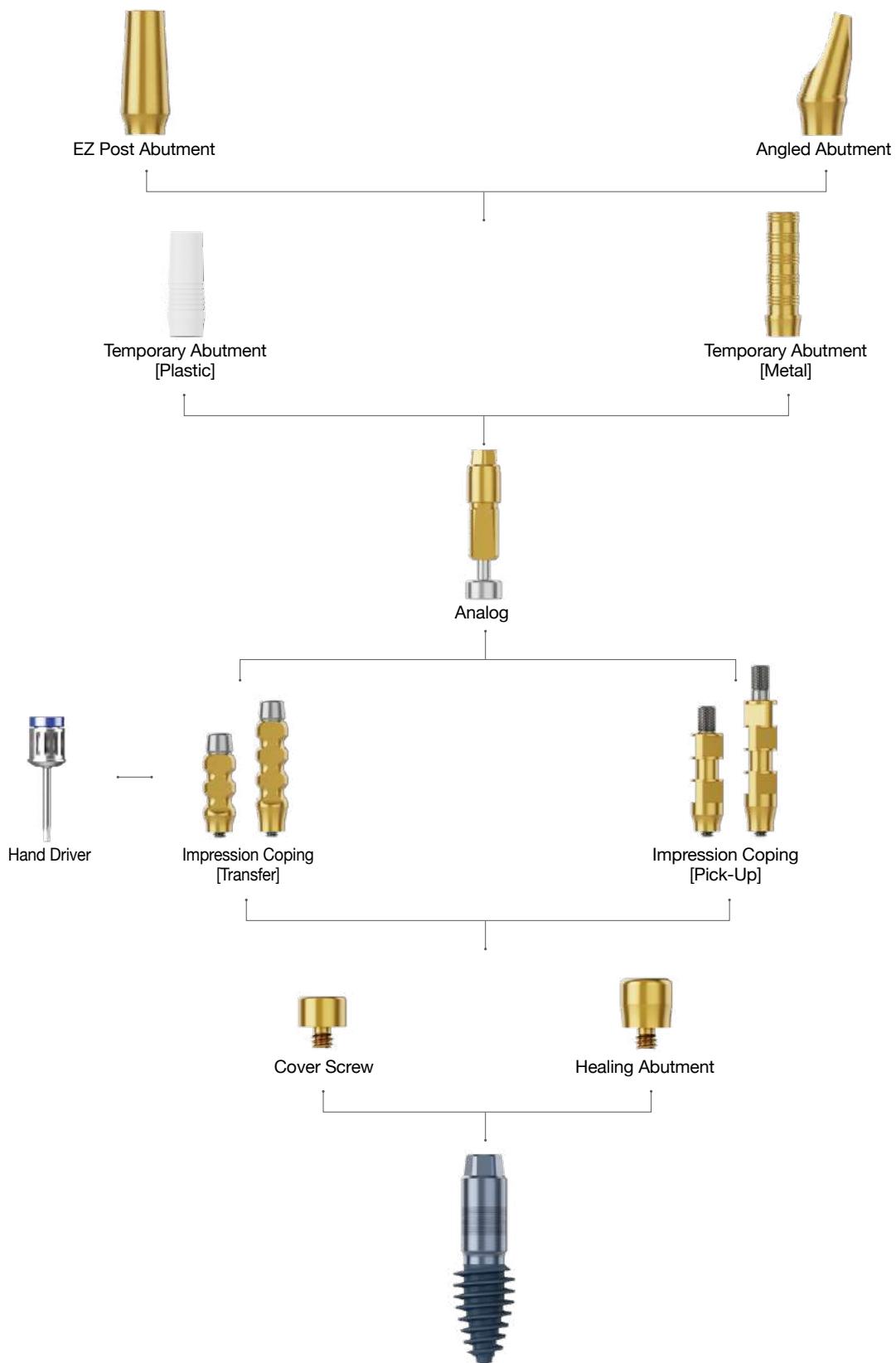
- Use for non-submerged-type or two-stage surgery
- Various diameter and height configurations can be selected according to case
- Proper emergence profile formation during gingival healing
- Recommended torque: by hand (5~8Ncm)
- Use hand driver or right angle driver (1.2 Hex)

Profile Diameter	Height (mm)	Ref.C
Ø3.7	3	ARIEHAN353
	4	ARIEHAN354
	5	ARIEHAN355
	6	ARIEHAN356
	7	ARIEHAN357
	3	ARIEHAN403
	4	ARIEHAN404
Ø4.2	5	ARIEHAN405
	6	ARIEHAN406
	7	ARIEHAN407



Abutment & Prosthetic Options

I. Implant Level Prosthesis



⌚ Impression Copings

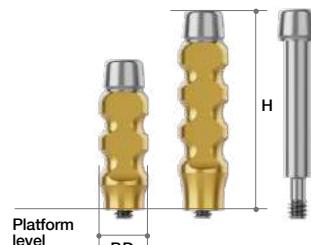
Impression Coping

(2-Piece, Transfer Type)
(For Closed-Tray Technique)

- Guide pins(ARIEGPT12/ARIEGPT16) included

- Use for closed tray
- Use hand driver (1.2 Hex)

Profile Diameter	Height (mm)	Ref.C
Ø4	12	ARIEICTN4012T
	16	ARIEICTN4016T



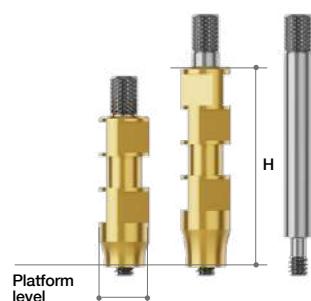
Impression Coping

(1-piece, Pick-up Type)
(For Closed-Tray Technique)

- Guide pins(ARIEGPP15/ARIEGPP20) included

- Use for open tray
- When taking impressions, it reproduces Implant position accurately in model with design that can guarantee stability
- Use hand driver (1.2 Hex)

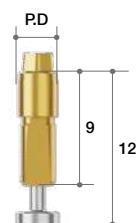
Profile Diameter	Height (mm)	Ref.C
Ø4	12	ARIEICPN4012T
	16	ARIEICPN4016T



Analog

• Replacing Implants in gypsum or 3D printing models

Profile Diameter	Height (mm)	Ref.C
Ø3.3	12	ARIEALNT



Temporary Abutment

(Plastic)

- Temporary prosthetics for production of provisional restorations
- Easy to create chairside provisional restoration of aesthetic zone
- Recommended torque: 15Ncm
- Use hand driver or right angle driver (1.2 Hex)

Profile Diameter	Post Height (mm)	Ref.C
Ø3.5	10	ARIETAEPN3510T
Ø4.0		ARIETAEPN4010T



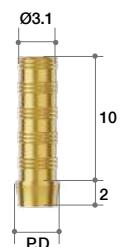
Temporary Abutment

(Metal)

- Abutment screw (ARIEAS16) included

- Temporary prosthetics for provisional restoration production
- Post design for easy milling work and resin adhesion
- Recommended torque: 25Ncm
- Use hand driver or right angle driver (1.2 Hex)

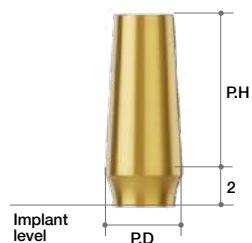
Profile Diameter	Post Height (mm)	Ref.C
Ø3.5	10	ARIETAN35210T
Ø4.0		ARIETAN40210T



EZ Post Abutment

- Abutment screw (ARIEAS16) included
- Aesthetic gold color
- Various post heights: 7/ 8/ 10/ 11/ 12mm
- Various profile diameters: Ø3.5/ Ø4.0
- Recommended torque: 35Ncm
- Use hand driver or right angle driver (1.2 Hex)

Profile Diameter	Post Height (mm)	Ref.C
Ø3.5	5	ARIEEPN3507T
	6	ARIEEPN3508T
	7	ARIEEPN3509T
	8	ARIEEPN3510T
	9	ARIEEPN3511T
	10	ARIEEPN3512T
	5	ARIEEPN4007T
	6	ARIEEPN4008T
	7	ARIEEPN4009T
	8	ARIEEPN4010T
	9	ARIEEPN4011T
	10	ARIEEPN4012T

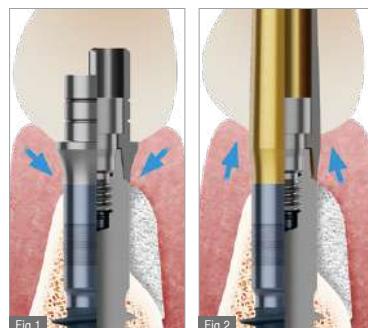


GALLI Technique

- To obtain thick, healthy and stable soft tissue around tooth

Characteristics of GALLI Technique

1. Form without finish line
2. Conical Shape.
3. Prosthetic Platform Switching



MegaGen would like to appreciate Dr. Oscar Alonso Gonzalez (MD) and Dr. Fabio Galli (Dentist) for recommending the GALLI concept.

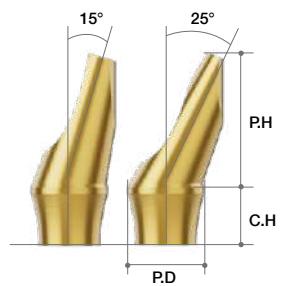
Fig 1. In the form of a divergent profile, circular fibers of connective tissue tend to stabilize in the apical direction.

Fig 2. In a similar way to natural teeth, this helps to stabilize the circular fibers of connective tissue in the coronal position compared to the existing ones.

Angled Abutment

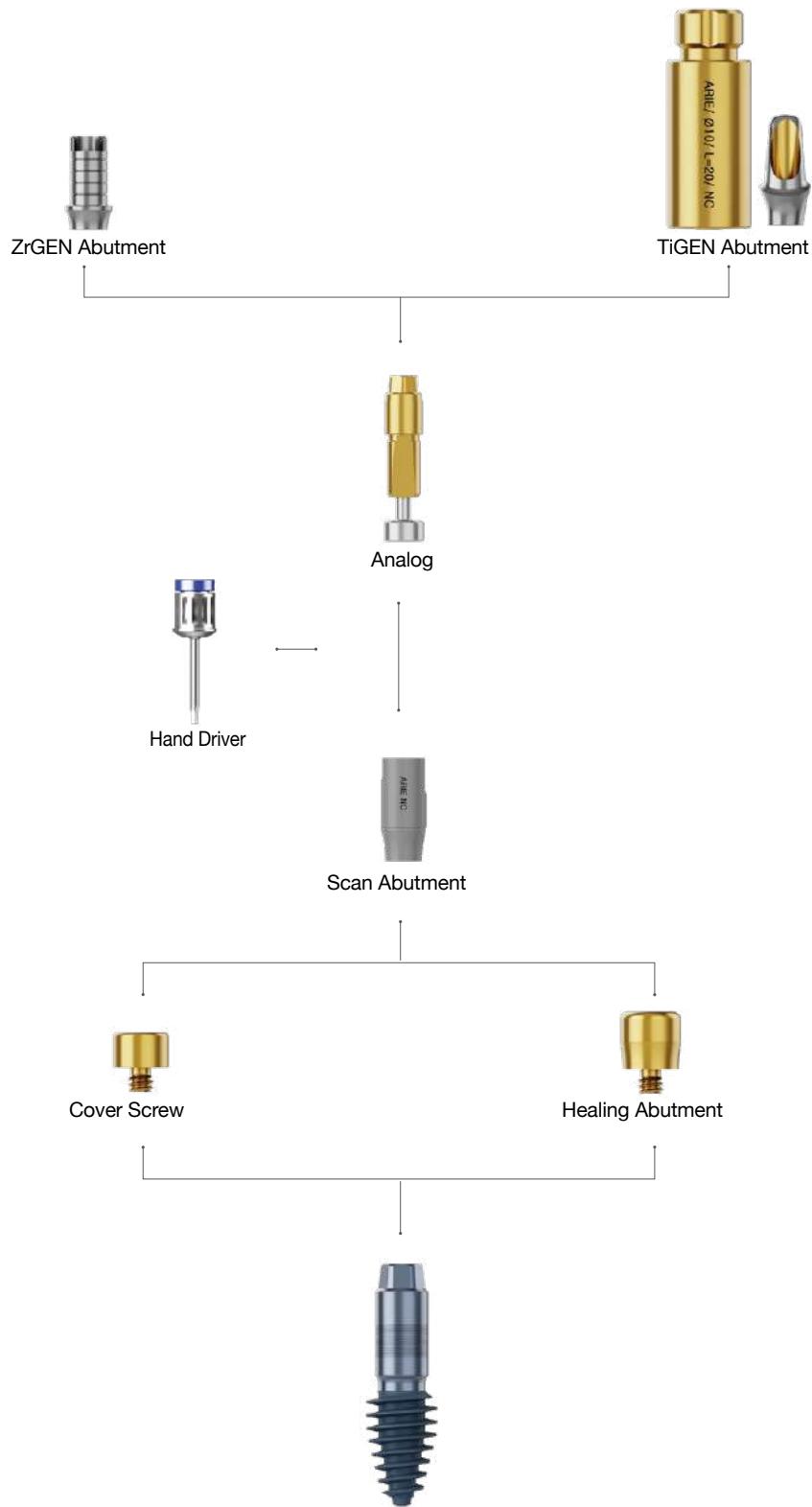
- Abutment screw (ARIEAS16) included
- Aesthetic gold color
- Designed for minimal post modification
- Cuff heights: 2/ 3/ 4/ 5mm(15°), 3/ 4/ 5mm(25°)
- Post angles: 15°/ 25°
- Post axis directions: Hex / Edge
- Recommended torque: 35Ncm
- Use hand driver or right angle driver(1.2 Hex)

Profile Diameter	Cuff Height(mm)	Post Height(mm)	Type	Angle	Ref.C	
Ø4.0	2	7	Hex	15°	ARIEAAHN40215T	
	3				ARIEAAHN40315T	
	4				ARIEAAHN40415T	
	5				ARIEAAHN40515T	
	2		Edge		ARIEAAEN40215T	
	3				ARIEAAEN40315T	
	4				ARIEAAEN40415T	
	5				ARIEAAEN40515T	
	3		Hex	25°	ARIEAAHN40325T	
	4				ARIEAAHN40425T	
	5				ARIEAAHN40525T	
	3				ARIEAAEN40325T	
	4				ARIEAAEN40425T	
	5				ARIEAAEN40525T	



I. Implant Level Prosthesis

1. Implant Level Prosthesis_Digital



⦿ Abutment Option

Scan Abutment

- Abutment screw (ARIEAS16) Included
- For chairside / Labside
- Spare abutment screw included
- Supporting Dental CAD
 - 3Shape / exocad / Dental Wings
- Recommended torque: by hand (5~8Ncm)
- Use hand driver or right angle driver (1.2 Hex)

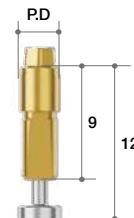
Profile Diameter	Height (mm)	Ref.C
Ø4.0	9	ARIESAN4009T
	13	ARIESAN4013T



Analog

- Replacing Implants in gypsum or 3D printing models

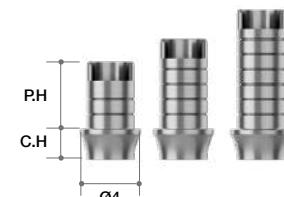
Profile Diameter	Height (mm)	Ref.C
Ø3.3	12	ARIEALNT



ZrGEN Abutment

- Abutment screw (ARIEAS16) Included
- Titanium base
- Abutment 10ea = 1 set
- Extra abutment screw provided
- Supporting Dental CAD
 - 3Shape / exocad / Dental Wings
- Available milling machines
- BX5 / ARUM DENTYSTRY
- Post height can be confirmed by number of grooves
 - Post height: 4.5mm → 2 grooves
 - Post height: 5mm → 3 grooves
 - Post height: 6mm → 4 grooves
 - Post height: 8mm → 6 grooves
- Recommended torque: 35Ncm

Profile Diameter	Cuff Height (mm)	Post Height (mm)	Ref.C
Ø4.0	2	4.5	ARIEZGN4025.MTN
	3		ARIEZGN4035.MTN
	4		ARIEZGN4045.MTN
	2	6	ARIEZGN4026.MTN
	3		ARIEZGN4036.MTN
	4		ARIEZGN4046.MTN
	2	8	ARIEZGN4028.MTN
	3		ARIEZGN4038.MTN
	4		ARIEZGN4048.MTN



ZrGEN Abutment

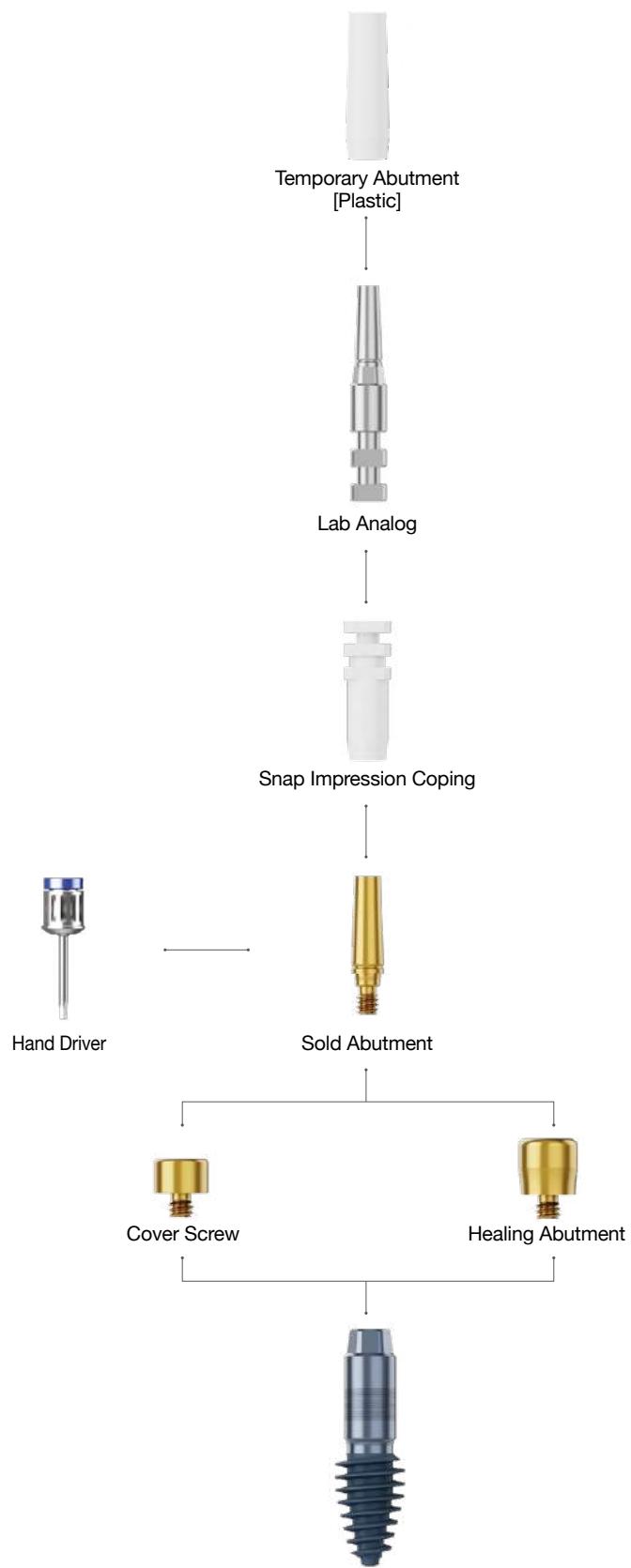
- Abutment screw (ARIEAS16) Included
- Pre-milled abutment
- Abutments 10ea = 1 set
 - Extra abutment screw provided
- Available dental CAD
 - 3 Shape / exocad
- Available milling machines
 - BX5 / ARUM DENTYSTRY
- Use hand driver or right angle driver (1.2 Hex)
- Recommended torque: 35Ncm

Profile Diameter	Cuff Height (mm)	Ref.C
Ø10	20	ARIETGN1020.MTN
Ø12		ARIETGN1220.MTN



II. Abutment Level Prosthesis

1. Solid Abutment & Components

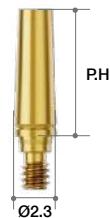


⇒ Solid Abutment Option

Solid Abutment

- Abutment for manufacturing cement-retained restoration
- Use for teeth with narrow interdental spaces, such as mandibular anterior teeth
- One body type (abutment + screw)
- Take impression after abutment is completely attached to Implant in patient's mouth
- Use hand driver or right angle driver (1.2 Hex)
- Recommended torque: 25Ncm

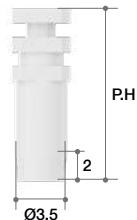
Profile Diameter	Post Height (mm)	Ref.C
Ø2.3	5	ARIESA2305
	7	ARIESA2307
	9	ARIESA2309



Snap Impression Coping

- In case of milling solid abutment, proceed with direct impression instead of snap impression coping

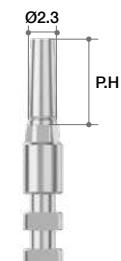
Profile Diameter	Post Height (mm)	Ref.C
Ø3.5	10	ARIESIC2305
	12	ARIESIC2307
	14	ARIESIC2309



Lab Analog

- Fasten on top of solid abutment when taking impression
- In case of milling solid abutment, proceed with direct impression instead of snap impression coping

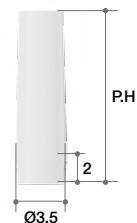
Profile Diameter	Post Height (mm)	Ref.C
Ø2.3	5	ARIELA2305
	7	ARIELA2307
	9	ARIELA2309



Temporary Abutment (Plastic)

- Temporary prosthetics for production of provisional restorations
- Easy to create chairside provisional restoration for aesthetic zone

Profile Diameter	Post Height (mm)	Ref.C
Ø3.5	10	ARIETASA2305
	12	ARIETASA2307
	14	ARIETASA2309

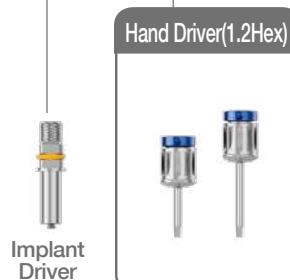
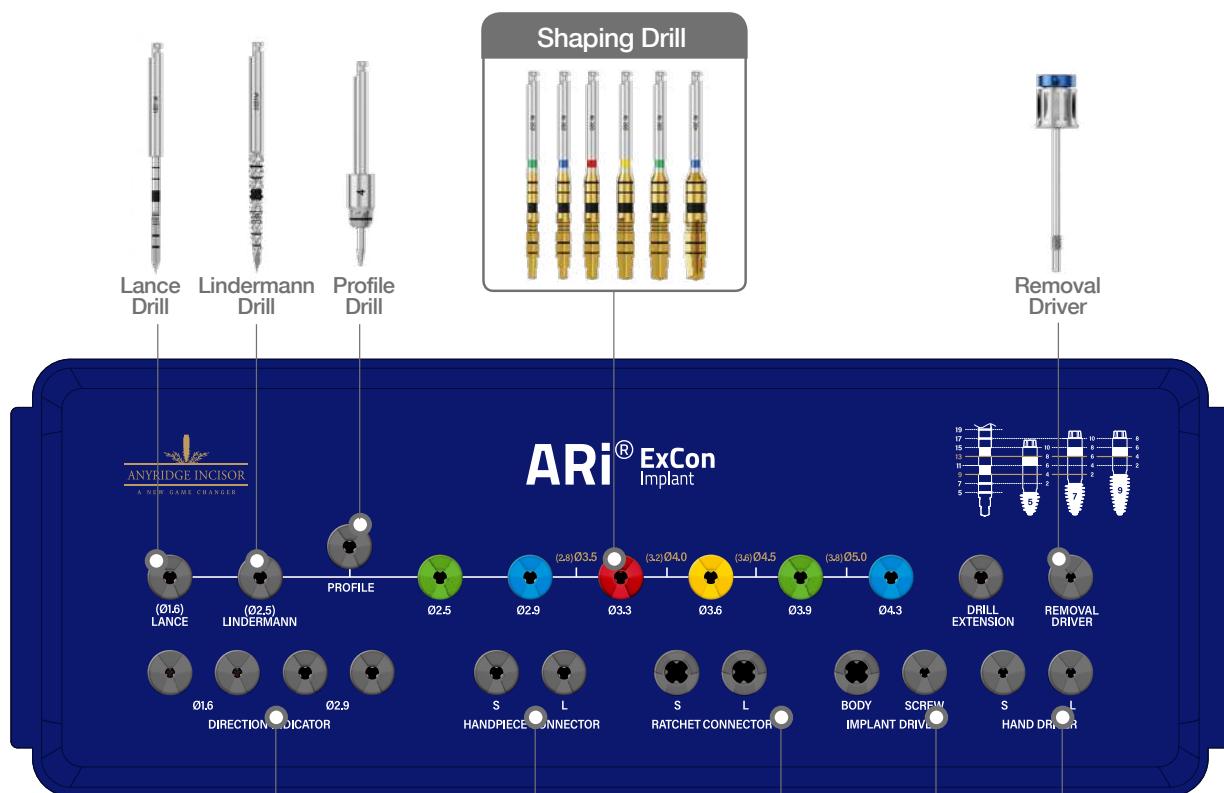


ARI Kit

I. Surgical Kit

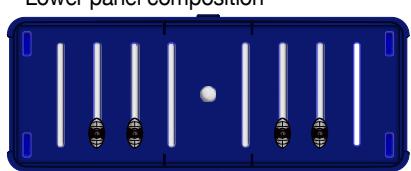
Ref.C

MKARI3000M



Implant Driver

* Lower panel composition



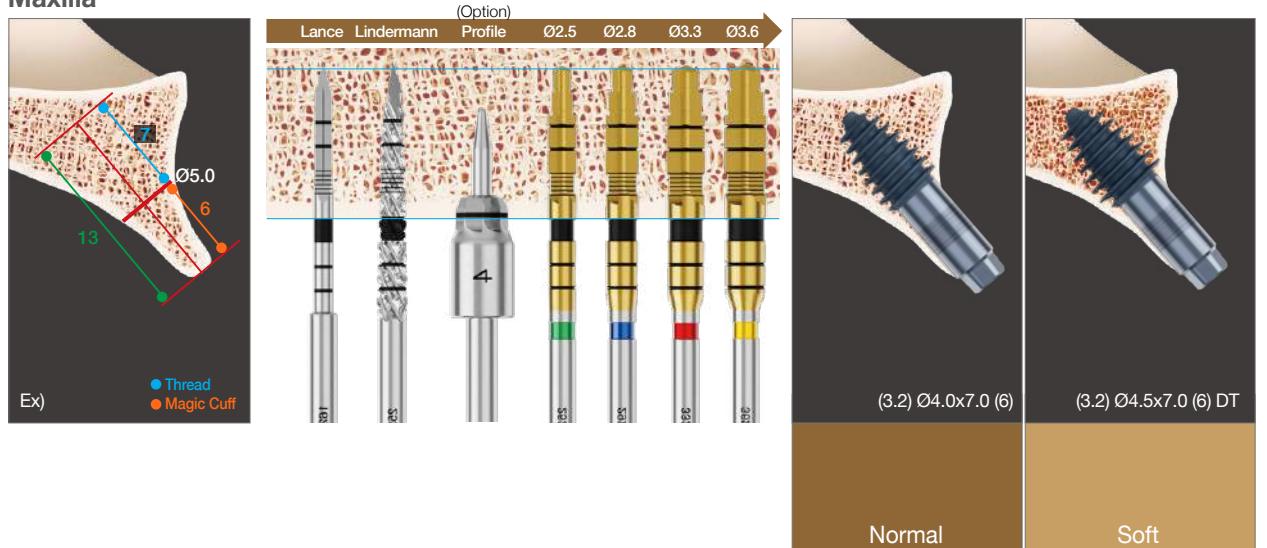
Bone Calipers

Torque Wrench

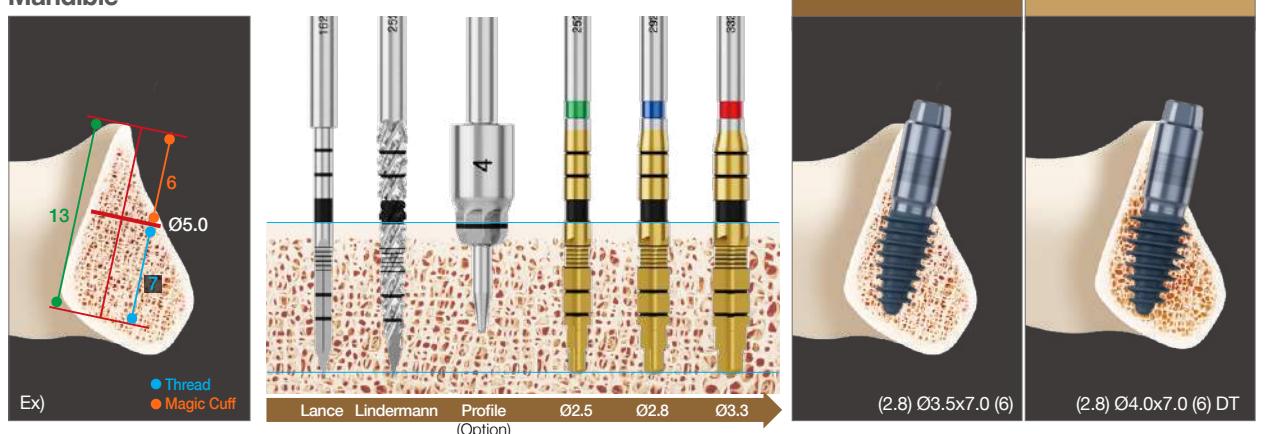
►► Drilling Protocols

	Lance Drill	Lindermann Drill	Profile Drill	Shaping Drills					
	Ø1.6	Ø2.5	Ø4.0	Ø2.5	Ø2.9	Ø3.3	Ø3.6	Ø3.9	Ø4.3
rpm	800~1000		300	800~1000					

Maxilla



Mandible



*When placing Ø4.0 implant in mandible, implant should be placed after sequential drilling up to Ø3.9 drill

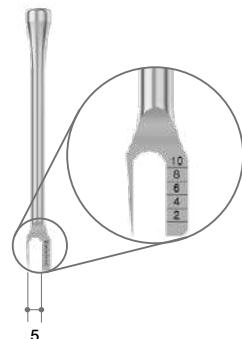
*According to bone density, implant placement should be done after under or over-drilling

⌚ Surgical Kit Components (Continued)

Bone Calipers

- Use to diagnose Magic Cuff height of Implant to be implanted

Width(mm)	Length(mm)	Ref.C
5	10	ARIIBC5010

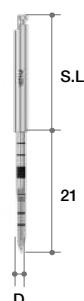


Lance Drill

- For accurate drilling at diagnosed location
- Laser markings for checking depth from 5 to 19 mm

Diameter	Shank Length (mm)	Ref.C
Ø1.6	15	*ARILD1621S
	20	ARILD1621M
	25	*ARILD1621L

(*) Separate sales item



Direction Indicator

- For checking initial drill path and drill depth
- Laser markings for depth verification

Diameter	Ref.C
Ø1.6	ARIDI16
Ø2.9	ARIDI29



Lindermann Drill

- Use for path correction when drilling hole path does not match

Diameter	Shank Length (mm)	Ref.C
Ø2.5	15	*ARILDMD2521S
	20	ARILDMD2521M
	25	*ARILDMD2521L

(*) Separate sales item



Profile Drill

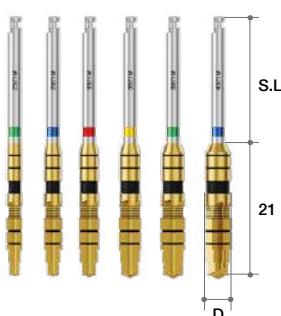
- For bone removal when healing abutment / final prosthesis is anticipated to interfere with surrounding bone
- Laser markings for depth verification

Diameter	Ref.C
Ø4.0	ARIEPD40



Shaping Drill

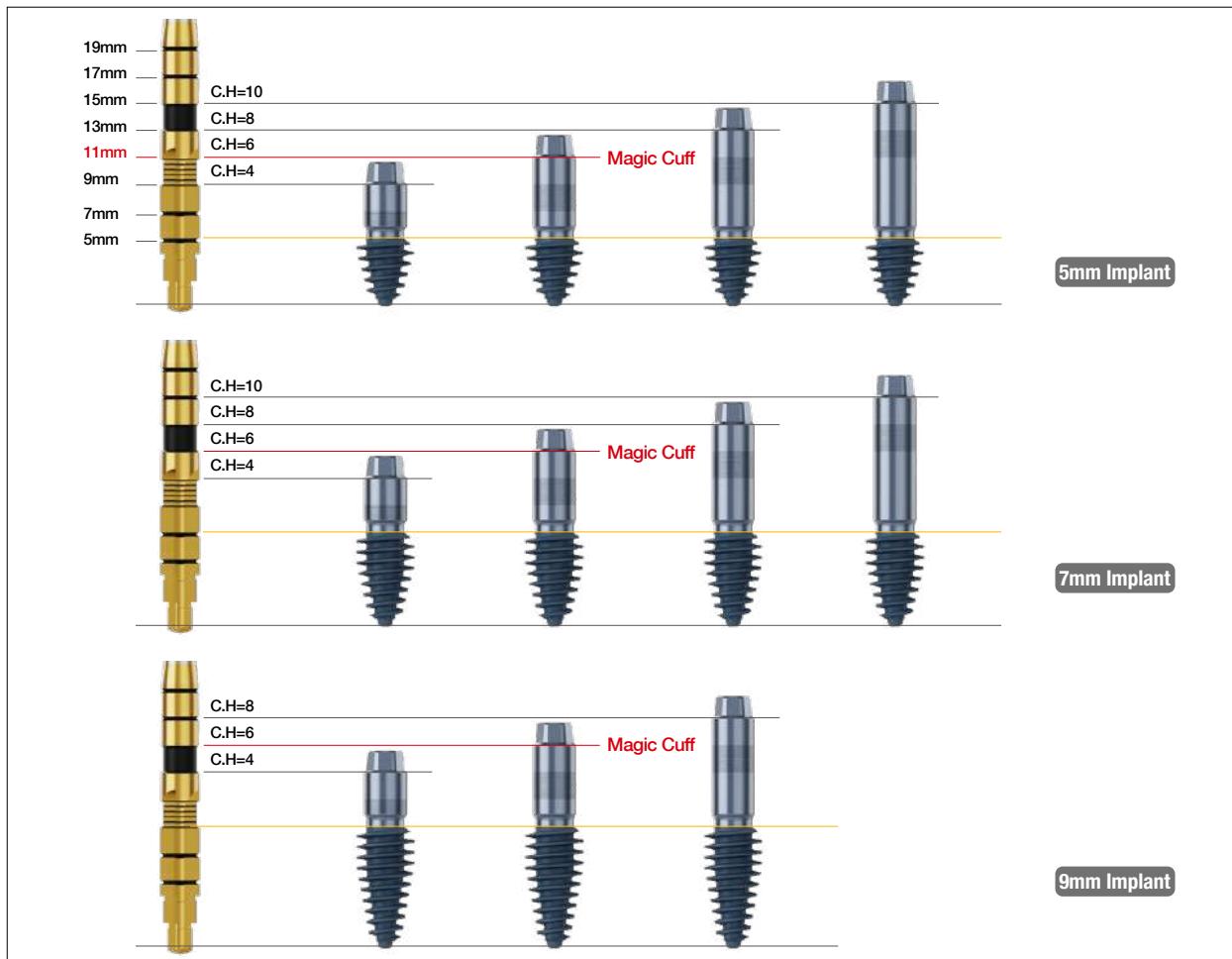
- Depth markings from 5 to 19mm
- Dual marking system (grooves and laser markings) menas clinician can easily recognize drilling depth during surgery
- Excellent corrosion resistance and abrasion resistance with TiN coating
- * Guided drill length does not include Y-length



Diameter	Shank Length (mm)	Ref.C	Diameter	Shank Length (mm)	Ref.C
Ø2.5	15	*ARISD2521S	Ø2.5	25	*ARISD2521L
Ø2.9		*ARISD2921S	Ø2.9		*ARISD2921L
Ø3.3		*ARISD3321S	Ø3.3		*ARISD3321L
Ø3.6		*ARISD3621S	Ø3.6		*ARISD3621L
Ø3.9		*ARISD3921S	Ø3.9		*ARISD3921L
Ø4.3		*ARISD4321S	Ø4.3		*ARISD4321L
Ø2.5		ARISD2521M	Ø2.5		ARISD2521L
Ø2.9	20	ARISD2921M	Ø2.9		ARISD2921L
Ø3.3		ARISD3321M	Ø3.3		ARISD3321L
Ø3.6		ARISD3621M	Ø3.6		ARISD3621L
Ø3.9		ARISD3921M	Ø3.9		ARISD3921L
Ø4.3		ARISD4321M	Ø4.3		ARISD4321L

(*) Separate sales item

» Drill Depth Guide

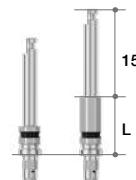


⌚ Surgical Kit Components

Handpiece Connector

- Use when placing Implant with handpiece
- Spring type connection makes it easier and safer to pick-up and position Implant

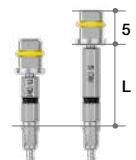
Length (mm)	Ref.C
5	AROHCU25
10	AROHCS25



Ratchet Connector

- Use when placing Implant with torque wrench
- If it is not perfectly fastened, this can cause damage to inner part of mount.
- Neck part will fracture when 190Ncm torque is applied (recommended to use under 80Ncm)

Length (mm)	Ref.C
10	ARORCU25
15	ARORCS25



Torque Wrench

- 15 to 70Ncm torque can be identified, and use when placing Implants and abutment screws
- Use by connecting directly to ratchet connector when placing Implant
- When connecting abutment screw, use by connecting to insert driver

Torque(Ncm)	Ref.C
15/ 25/ 35/ 45/ 60/ 70	TWSQ70



Implant Driver

- Implant removal tool when Implant mount is damaged due to placing with higher torque than recommended

Type	Ref.C
2.6 Hex	ARIED26



Hand Driver (1.2 Hex)

- Use for all cover screws, abutment screws, and healing abutments
- Various lengths for operator convenience
- Without separate adapter, can be used as torque driver by directly connecting to torque wrench
- Recommended torque: less than 45Ncm

Length(mm)	Type	Ref.C
5	Ultra-short	*TCMHDU1200
10	Short	TCMHDS1200
15	Long	TCMHDL1200
20	Extra-long	*TCMHDE1200

(*) Separate sales item



Removal Driver

- Use when mount or abutment cannot be separated from Implant
- Recommended torque: less than 45Ncm

Length(mm)	Type	Ref.C
15	Short	*ARIERD20S
20	Long	ARIERD20L
25	Extra-long	*ARIERD20E

(*) Separate sales item



II. Optional components

- Items not included in Surgical Kit
- Optional items can be kept in 'Option' part of Surgical Kit

Right Angle Driver

(1.2 Hex)

- Use for all cover screws, abutment screws, and healing abutments
- Various lengths for operator convenience
- Can be used directly connected to torque wrench without separate adapter
- Recommended torque: less than 45Ncm

Length(mm)	Type	Ref.C
4	Ultra	MDR120SS
10	Short	MDR120S
15	Long	MDR120L
20	Extra	MDR120EL



Insert Driver (1.2 Hex)

- Use for all cover screws, abutment screws, and healing abutments
- Hex tip is designed to withstand torque of 35 to 45 Ncm

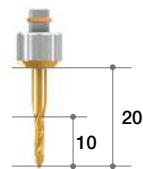
Length(mm)	Type	Ref.C
10	Short	MID120S
15	Long	MID120L



Hand Tap (M1.6)

- Useful when internal screw of Implant is damaged and use for re-tapping damaged thread
- If excessive force is used during re-tapping, thread can be further damaged, so a gradual force increase is recommended

Type	Ref.C
M1.6	THT160L



Ratchet Wrench

- Use for applying stronger force than with handpiece
- No bearing system: no problem with drying after washing, as no damage due to corrosion
- Use by connecting to ratchet connector
- Direction of arrow engraved on head is direction in which force should be applied.

Ref.C
MRW040S



Clinical Case

Clinical Case 1

- Courtesy of Dr. Kwang-Bum Park

ARI® enables implant placement in the desired location even in an extremely thin ridge anterior region without bone augmentation, and secures sufficient fixation and stability, so there is no concern about complication treatment.

Fig 1. This woman in her late 50s lost almost all teeth in the maxilla and all molars on both sides of the mandible and the lower anterior teeth. This review focuses on the maxillary treatment. Both maxillary sinuses were highly pneumatized, and the anterior teeth had very thin ridges.

Fig 2. Due to the difficulty of implantation in the anterior region, 6 BlueDiamond implants were placed posteriorly along with sinus grafting, and the plan was for an anterior partial denture based on the posterior implants.

Fig 2-1. About 10 weeks later, when the customized abutments and PMMA temporary bridge were installed, it was decided to place maxillary anterior implants.

Fig 3. The thin crest after flap detachment and the depression of the part connected to the basal bone are both serious challenges for normal implant treatment

Fig 3-1. Normally this case would require augmentation, but ARI ((2.8)3.5X7.0(6)) implants were placed without it.

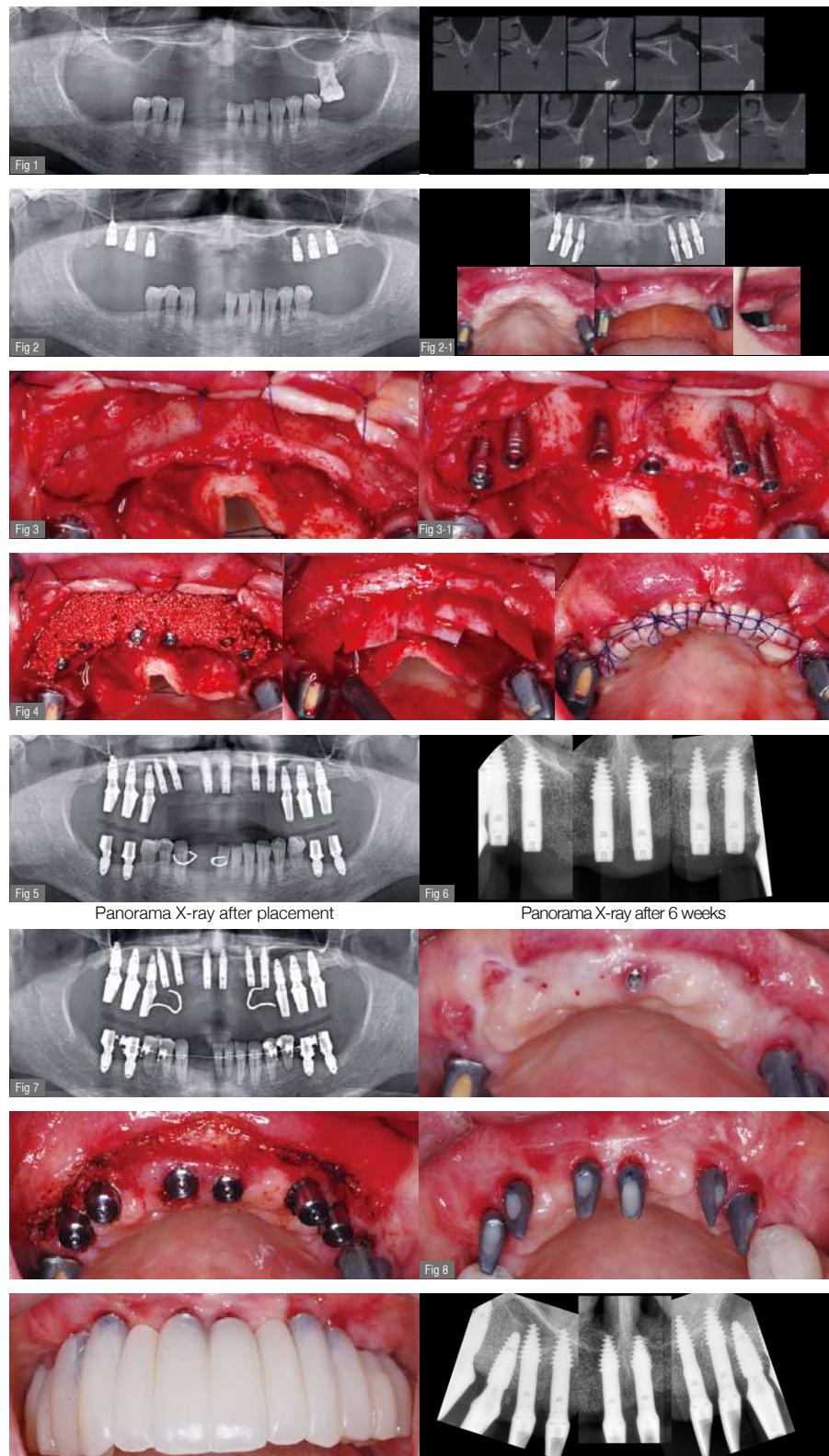
The thread part is placed inside the basal bone, while the machined, micro-grooved cuff surface is left exposed to reduce the burden of regeneration on the thin alveolar bone and minimize the possibility of peri-implantitis in the future. Should the exposed cuff be considered a bone defect requiring grafting? I don't think so, as there is no immediate worry about peri-implant bone loss or gingival recession accompanying peri-implantitis.

Fig 4. Bone Matrix I (synthetic bone) was used to create a contour that was covered with Ossix Volumax to prevent scattering of the graft during initial healing, and final suturing. No need to worry about creating 2.4mm peripheral bone.

Fig 7. At 10 weeks, a second operation was performed using a CO2 laser, and some laser vestibuloplasty was performed to reduce the renal pool.

Fig 8. After attaching a TiGEN abutment, a temporary crown was loaded. The abutment attachment was confirmed via intraoral radiographs, and the soft tissue and bone reactions around the implant were satisfactory.

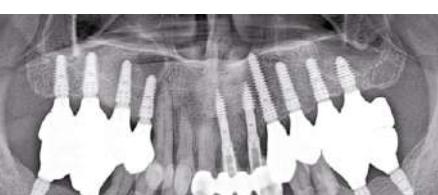
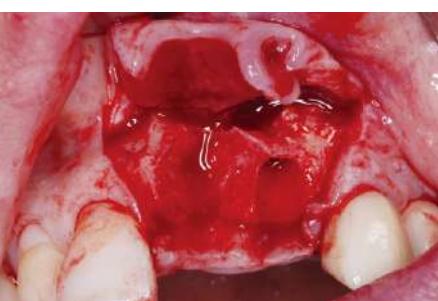
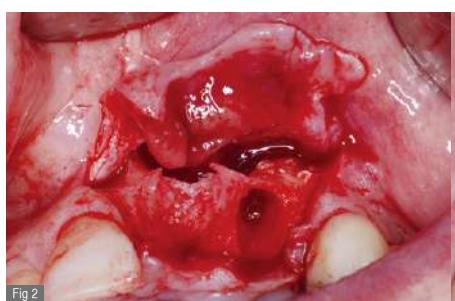
The patient almost gave up on implants and thought that she would have to live with dentures, but she was able to get temporary prosthetics. This case will be followed-up.



Clinical Case 2

- Courtesy of Dr. Kwang-Bum Park

ARI® allows implants to be placed in the desired location without bone augmentation, even in large bone defect cases, and to perform immediate temporary loading. Plus, there is no gingival recession.



Panorama X-ray after placement

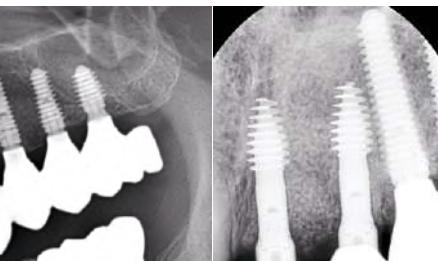
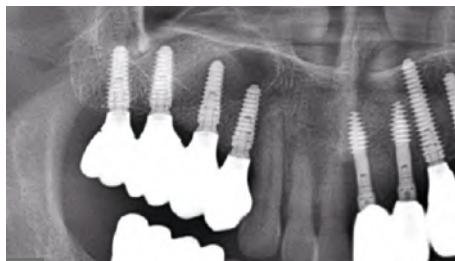


Fig 1. This woman in her late 50s wanted implant treatment due to mobility of the maxillary left central and lateral incisors as a result of severe periodontal disease. The key concerns were that implants had already been placed in canine area and whether the overall gingival line in the anterior area could be maintained or not.

Fig 2. In aesthetically sensitive areas, even the removal of granulation tissue needs to be carefully considered. During the incision and flap reflection, special care was taken to preserve most of the tissues. As expected, most of the labial plate had been lost at the central incisors.

Fig 3. Two ARI® ((2.8)4.0*7.0(6)) were placed at #21 and 22. The drilling measurements were as follows:
① Drilling diameter (= Implant diameter of ARI®, since 3.6mm drilling was done, 2.8mm core X 4.0mm thread Implant was appropriate)
② Amount drilled into healthy alveolar bone below defect (= ARI's threaded part, about 7mm)
③ Height from certain upper part to crest bone of adjacent tooth (ARI's Cuff, about 6mm)
The initial stability was very high, and the thread part was placed almost completely within sound bone. The bone loss due to periodontal disease can then be treated by focusing on maintaining the gingival esthetic, instead of from the stability of the implant. The concepts of bone regeneration and gingival volume maintenance can be quite different.

Fig 4. Since the initial stability was very high, I decided on immediate temporization by connecting an EZ Post. This would be difficult to try with the implant systems we commonly use. For the gingiva, BCP (synthetic) was sufficient to maintain the volume and esthetic gingival line. An Ossix Plus membrane was also used to prevent scattering of the graft.

Fig 5. The crown of the extracted tooth was cut, made into a temporary tooth, and suturing was completed. Although this was a difficult case with significant inflammation and bone loss, it was relatively easy and satisfactorily completed.

Fig 6. At 10 weeks after implantation, the gingival line was not significantly different from the right anterior teeth. It is not easy to obtain such healthy gingiva in places where teeth were extracted due to severe periodontal disease. Therefore, it was exciting that the design of the implant brought this result.

Fig 7. Panoramic and intraoral radiographs with the final prosthesis. No gingival recession occurred, and if GBR had been performed, it is likely that complications would have occurred, but here no complications occurred.

ARI[®]
by MEGAGEN

