OSSTEM IMPLANT

Surgical Manual

TS Implant System

Introduction

Welcome,

and thank you for choosing Osstem Implant products. This catalogue is designed to support dental professionals with product information, clinical workflows, and practical guidance for daily use. It is important to inform patients about the option of dental implant treatment and the potential benefits it may provide. For further information, please contact your local Osstem representative.

Important Notice

This document is provided for **informational and educational purposes only** and does not replace the applicable product label, the current product-specific Instructions for Use (IFU), formal clinical training, or independent professional judgment. All product information, specifications, and protocols are subject to change without notice. Not all products may be approved, cleared, released, licensed, or available in all markets. Product illustrations are not shown to scale. Despite careful preparation of this catalogue, typographical, editorial, translation, or printing errors may occur. **All critical information must be verified against the current product-specific IFU and product label before use.**

Electronic IFU (per (EU) 2021/2226)

- Surgical Drill & KIT System is eligible for provision of electronic instructions for use (e-IFU) under Regulation (EU) 2021/2226 for professional users.
- e-IFUs are available at [website URL: ifu.osstem.com] in the official languages required by the Member State(s) where the device is placed on the market.
- The e-IFU content is consistent with the paper version; all updates are promptly reflected in both versions.
- If requested, a paper copy of the IFU will be supplied free of charge, within 7 calendar days.
- The e-IFU website maintains historical versions for traceability of all previously applicable instructions.
- Labeling on the product/package indicates the provision of e-IFU and how to access it online.

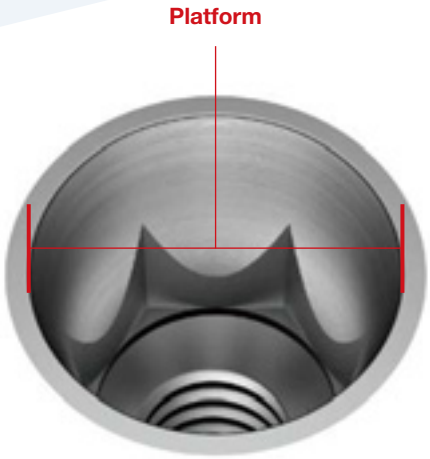
Surgical Manual | English Edition

Publication date: April 2026

Publisher: Osstem Europe s.r.o.
Radlická 740/113c
158 00 Prague, Czech Republic

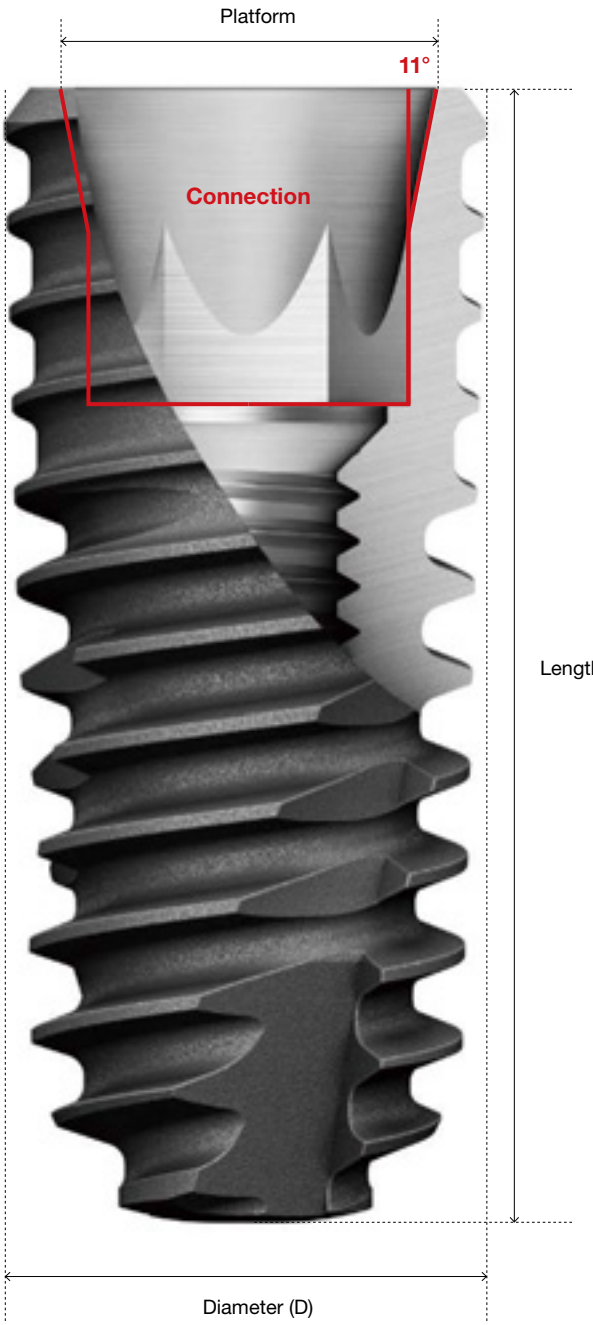
Note: *This brochure is based on the global 2021 Osstem Surgical Manual and has been visually revised and adapted for the European market. Product availability and specifications may vary by country and are subject to change without notice. Images are for illustrative purposes only. For professional use only.*

TS Implant

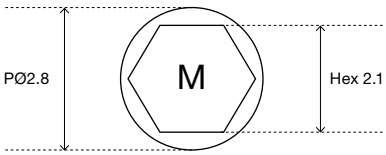


Concept

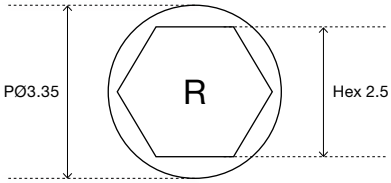
- Internal hex submerged Implant
- 11° morse taper
- 1-stage surgery / 2-stage surgery
- Applicable to cases requiring bone grafting



Platform



Mini Ø2.8, hex 2.1



Regular Ø3.35, hex 2.5

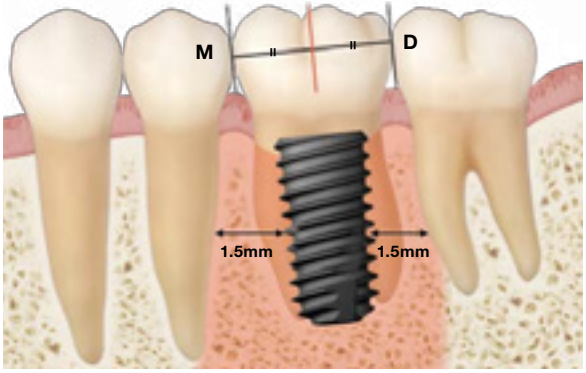
1 TS implant placement protocol

A Placement position

Mesio-distal position

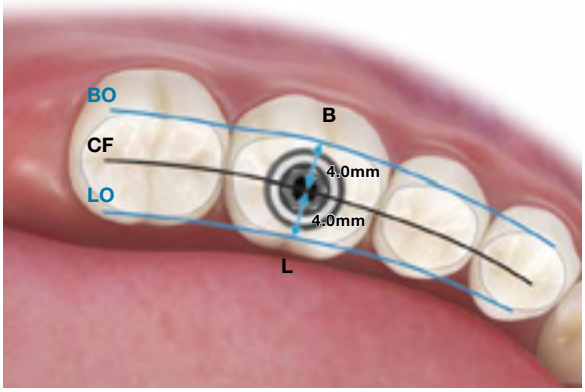
· Implant should be positioned in the center of the mesiodistal width of the final prosthesis.
· Distance between natural teeth and implant: Min. 1.5mm

Placement direction p.8



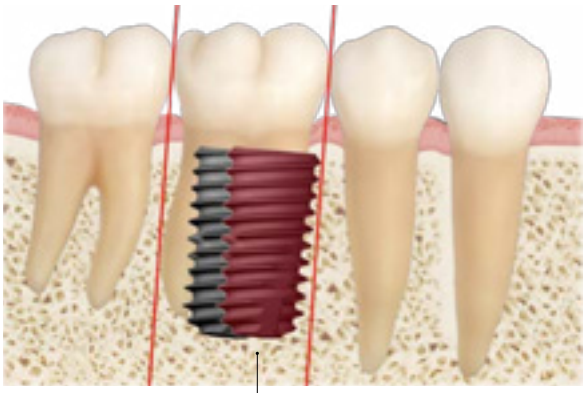
Bucco-lingual position

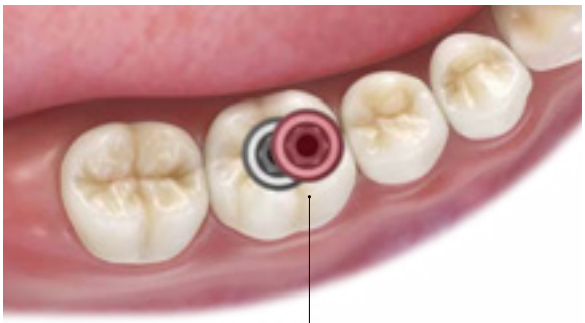
· Implant should be positioned in the center of the final prosthesis.
· Here, since the screw hole is positioned at the center, a screw-type or ER-type prosthesis can be fabricated.



Common mistakes

· The implant is placed with bias into the mesial from the center of the natural tooth.





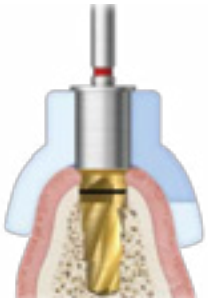
The implant is placed with bias into the mesial placement

How to set implant placement depth

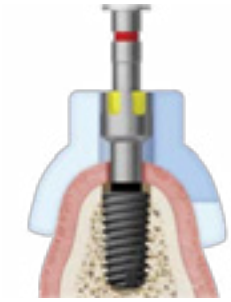
1. Using a OneGuide KIT

· Possible to perform precise diagnosis with CT and to devise a surgery plan based on CT information.
The surgical guide reflects the surgery plan, and therefore allows implant to be placed exactly as planned.
· Even beginners can easily place implants in the right location

Assemble template inside the mouth
Installing the OneGuide template using CT and oral scanner



Drilling
Drilling to fit drilling sequence using OneGuide KIT



Place implant
After Drilling, place implant using a OneGuide KIT

2. How to set the implant's placement position using a Smart Guide

· Select the exact placement position and direction by simply fabricating a surgical guide using impressions taken without a CT scan.

Smart Guide Smart Guide KIT p.276

* Disinfect the Smart Guide at a low temperature (hexamidine, alcohol)

Easy molding (thermoplastic resin)

Perform initial drilling using a fabricated Smart Guide

3. How to set the implant's placement position using a Single Guide

· Select the placement position and direction by using a guide that fits each tooth size.

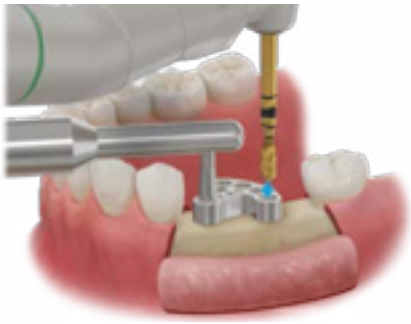
Single Guide Positioning Guide KIT p.248

Initial drilling

4. How to set the implant's placement position using a Bridge Guide

· Use a bridge guide after performing the initial drilling with a single guide to select the placement position

Bridge Guide Positioning Guide KIT p.248

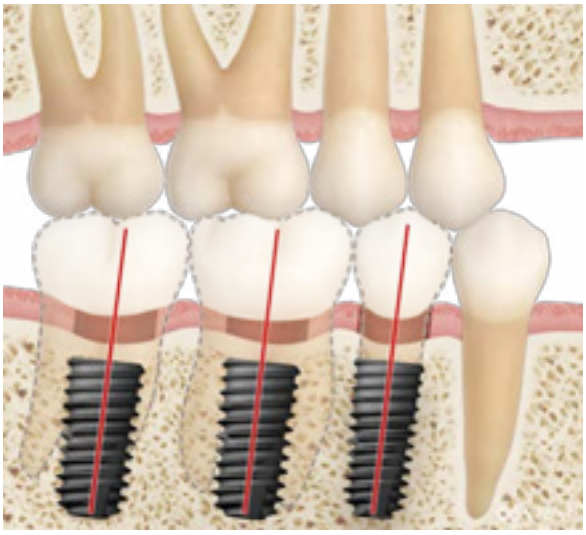


B Placement direction

Mesio-distal angle

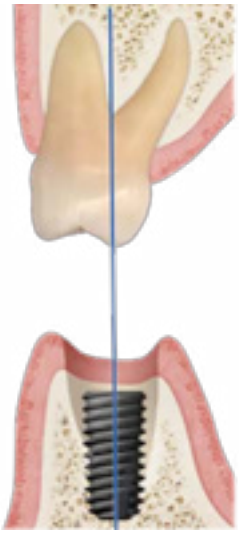
· Place implant so that its central axis is pointing towards the interdental area of the antagonist teeth.

Placement direction p.16



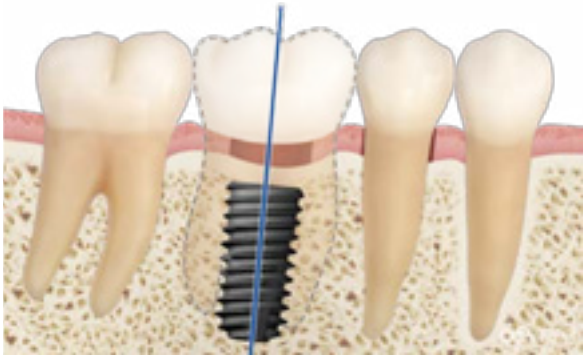
Buccolingual direction

· Place implant so that its central axis is pointing towards the cusp of the antagonist teeth.

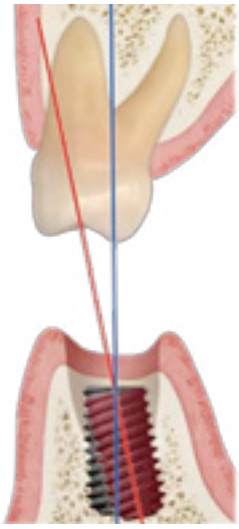


Common mistakes

· In the Panorama, the implant appears to have been placed correctly, but the apex has a lingual bias.



Appears correct in the Panorama



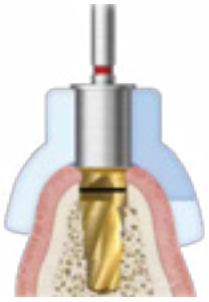
Viewing from a buccolingual direction, the apex has a lingual bias

How to set the placement direction

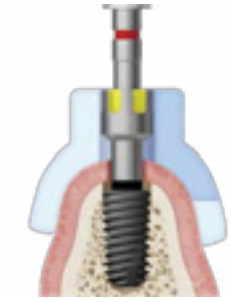
1. Set direction using a OneGUide KIT

· Possible to perform precise diagnosis with CT and to devise a surgery plan based on CT information.
The surgical guide reflects the surgery plan, and therefore allows implant to be placed exactly as planned.

Assemble template inside the mouth
Installing the OneGuide template using CT and oral scanner



Drilling
Drilling to fit drilling sequence using OneGuide KIT

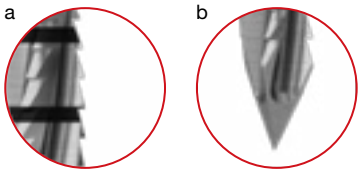


Place implant
After Drilling, place implant using a OneGuide KIT

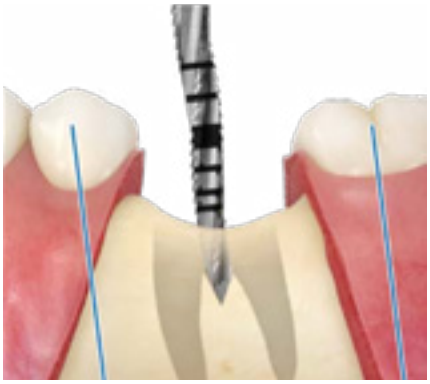
2. How to set the direction using a SideCut drill

· The SideCut drill is capable of side-cutting. It makes it easier to create a drilling hole parallel to the tooth axis of the natural tooth without slipping.

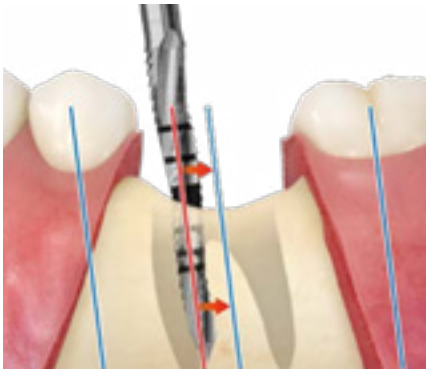
Sidecut drill

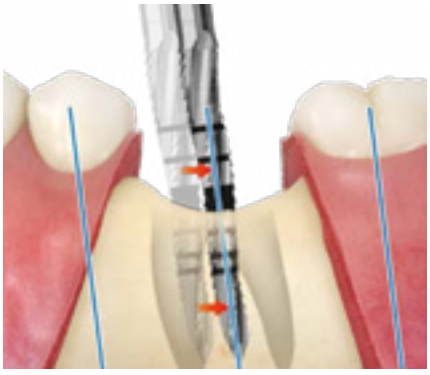


Sidecut blade　　Ø2.0/Ø3.0



· When the path is misaligned, the path can be corrected with the SideCut drill

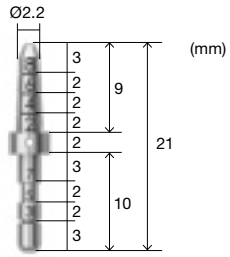




If the path is misaligned, adjust it by pushing the drill to the correct position.

3. Check placement angle with a parallel pin

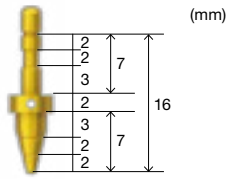
· Perform initial drilling, then check the drilling path with a parallel pin.
· Perform intermediate drilling, then check the drilling path with a taper parallel pin
· If the path is misaligned, it can be corrected with a SideCut drill (Guide drill)



Parallel pin

Initial drilling

Check path



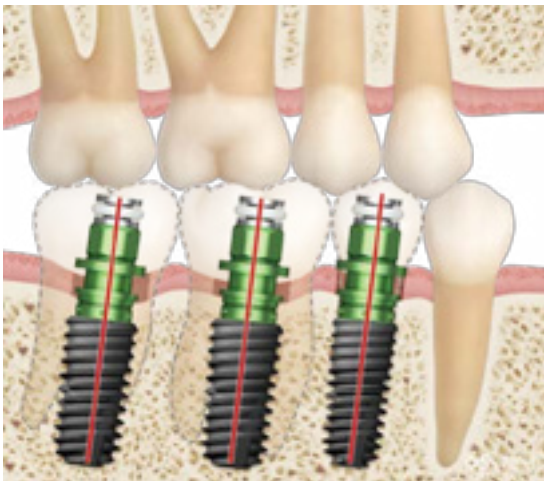
Taper parallel pin

Intermediate drilling

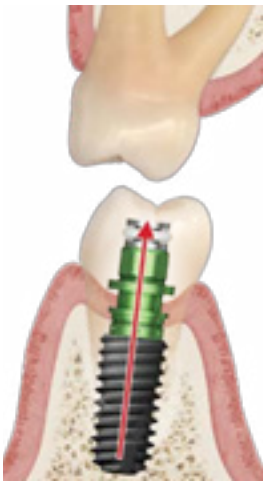
Check path

4. Check placement angle with a mount TS mount p.60

· In the case of Pre-Mounted implants, the mounting direction can be checked using the mount.
· Check whether the implant center point is directed toward the interdental area of the natural teeth or the central cusp through the mount.



Check whether the mount's central axis is headed towards the interdental space of the natural antogonist teeth.



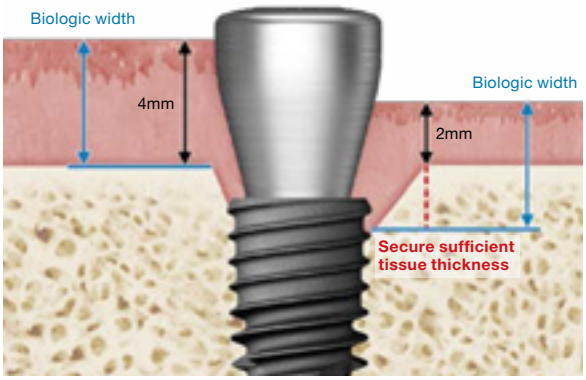
Check whether the mount's cental axis is headed towards the functional cusp.

C Placement depth

· Secure primary stability and adjust implant placement depth taking the biological width into consideration

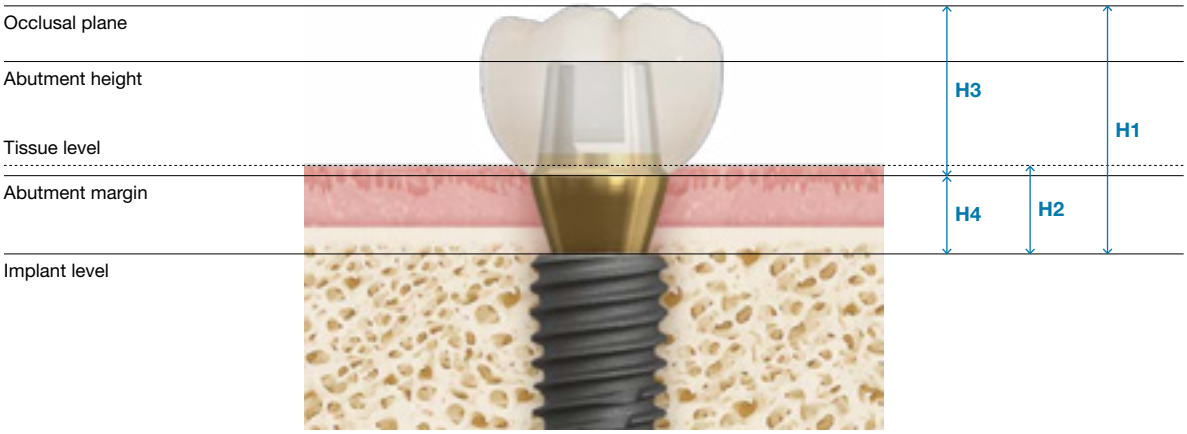
Biological width p.26

If thickness is sufficient at 3~ 4mm, additional bone resorption does not occur.



When the thickness of the peri-implant mucosa decreases, maintain the mucosal dimension by inducing a resorption of the upper alveolar bone to protect the underlying tissue.

· Placement depth considering the prosthesis; The prosthetic plan after implant placement should be implemented in case of loading prosthesis in the wrong location, angle and depth of the implant. Therefore, there might be restriction in selecting type, material, shape of prosthesis.

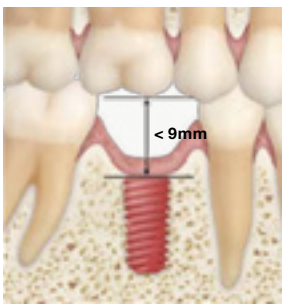


Implant Crown length Placement depth considering the prosthesis p.27

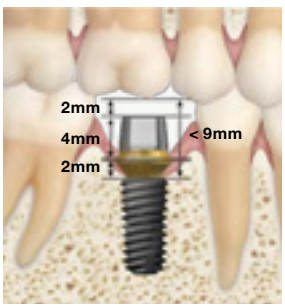
H1 Appropriate distance from implant level to occlusal plane: Posterior 9mm / Anterior 10mm
H2 Distance from implant level to tissue level
H3 Distance from the abutment margin to occlusal plane: Min. 6mm
H4 Distance from implant level to abutment margin: Min. 3mm

Common mistakes

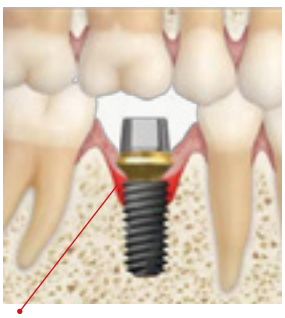
· Common mistake in case the distance fom the implant top to the antagonist tooth is less than 9mm. Thus, abutment with short G/H(2mm) can be used.



Implant is placed too shallow. Distance from implant top to antagonist tooth is less than 9mm



Abutment with low G/H specification used

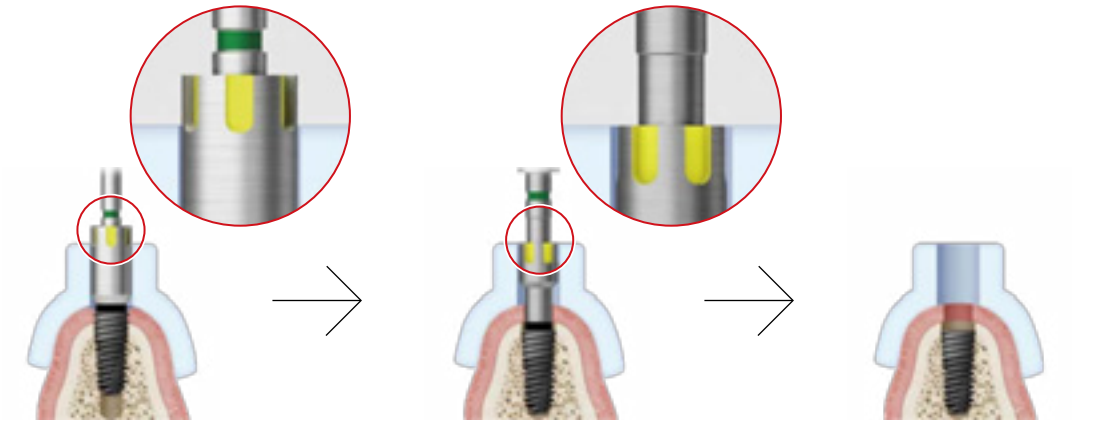


Bone resorption due to biologic width

How to set implant placement depth

1. Set direction using a OneGuide KIT

· Possible to perform precise diagnosis with CT and to devise a surgery plan based on CT information. The surgical guide reflects the surgery plan, and therefore allows implant to be placed exactly as planned.
· Even beginners can easily adjust the implantation depth



Up to 80% implantation using NoMount driver of the OneGuide KIT (up to approx.. half of the yellow part)

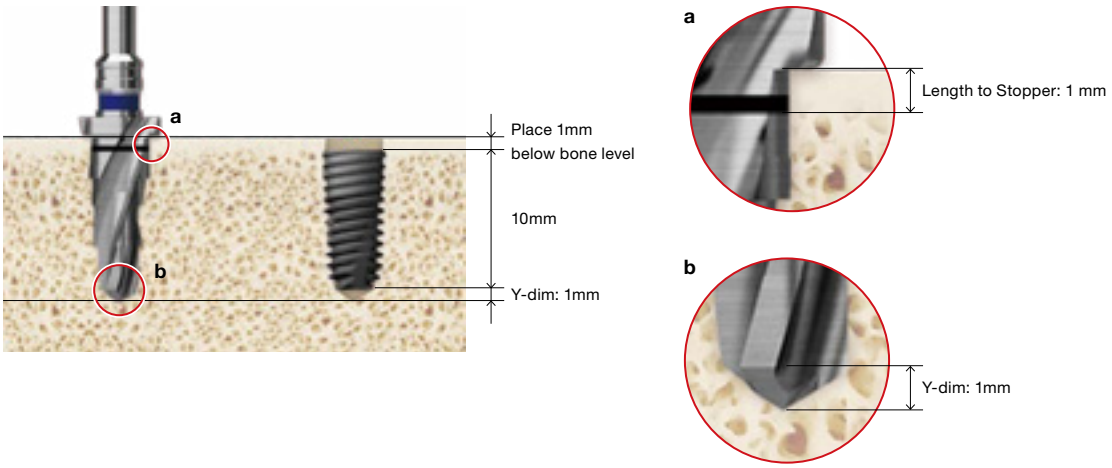
Using the implant driver of OneGuide KIT, place it until the yellow part is covered

Placed 1mm below bone level

2. How to set the implant's placement position using a Drill stopper

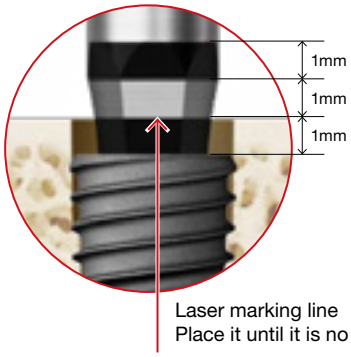
· Since the length from the laser marking line of the drill to the stopper is 1mm, if you drill to the stopper, it can be implanted 1mm below the bone level.
· Including the Y-dimension below the drill (upper diameter) and the laser marking line and the stopper distance of 1 mm above the drill, a drilling hole 1.7~2mm deeper than the indicated length is formed.
· When drilling F4.5 × 10mm, a 12mm drilling hole is created Stopper drill p.135

*** TS III Ø4.5 x 10mm placement example**



3. How to set the implant's placement position using a implant driver

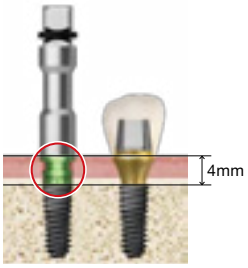
· After 80% implantation using a mount driver or NoMount driver,
use a implant driver to adjust the implantation depth to 1mm below the bone level
· Upon assembling the implant driver to the inner hex,
use a torque wrench to place it until the laser marking line at the bottom is not visible.

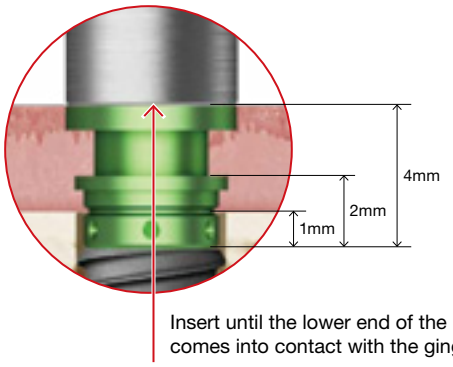


4. Check implant placement depth with a mount - anterior region Anterior

TS mount p.60

· In case of placing the pre-mounted implant in flapless surgery,
you can adjust the mounting depth with the mount extension.
· The implant should be placed 4mm below the gingiva margin taking the biologic
width 4mm into consideration in the anterior region.
· Place the implant until the lower end of the mount extension is touched with the gingiva

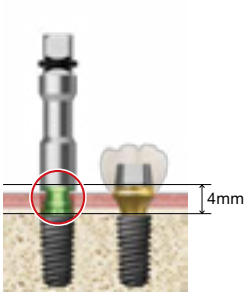


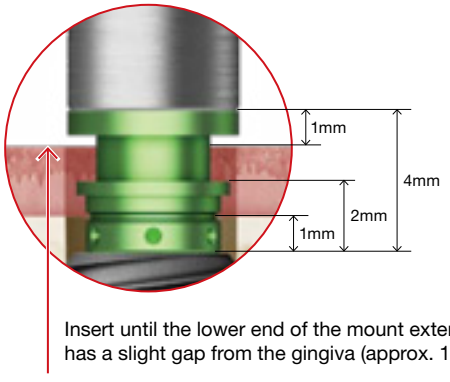


5. Check implant placement angle with a mount - posterior region Posterior

TS mount p.60

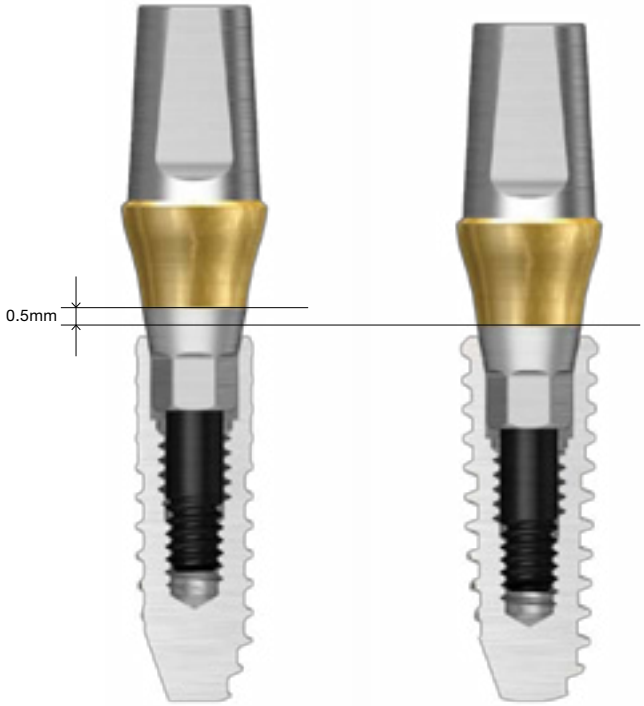
· In case of placing the pre-mounted implant in flapless surgery,
you can adjust the mounting depth with the mount's marking line.
· The implant should be placed 4mm below the gingiva margin taking the biologic
width 3mm into consideration in the posterior region.
· Insert until the lower end of the mount extension has a slight gap from the gingiva (approx. 1mm)





D TS Ø3.0 implant precautions

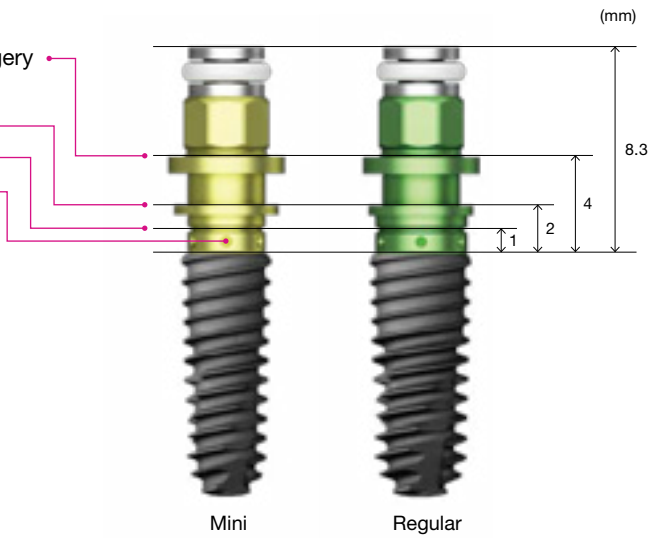
· For a Ø3.0 implant, G/H height is 0.5mm higher than a 3.5.
· The thinner the implant diameter, the thinner the wall thickness. Raise hex seating by 0.5mm to compensate for strength.
· Required to use a product exclusively for Ø3.0 implant: Lab analog, simple mount, cover screw



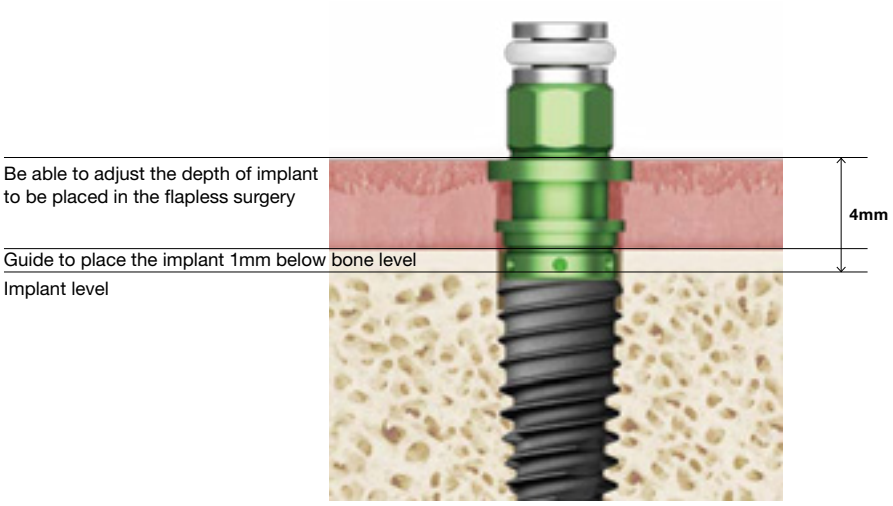
2 Mount

A Adjust placement depth

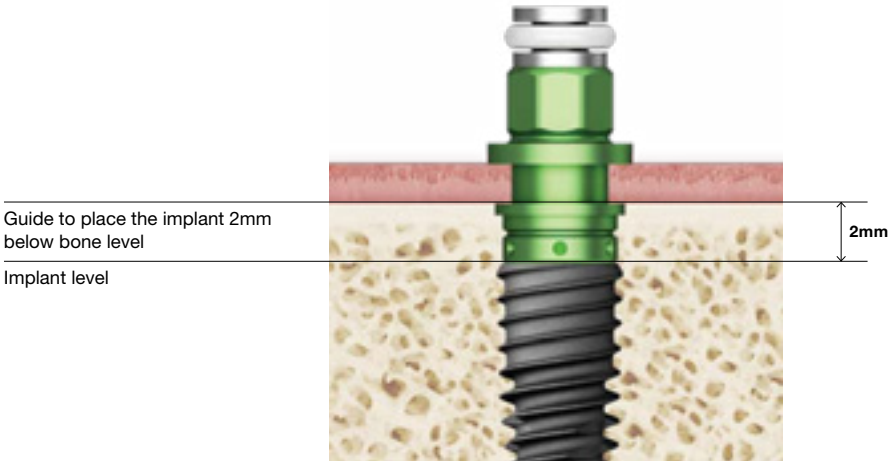
· Guide for depth adjustment in 4mm flapless surgery
· Guide for additional placement in case of thin gingival height (2mm)
· Guide to help place 1mm below
· Hex positioning: Hex direction guide inside the implant



· In case of flapless surgery, place the implant with a 4mm guide

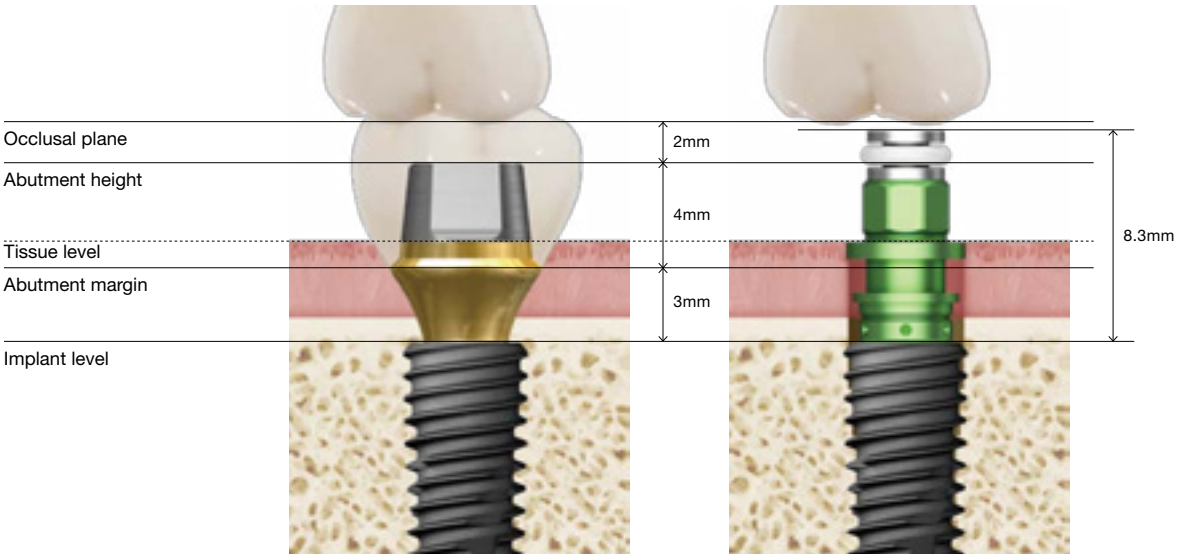


· In case of having lower gingival height, place the implant with 2mm below bone level



B Check available space for the prosthesis

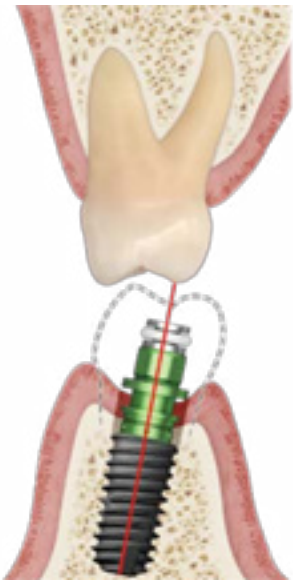
· Be able to check the expected prosthesis space taking the 8.3mm protruding part into cosideration for the TS mount.



C Check placement direction

· Easy to check the implant angle after placement.

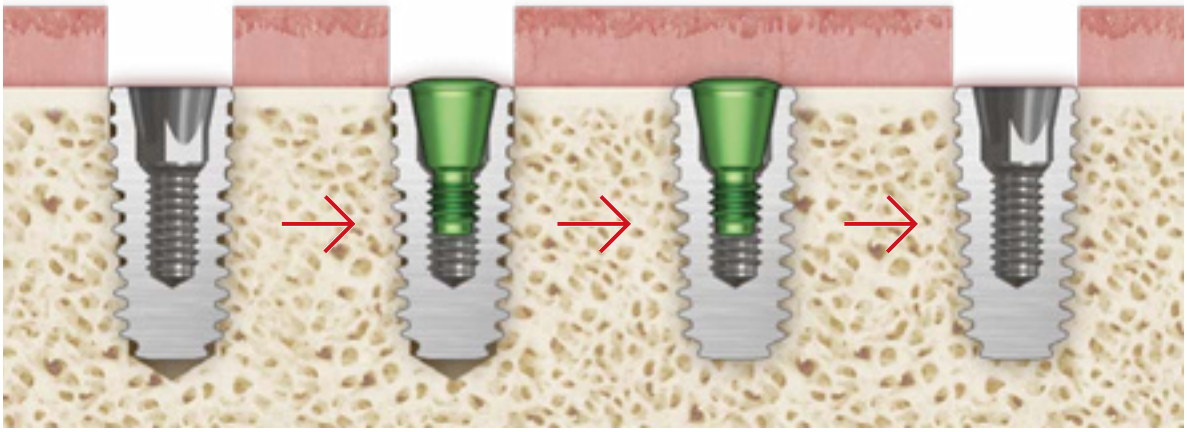
· Check whether the mount angle is headed towards the cental axis and interdental space of the natural antogonist teeth.



3 Cover screw

A Cover screw applications

· In a 2 stage surgery, the cover screw protects the internal structure of the implant in osseointegration period after implant placement.

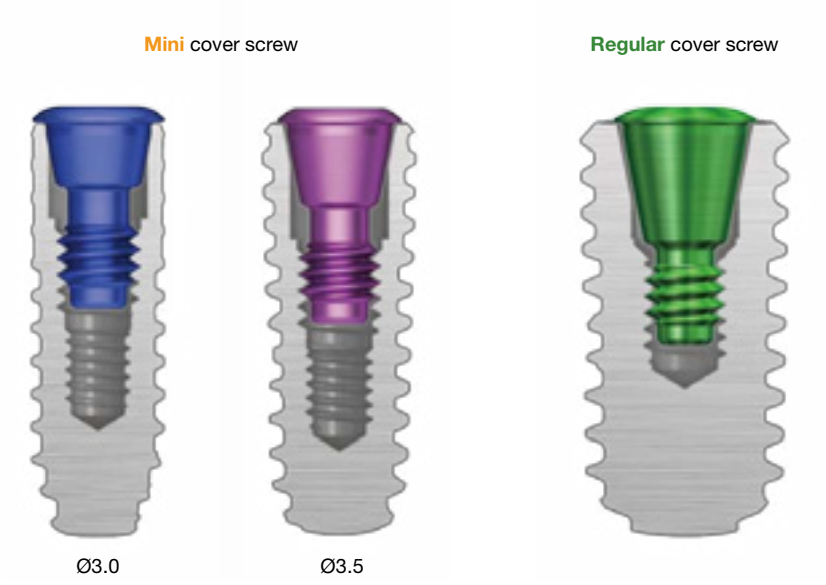


Place implant | Assemble cover screw | Healing | Remove cover screw

B How to select the correct specification

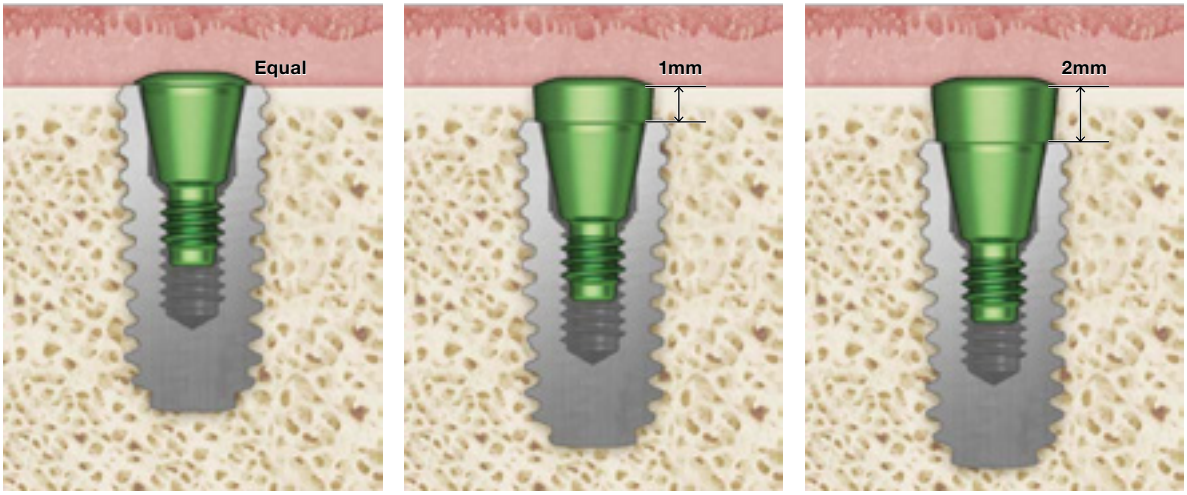
Step 1. Select platform

· Check whether the placed implant is mini or regular.
· Select the cover screw of the same platform as the installed implant.



Step 2. Select height

· Use cover screw with an appropriate height depending on the placement depth of the implant.
· The cover screw's concave part should be seated higher than the bone level.



Equal case:
Short (H: 0.4mm)

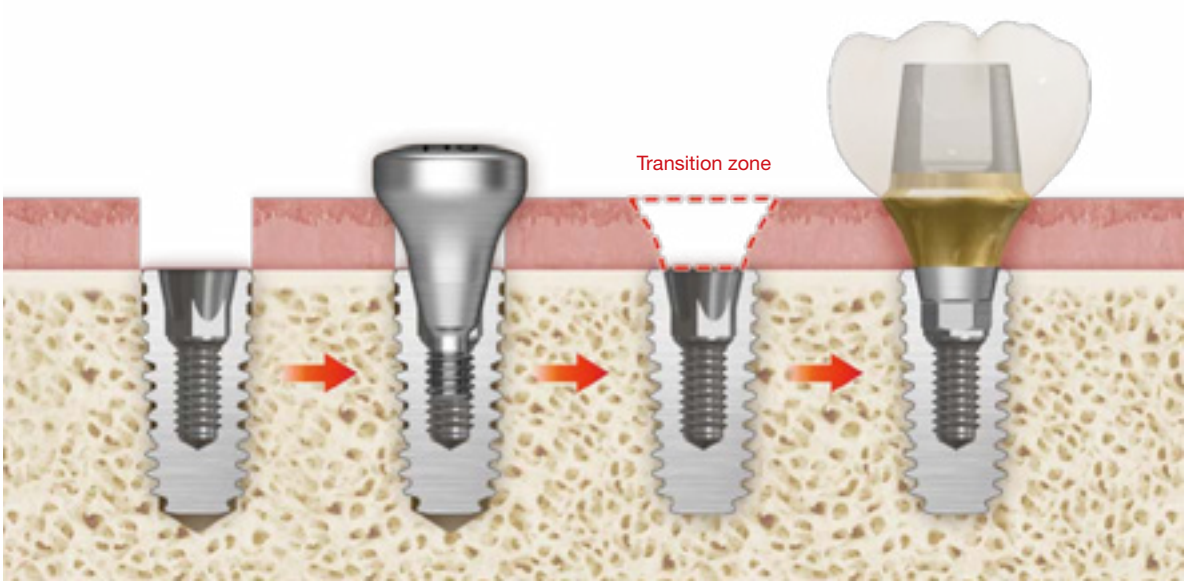
Equal~1mm case:
Middle (H: 1.4mm)

More then 1mm case:
Long (H: 2.0mm)

4 Healing abutment

A Healing abutment applications

· In a 1-stage/2-stage surgery, the healing abutment promotes the healing of soft tissues and generate a transition zone to form the place where the prosthesis will be loaded.
· Transition zone: Space between the implant top and gingival line



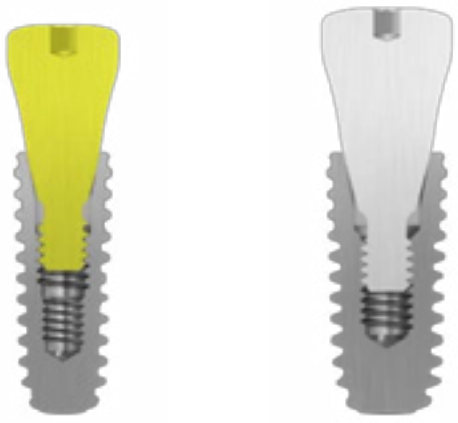
Assemble healing abutment | Remove healing abutment separation | Assemble prosthesis

B How to select the healing abutment specification

Step 1. Select platform

· Check whether the placed implant is mini or regular.
· Select the healing abutment of the same platform as the installed implant.

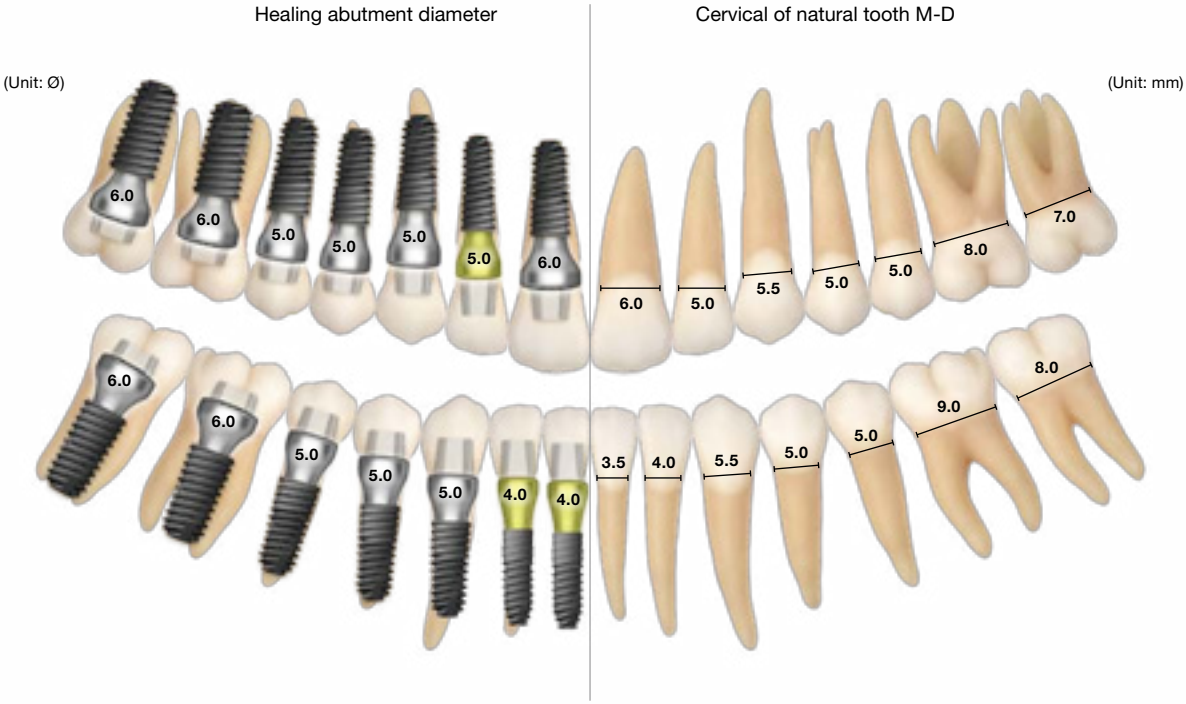
Mini healing abutment | **Regular** healing abutment



Mini platform Implant | **Regular** platform Implant

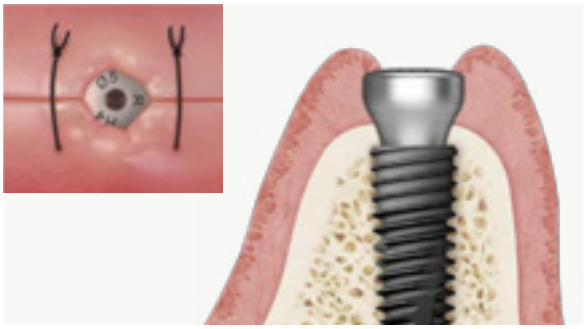
Step 2. Select diameter

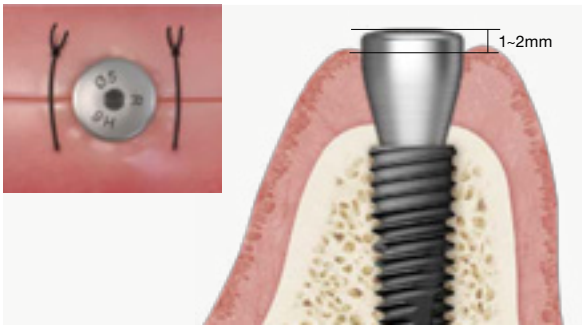
· A healing abutment of the same diameter as the prosthetic abutment and similar to the average cervical size for each tooth position should be selected and used.
· Choose a diameter that will form an appropriate emergence profile for the prosthesis.



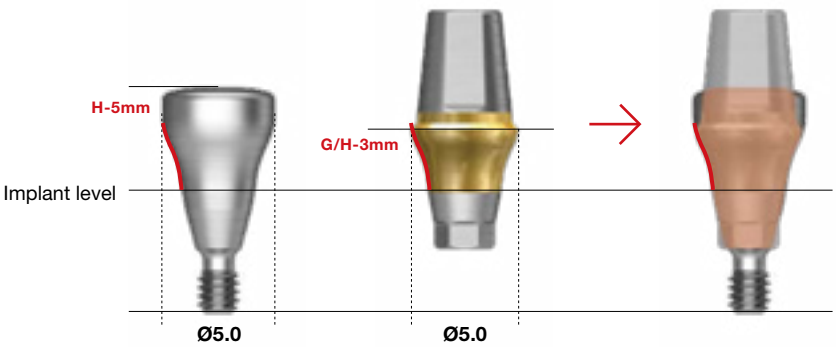
Step 3. Select height

· If the healing abutment is covered with the gingiva, a transition zone cannot be formed, so select it 1~2mm higher than the thickness of the gingiva.





· Considering the G/H of the prosthetic abutment, select the height of the healing abutment.



Important Information and Legal Notices 2026.03 ver.1.1

1. IMPORTANT NOTICE

This catalogue is intended solely as an informational and educational guide for trained dental professionals. It does not replace the applicable Instructions for Use (IFU), product labelling, formal clinical training, treatment planning, or independent professional judgment.

All clinical protocols, drilling sequences, cleaning instructions, sterilization requirements, torque recommendations, indications, contraindications, warnings, and procedural steps must be verified against the current product-specific IFU and the applicable product label for the relevant REF/ product code prior to use.

In the event of any discrepancy between this catalogue and the applicable IFU, product labelling, or other official Osstem documentation, the IFU, labelling, and official product documentation shall prevail.

2. PRODUCT INFORMATION, CHANGES, AND AVAILABILITY

All products, specifications, protocols, recommendations, illustrations, and other information contained in this catalogue are subject to change without prior notice.

Not all products may be approved, cleared, released, licensed, or otherwise available in all markets. Product availability, indications, and regulatory status may vary by country. For information on the current product portfolio, approved indications, and local availability, please contact your local Osstem representative or Customer Service and consult the current official Osstem documentation.

3. PROFESSIONAL USE ONLY

Osstem Implant products are intended for use by appropriately trained dental professionals only. Dental implant treatment involves complex professional procedures and requires appropriate education, clinical training, patient selection, treatment planning, and radiographic as well as clinical evaluation.

The suitability of any procedure must be assessed individually for each patient, taking into account anatomy, bone quality and quantity, occlusion, systemic conditions, oral hygiene, compliance, and any other relevant clinical factors.

4. PRODUCT DESCRIPTION AND COMPATIBILITY

Osstem Implant offers implant fixtures, prosthetic components, surgical instruments, and related materials for dental implant treatment. Product codes, specifications, lot numbers, dates of manufacture, and expiration dates, where applicable, must be checked on the product label before use.

Unless expressly stated otherwise in the applicable product documentation, Osstem Implant abutments, prosthetic components, instruments, and related accessories are intended to be used only with compatible Osstem Implant fixtures and components. Use in combination with components or instruments from other manufacturers may result in improper fit, incomplete locking, loosening, fracture, reduced performance, or other clinical complications.

5. STERILITY, CLEANING, REPROCESSING, AND STORAGE

Sterile products supplied in sterile packaging must be used only if the packaging is intact and the expiration date has not passed. If sterile packaging has been opened, damaged, or has expired, the product must not be used.

Single-use products must not be reused, reprocessed, or resterilized.

Reusable instruments must be cleaned, disinfected, inspected, maintained, and sterilized strictly in accordance with the applicable Osstem IFU before reuse.

Products must be stored in accordance with the applicable labelled storage conditions and protected from moisture, contamination, direct sunlight, and other adverse environmental conditions.

6. CLINICAL PROTOCOLS AND PROCEDURAL GUIDANCE

Any surgical, prosthetic, drilling, insertion, loading, cleaning, maintenance, or other procedural guidance shown in this catalogue is provided for general informational purposes only and must be adapted to the individual patient, the specific product, and the current approved IFU.

Clinicians remain solely responsible for selecting the appropriate treatment protocol and for determining whether the intended procedure, component selection, loading protocol, and clinical application are appropriate for the individual case and within the approved indications for the relevant product.

7. WARNINGS, CONTRAINDICATIONS, AND POSSIBLE COMPLICATIONS

Improper patient selection, inadequate treatment planning, non-compliance with the applicable IFU, improper use, off-label use, product modification, poor oral hygiene, infection, insufficient bone quality or quantity, excessive occlusal loading, or other unfavorable clinical conditions may result in complications or treatment failure.

Possible complications and adverse events may include, without limitation, implant instability or failure, loosening, fracture, bone loss, infection, soft- or hard-tissue complications, prosthetic complications, delayed healing, or the need for revision or removal.

Contraindications and precautions must always be assessed in accordance with the applicable Osstem product documentation and accepted professional standards of care.

8. INTENDED PURPOSE

The OSSTEM Implant System is an artificial dental root that has been designed for use in dental implant treatment in order to recover lost teeth. The system is implanted via a surgical method in maxillary or mandibular bone to replace natural dental root. The OSSTEM Implant System is indicated for use in partially or fully edentulous mandibles and maxillae, in support of single or multiple-units restorations including; cemented retained, screw retained, or overdenture restorations, and final or temporary abutment support for fixed bridgework. It is intended for delayed loading. Products with diameter of 3.3 mm or less must be used exclusively for mandibular anterior teeth in order to prevent fracture due to excessive occlusal load. The Ultra-Wide Implants are intended to be used only to replace molar teeth and angled abutments are not to be used with the Ultra-Wide Implants. Evaluate the quantity of bone and radiographs to assess any potential anatomical contraindications to use of the Ultra-Wide Implant. The applicable product-specific IFU must always be consulted to confirm the intended purpose, indications, limitations, and approved clinical applications of the relevant product.

9. ACCURACY OF INFORMATION

Although reasonable care has been taken in preparing this catalogue, typographical, editorial, translation, printing, and formatting errors may occur. Information may also become outdated as a result of product updates, regulatory changes, technical revisions, or clinical developments.

No representation is made that this catalogue is complete, current, or error-free in every respect. Users must verify all critical information against the current IFU, product labels, and other official Osstem documentation before clinical use.

10. ILLUSTRATIONS AND EXAMPLES

Product illustrations, diagrams, radiographic examples, case images, and step-by-step demonstrations are for illustrative purposes only. Unless expressly stated otherwise, they are not shown to scale and do not guarantee any clinical outcome.

Example cases do not constitute a promise or representation of treatment success in any individual case.

11. TRADEMARKS AND COMPANY NAMES

All trademarks, trade names, product names, brand names, and company names are the property of their respective owners.

Important Contact Information

International HQ
Osstem Implant Co., Ltd.
3, Magokjungang 12-ro, Gangseo-gu
Seoul 07801, Republic of Korea
+82-2-2016-7000
+82-2-2016-7001
www.osstem.com

European HQ
Osstem Implant s.r.o.
Radlická 740/113c
158 00 Prague, Czech Republic
+420-296-238-800
info@osstem.eu
www.osstem.eu

Hiossen HQ
Hiossen Implant Inc.
85 Ben Fairless Drive, Fairless Hills
PA 19030, USA
+1-888-678-0001
master@hiossen.com
www.hiossen.com

Osstem Pharma HQ
Osstem Pharma Co., Ltd.
123, Gasan digital 2-ro, Geumcheon-gu
Seoul 08505, Republic of Korea
+82-70-5118-0330
+82-70-4369-1930
www.osstempharma.com

Osstem Orthodontic HQ
OSSTEM Orthodontics Inc.
13, Ojeongongeop-gil, Uiwang-si
Gyeonggi-do 16072, Republic of Korea
+82-31-477-9902
+82-31-477-9904
www.osstemortho.com

WE ARE GLOBAL

Global Leader in Implant Dentistry

Driven by advanced technology and exceptional product quality, we are exporting to more than 90 countries.

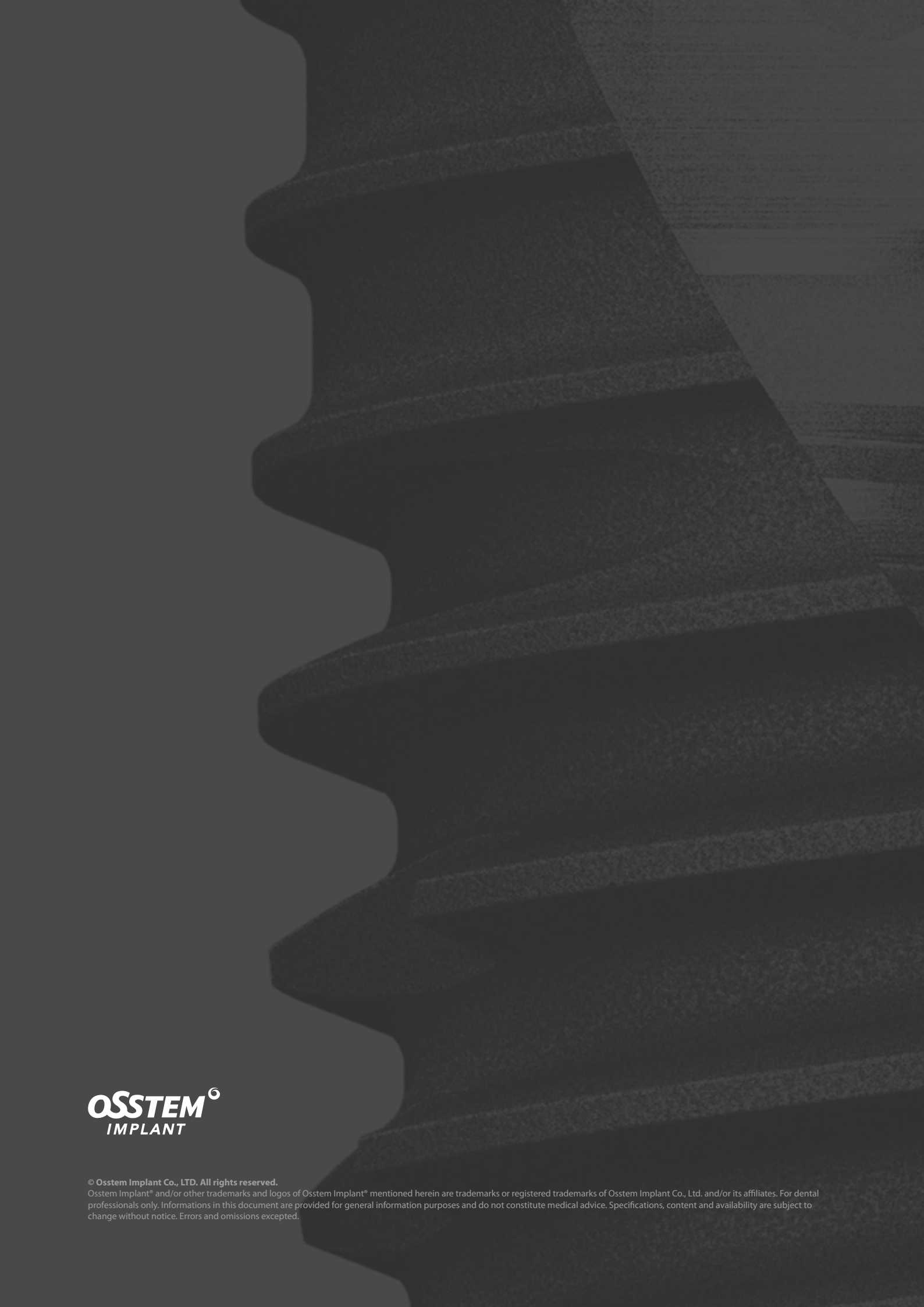
We are on Social Media

/osstem
/osstem-europe
/ hiossen

/osstem
/osstem.eu
/ hiossenimplants

/osstem
/osstem_europe
/ hiossen

/@osstemglobal
/@osstem_europe
/ @hiossenimplants



OSSTEM IMPLANT