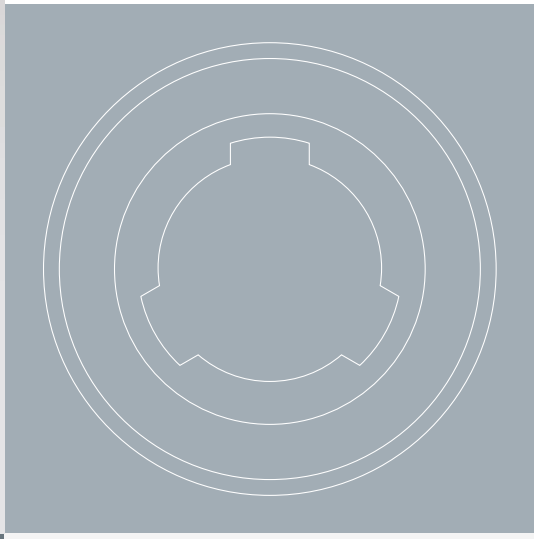
CONELOG®
PROGRESSIVE-LINE



CONELOG® PROGRESSIVE-LINE IMPLANT BASIC INFORMATION SURGICAL PROCEDURES

CONELOG® PROGRESSIVE-LINE Implants
Planning of the CONELOG® Implant positions
Surgical procedures
Healing options

a perfect fit™

camlog

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GENERAL SYSTEM INFORMATION ABOUT THE CONELOG® IMPLANT SYSTEM

The CONELOG® PROGRESSIVE-LINE Implant System is based on many years of experience with implants of the SCREW-LINE product lines as well as comprehensive laboratory tests. The CONELOG® PROGRESSIVE-LINE Implant System is a user-friendly, consistently prosthetically oriented implant system.

All CONELOG® Products are manufactured with the latest state-of-the-art technology. These are continuously being further developed by the company's research and development team in collaboration with clinics, universities and dental technicians and therefore stay abreast of the latest technology.

The CONELOG® and CAMLOG® Implant Systems are well documented scientifically. Studies* support this with respect to many parameters including the implant surface, time of implantation and/or implant loading, primary stability, and the connection design. The long-term results of the Promote® Surface are convincing.

IMPORTANT NOTE

The descriptions that follow are not adequate to permit immediate use of the CONELOG® Implant System. Instruction by a surgeon experienced in using the implant system is strongly recommended. CONELOG® Dental implants and abutments should only be used by dentists, physicians, surgeons and dental technicians who have been trained in using the system. CAMLOG regularly offers relevant courses and training sessions.

Methodical errors made during the treatment can result in loss of the implant and significant loss of the peri-implant bone.

COLOR-CODING

COLOR-CODING OF THE SURGICAL AND PROSTHETICAL CONELOG® PRODUCTS

	COLOR	DIAMETER
	Gray	3.3 mm
	Yellow	3.8 mm
	Red	4.3 mm
	Blue	5.0 mm

* See section «Further documentation» on page 44

CONELOG® PROGRESSIVE-LINE IMPLANT

GENERAL

CONELOG® PROGRESSIVE-LINE Implants are endosseous implants available in various lengths and diameters. They are surgically inserted in the bone of the maxilla and/or mandible and serve as an anchor for functional and esthetic oral restorations for partially and fully edentulous patients. The prosthetic restoration is performed with single crowns, bridges or full dentures that are attached to the CONELOG® PROGRESSIVE LINE Implants with the appropriate CONELOG® Components. CONELOG® PROGRESSIVE-LINE Implants were developed to facilitate the implementation of modern treatment concepts such as immediate restoration or loading, which require high primary stability. The geometry of the implant is consistently designed to allow high initial stability to be developed; otherwise the implant features the proven characteristics of the CONELOG® Implant and is distinguished by:

- Coronal anchoring thread for improved hold, even with limited bone height
- Parallel-walled area for flexibility of the vertical position
- Anatomically shaped conical area for increased primary stability and reduced diameter for areas with little bone
- A machined implant shoulder surface
- Standard integrated Platform Switching
- Promote® Surface

The CONELOG® PROGRESSIVE-LINE Implants are not only suitable for late implantations but also for immediate or delayed immediate implantations in maxillary and/or mandibular bone. The selected healing technique can be either submerged or transgingival. In the case of a one-stage surgical procedure, the implants can be loaded immediately if good primary stability has been achieved and functional loading is appropriate.

SCOPE OF APPLICATION

A deeper coronal implant shoulder is especially beneficial in treating esthetically challenging areas. The CONELOG® PROGRESSIVE-LINE Implant Promote® plus, which can be placed both epicrestally as well as supracrestally, is suited for this situation*.

* See [A]
** See [B]
in Section «Further documentation» on page 44

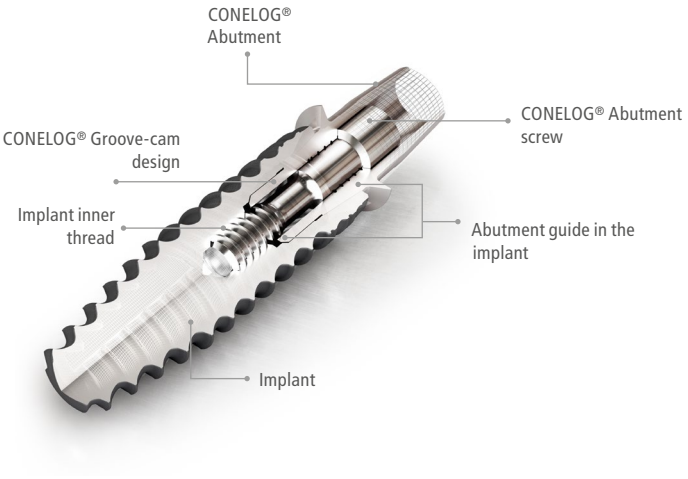
CONELOG® PROGRESSIVE-LINE IMPLANT

MATERIAL

All CONELOG® PROGRESSIVE-LINE Implants are made of titanium grade 4. The CAMLOG® Abutments and abutment screws are made of titanium alloy Ti6Al4V ELI.

PRODUCTION PRECISION

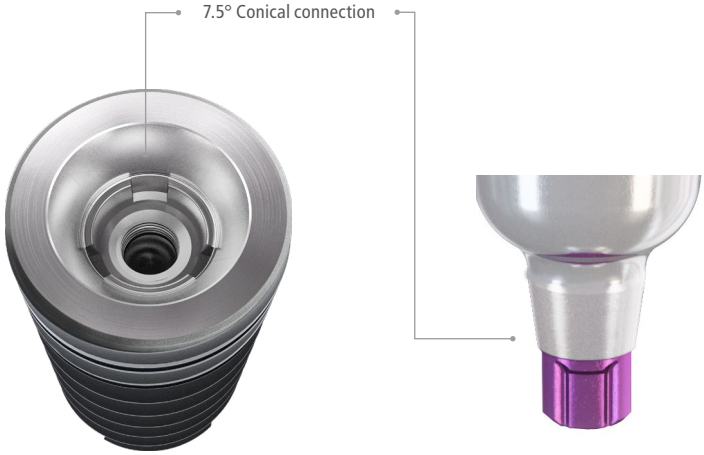
For the most part, the inner and outer geometry of the CONELOG® Implants and abutments are rotary machined. The tolerances can therefore be kept very low. The result is excellent part precision without impacting the material structure. The CONELOG® PROGRESSIVE-LINE Implant-abutment connection thus ensures a very precise, stable and rotation-locked connection to the CONELOG® Prosthetic components.



INNER CONFIGURATION OF THE IMPLANT

CONELOG® PROGRESSIVE-LINE Implants are equipped with a cone (7.5°) and three grooves in the inner configuration for positioning CONELOG® Abutments. The CONELOG® Abutments are fitted apically with a cone and three cams. These lock into the conical connection and the three grooves of the implant.

The CONELOG® Abutment does not cover the implant shoulder (integrated Platform Switching). A CONELOG® Abutment screw is used to fix CONELOG® Abutments in the CONELOG® PROGRESSIVE-LINE Implant with a defined torque.



For optimal positioning of the abutments in the implant, they should be aligned in the bone so that one of the three grooves points vestibularly. The insertion tools and insertion posts include outer markings that correspond to the three grooves of the CONELOG® Implant's inner configuration.

Groove/cam design of the CONELOG® Implant-abutment connection

IMPLANT DIMENSIONS

	Article	Art. No.	Ø	L	A Ø
	**CONELOG® PROGRESSIVE-LINE** **Implant, Promote® plus** incl. insertion post and cover screw, sterile **Material** Titanium Grade 4	C1086.3309*	3.3 mm	9 mm	2.2 mm
		C1086.3311*		11 mm	
		C1086.3313*		13 mm	
		C1086.3316*		16 mm	
		C1086.3807**	3.8 mm	7 mm	3.0 mm
		C1086.3809		9 mm	
		C1086.3811		11 mm	2.7 mm
		C1086.3813		13 mm	
		C1086.3816		16 mm	
		C1086.4307**	4.3 mm	7 mm	3.0 mm
		C1086.4309		9 mm	
		C1086.4311		11 mm	2.7 mm
		C1086.4313		13 mm	
		C1086.4316		16 mm	
		C1086.5007**	5.0 mm	7 mm	3.5 mm
		C1086.5009		9 mm	
		C1086.5011		11 mm	3.2 mm
		C1086.5013		13 mm	
		C1086.5016		16 mm	

Note: the implant length (L) is the distance from the apical curve to the machined shoulder surface of the implant. (Length over everything)
A Ø: Apical diameter (mean value)

*** IMPORTANT NOTE**

CONELOG® Implants with a **diameter of Ø 3.3 mm** are an alternative in cases where the alveolar ridge width is only 5–6 mm. Because of their lower mechanical strength compared with larger diameter implants, these should only be used under the following conditions:

- As single implants, they should be used only to replace mandibular incisors and/or maxillary lateral incisors.
- Edentulous mandibles can be prosthetically restored with a barsplinted restoration consisting of at least four implants Ø 3.3 mm.
- No underpreparation techniques may be used when preparing the implant bed for implants with Ø 3.3 mm.
- Implants of Ø 3.3 mm are suitable for a partially edentulous arch when combined with implants of larger diameter for splinted superstructures. However, the limited strength of the implants with Ø 3.3 mm must be taken into account.
- Avoid excessive mechanical stressing of the implants when using ball abutments in combination with Ø 3.3 mm implants.
- The healing time for diameter 3.3 mm implants is at least 12 weeks.
- Double crown constructions are not allowed on Ø 3.3 mm implants.

**** IMPORTANT NOTE**

CONELOG® Implants with a **length of 7 mm** should only be used when there is not enough space for longer implants. Immediate loading in single tooth restorations is not recommended with this implant length.

If the ratio of crown length to implant length is unfavorable the biomechanical risk factors have to be considered and appropriate measures have to be taken by the dental professional.

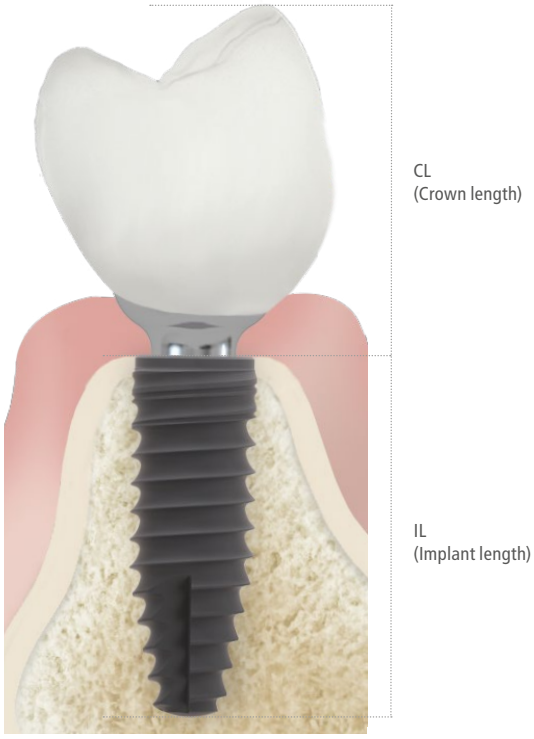
IMPLANT POSITION PLANNING

As a matter of principle, the implant should be planned by the team and be based on the prosthetic therapy («Backward Planning»). The following aspects should be taken into account during planning:

LEVERAGE RATION ON IMPLANT

The loading of the implant-bone interface is determined by the leverage ratio from the osseointegration-related resistance to the prosthetic load arm (equal to the supracrestal implant length plus crown length from the implant shoulder). If the implant length (IL) is less than the length of the crown (CL), measures must be taken to reduce loading (e.g. using prosthetic splints). If leverage ratios on the implant are unfavorable, a longer implant must be selected.

The ratio of crown length (CL) to implant length (IL) should be 0.8:1 maximum. Implant distribution should be structured in such a way that spanned segments are kept small. Preparation of the abutment must ensure the common insertion direction of the crown block/bridges. The implant-abutment connection may not be altered.



DISTANCES TO ADJACENT STRUCTURES

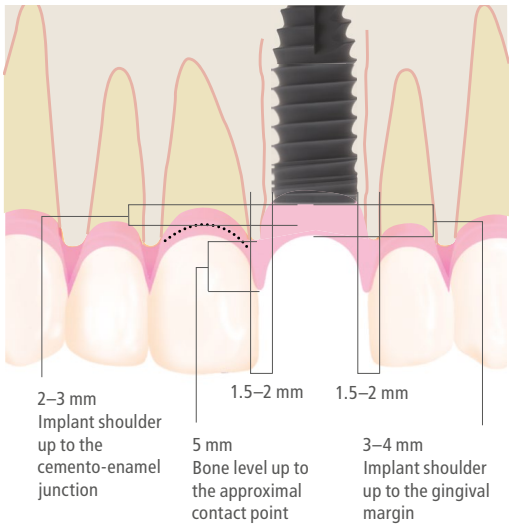
VERTICAL IMPLANT POSITION

The recommendations for the distances to be maintained from adjacent structures must be observed to allow wound healing to proceed optimally and for hard and soft tissue to develop optimally during the healing phase.

The recommended distances for determining the vertical implant position are shown in the diagram. These must be adapted to the clinical situation.

The implant length must be sized to leave adequate bone (at least 1 mm) around the implant.

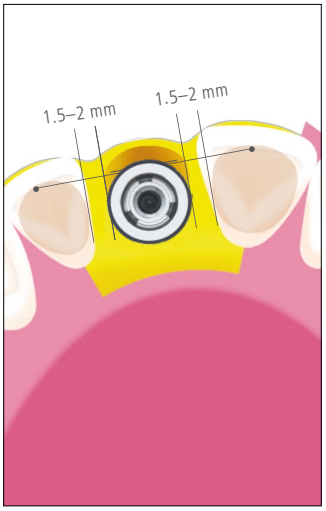
Vertical implant position



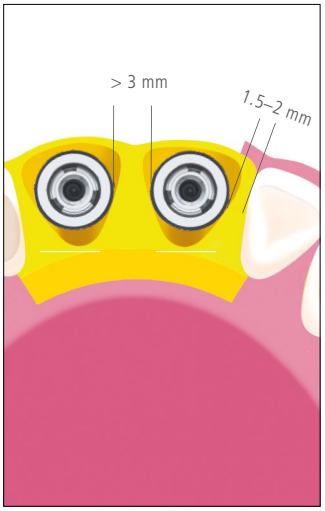
HORIZONTAL IMPLANT POSITION

Maintain a minimum distance of 1.5 mm to an adjacent natural tooth and 3 mm to an adjacent implant.

The implant diameter must be sized to leave adequate bone (at least 1 mm) around the implant.



Mesio-distal implant position at bone level



Distances at bone level

DESIGN OF PROSTHETIC RESTORATIONS

Irrespective of the type of restoration - fixed single crowns, splinted crowns, bridges or removable restorations - the hygiene capability of the restoration should be taken into account.

In the case of hybrid restorations, we recommend designing the prosthetics with «Passive Fit». The tension-free seat of a secondary (double crown) or primary (bar) splinted structure on implants is regarded as "Passive Fit".

In the case of telescopic crowns, this is obtained through intraoral bonding of the secondary crowns (preferably galvano crowns) onto the tertiary framework. In the case of bar structures, it involves the use of bar sleeves for a "Passive Fit" and intraoral bonding of the titanium bonding base. The idea is to create a fit that is free from stress or to minimize stress on the implants.

When planning a removable denture, the implants should be placed so that, if necessary, extending to a fixed restoration is possible.

Single-crown restoration

Cement-retained bridge

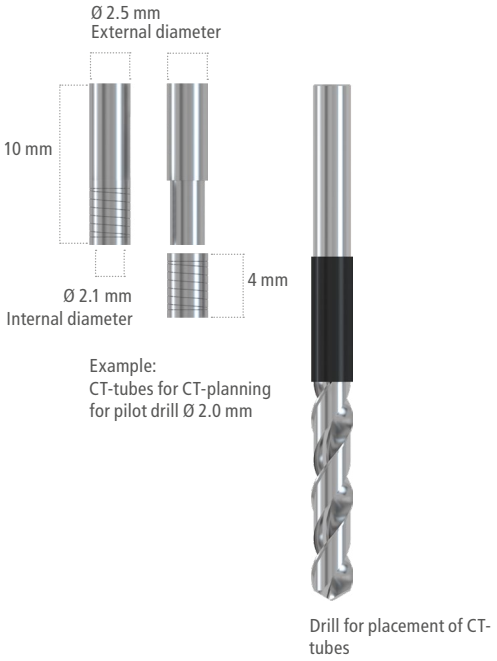
IMPLANT POSITION PLANNING

X-RAY/DRILLING TEMPLATE WITH CT-TUBES FOR CT-PLANNING

CT-tubes for CT-planning are integrated at the appropriate implant positions in the planning templates created from the wax-up/set-up and are used as reference positions in the X-ray image. The two-piece sleeves are made of a titanium alloy, as this does not cause scattered radiation in the CT/DVT.

The lower section is polymerized into the template. The upper section is pluggable. The entire tube is used for the radiological diagnostics; the upper section can be removed for surgery and then serves as drilling guide (see «Pilot drilling with tube for CT planning).

Consistent placing of the tubes directly on the mucosa allow determining its thickness in the CT/DVT. The respective documentation included with these systems contains further information.

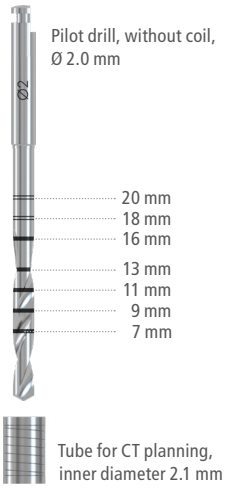


FABRICATING THE DRILLING TEMPLATE WITH CT TUBES FOR CT PLANNING

If a planning or x-ray template with tubes for CT planning was created, it can be converted into a drilling template after adjusting the tube positions based on the implant planning. If required, the template is reduced to an outline after preparation of the flap to ensure it stays in position during surgery (dental or gingival base outside the surgical area).

PILOT DRILLING WITH CT-TUBE FOR CT PLANNING

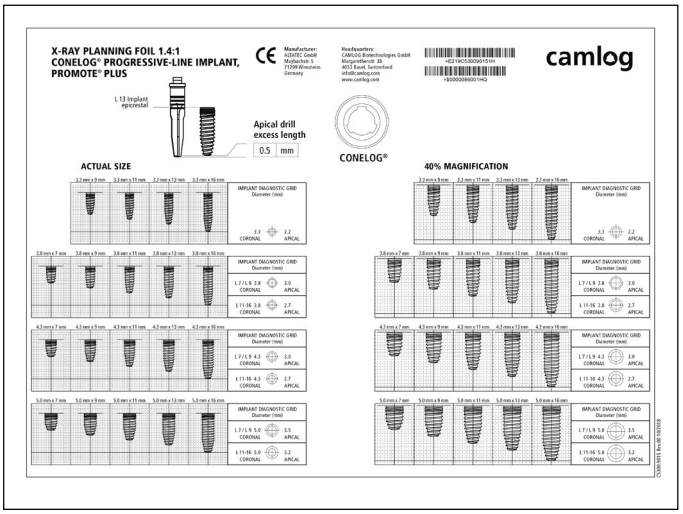
The pilot drill without coil has a 2.0 mm diameter. It can also be used with the CT-tube for drill Ø 2.0 mm which has a 2.1 mm inner diameter. There are ring markings the lower edges of which show drilling depths for 7, 9, 11, 13, 16, 18 and 20 mm each in the working area of the drill. The thickness of each ring mark is 0.4 mm. The 18 and 20 mm markings are not filled in and are used for orientation when using the 4 mm long CT-tube with 2.1 mm internal diameter.



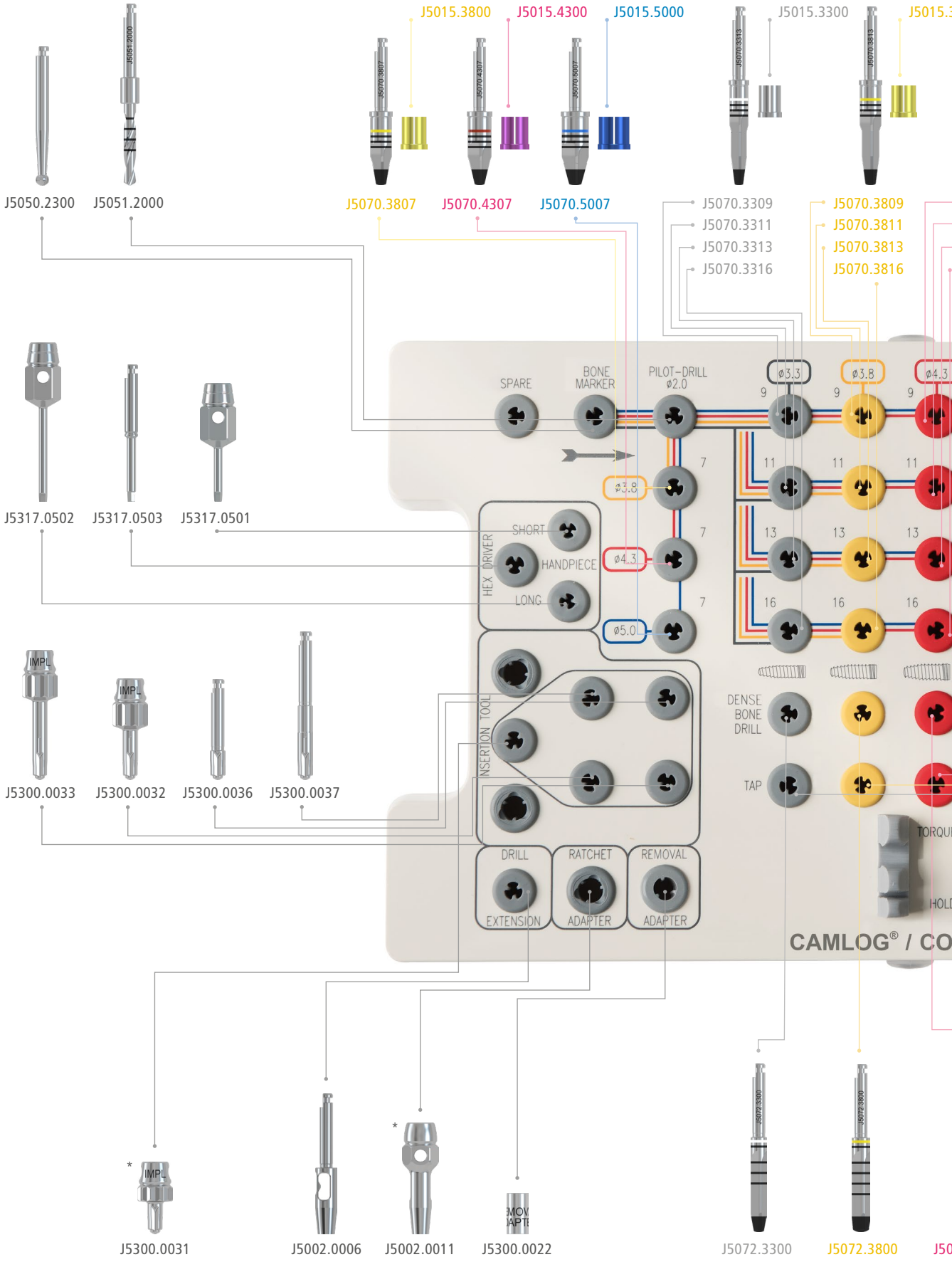
IMPORTANT NOTE
Only use CT-tubes for CT-planning with 2.1 mm internal diameter in conjunction with the pilot drill.

ORTHOPANTOMOGRAM

X-Ray planning foils are available in 1.25:1 and 1.4:1 scales for all implant types to check the dimensions on the orthopantomograph. The foil magnifications match the delay factors for most orthopantomographs. However, they should be considered only as an aid to implant dimensioning.

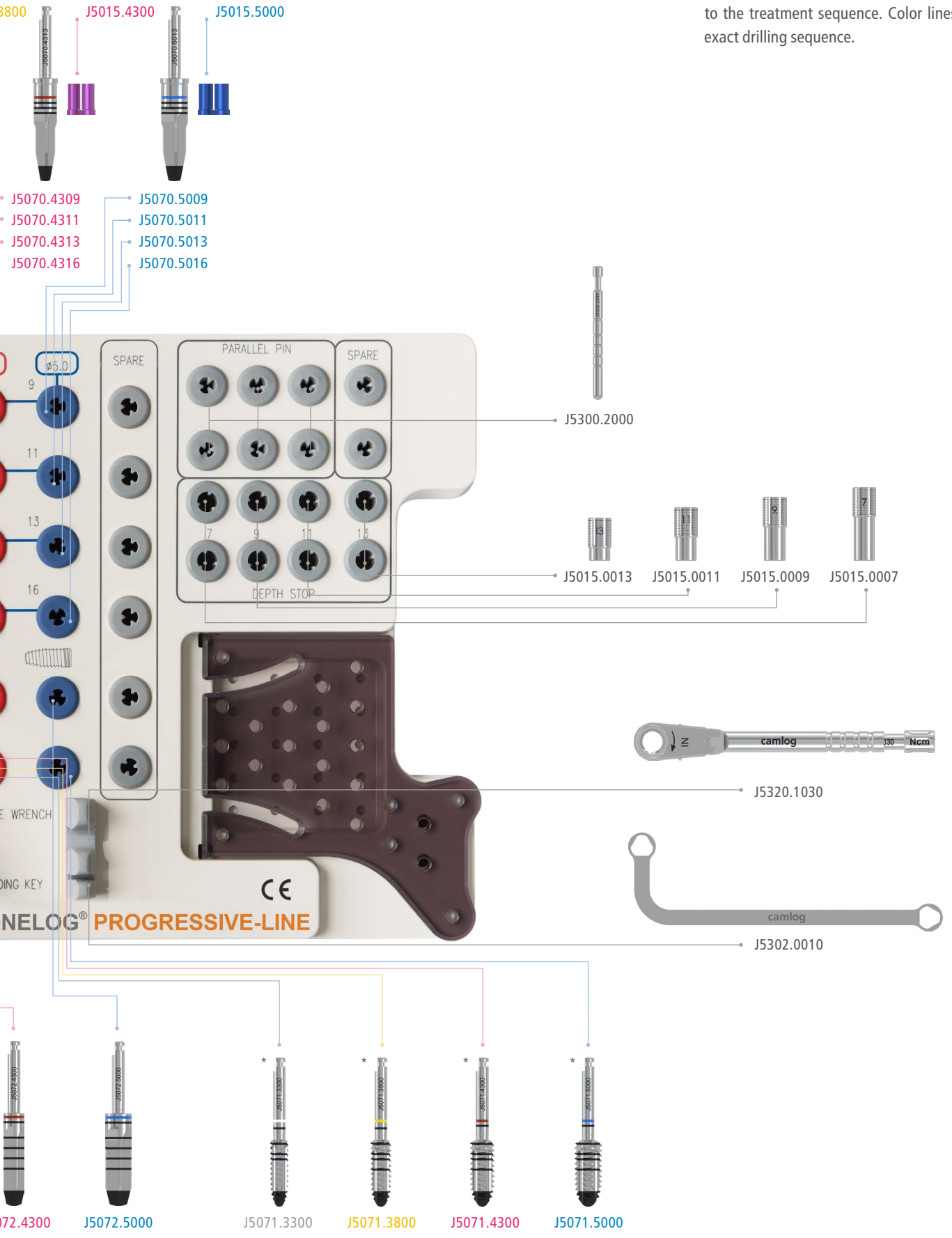


SURGERY SET FOR CONELOG® PROGRESSIVE-LINE IMPLANTS



* Optional articles, can be purchased separately

The drills are arranged and sorted in the set according to the treatment sequence. Color lines indicate the exact drilling sequence.



SURGICAL PROCEDURE

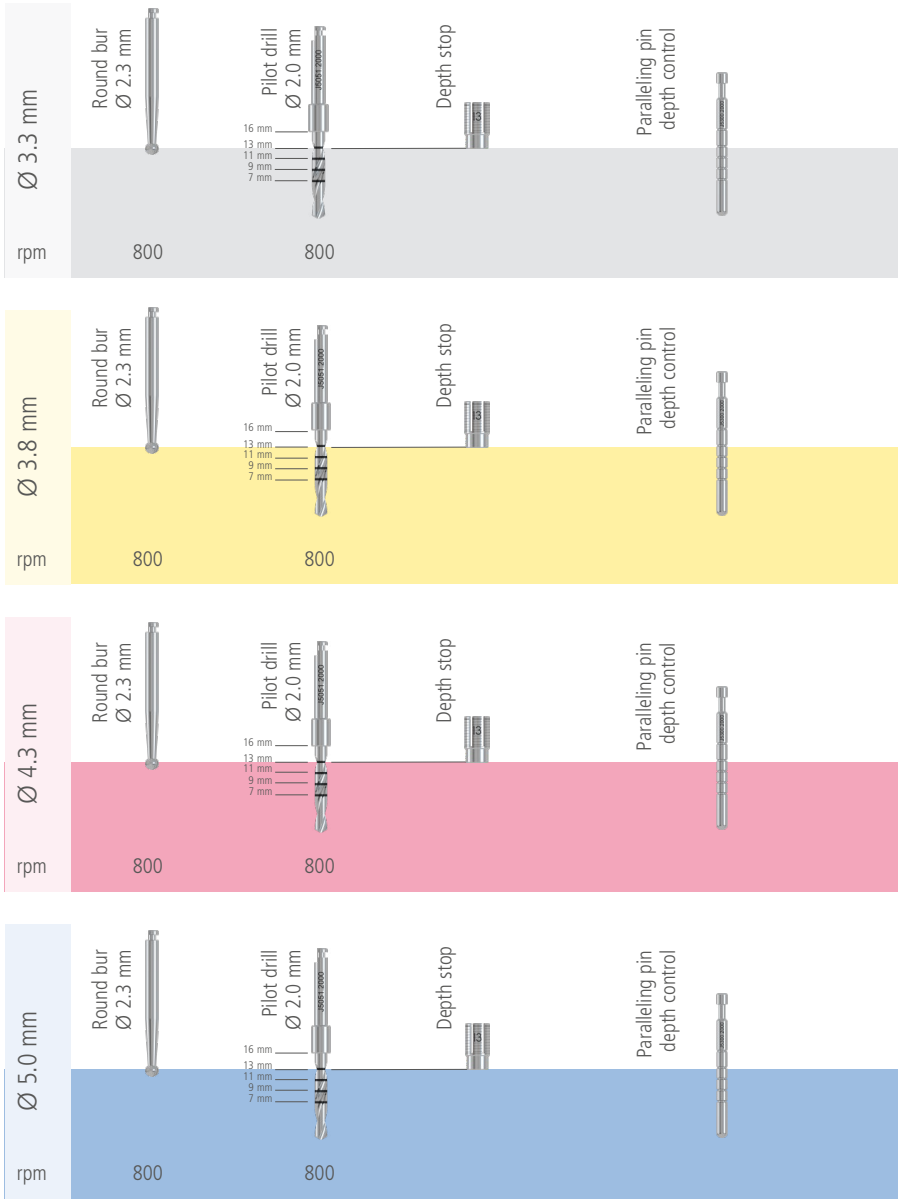
STANDARD DRILLING SEQUENCE FOR IMPLANT BED PREPARATION

Overview of the implant bed preparation using the example of a CONELOG® PROGRESSIVE-LINE Promote® plus implant, length 13 mm.

The standard drilling sequence for the CONELOG® PROGRESSIVE-LINE Implant includes the following steps:

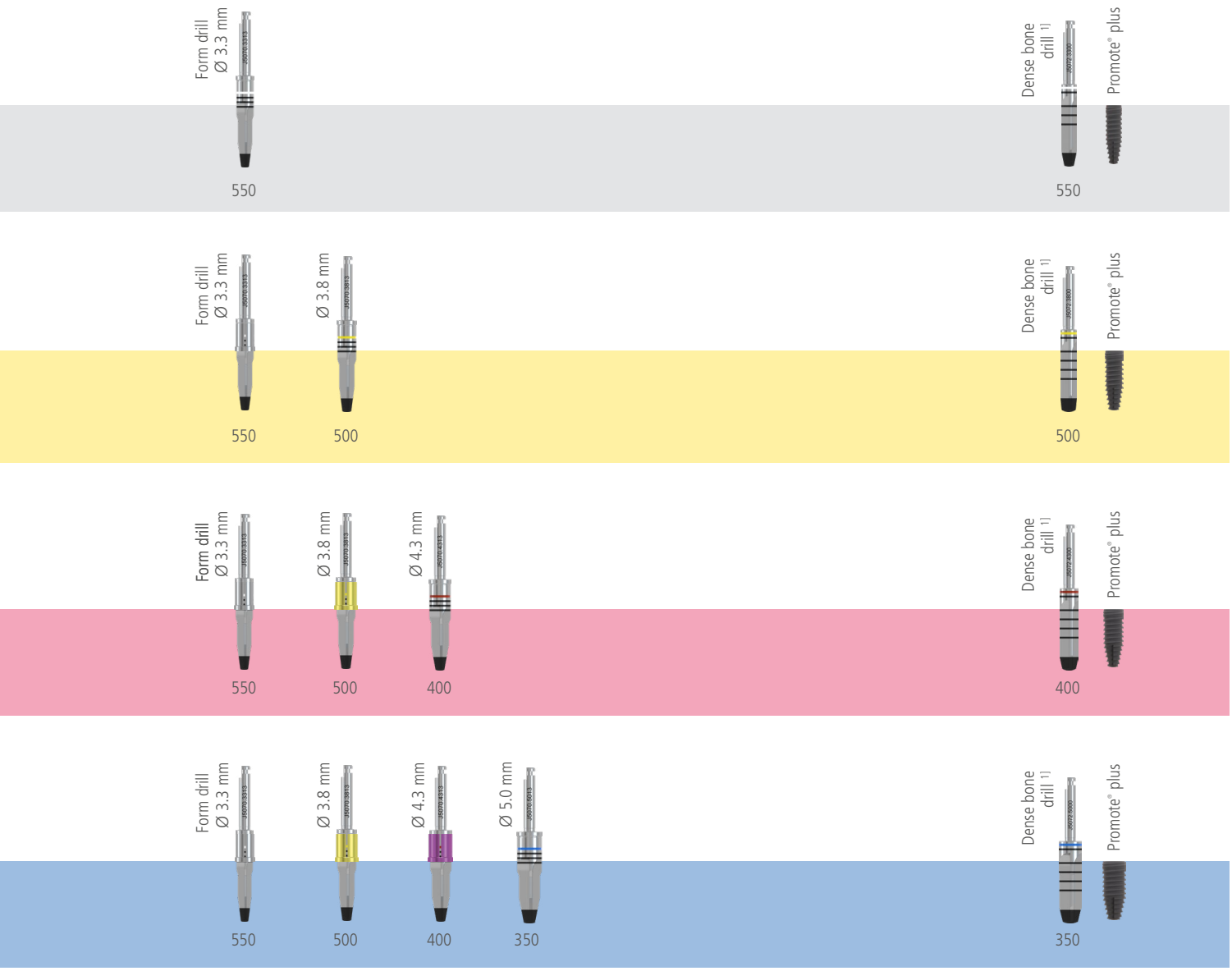
- Punch/mark the desired implant position, for example with the Ø 2.3 mm round bur
- Deep drill along the implant axial line with the Ø 2.0 mm pilot drill
- Checking the drilling depth and drilling axis with the Ø 2.0 mm paralleling pin
- Shape with the form drill
- Probe the implant bed hole for its bony end
- Use of the Dense Bone Drill [1]

[1] For bone quality 1* and 2*, the use of a dense bone drill is required to reduce the insertion torque.



IMPORTANT NOTE
A tap (max. 15 rpm) can be used as an **alternative** to the dense bone drill.
The use of both the dense bone drill as well as the tap in the preparation of the implant bed can lead to a reduction in primary stability.

* See [C] in section «Further documentation» on page 44

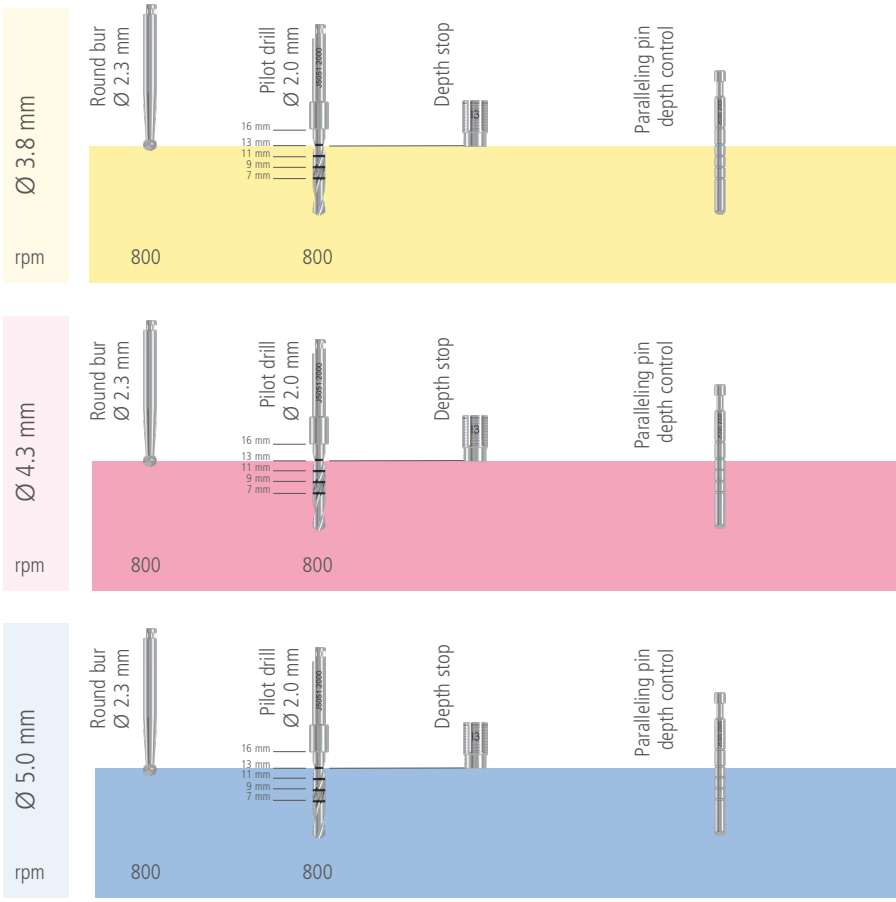

Form drill Ø 3.3 mm
550
Dense bone drill [1]
Promote® plus
550
Form drill Ø 3.3 mm
Ø 3.8 mm
550
500
Dense bone drill [1]
Promote® plus
500
Form drill Ø 3.3 mm
Ø 3.8 mm
Ø 4.3 mm
550
500
400
Dense bone drill [1]
Promote® plus
400
Form drill Ø 3.3 mm
Ø 3.8 mm
Ø 4.3 mm
Ø 5.0 mm
550
500
400
350
Dense bone drill [1]
Promote® plus
350

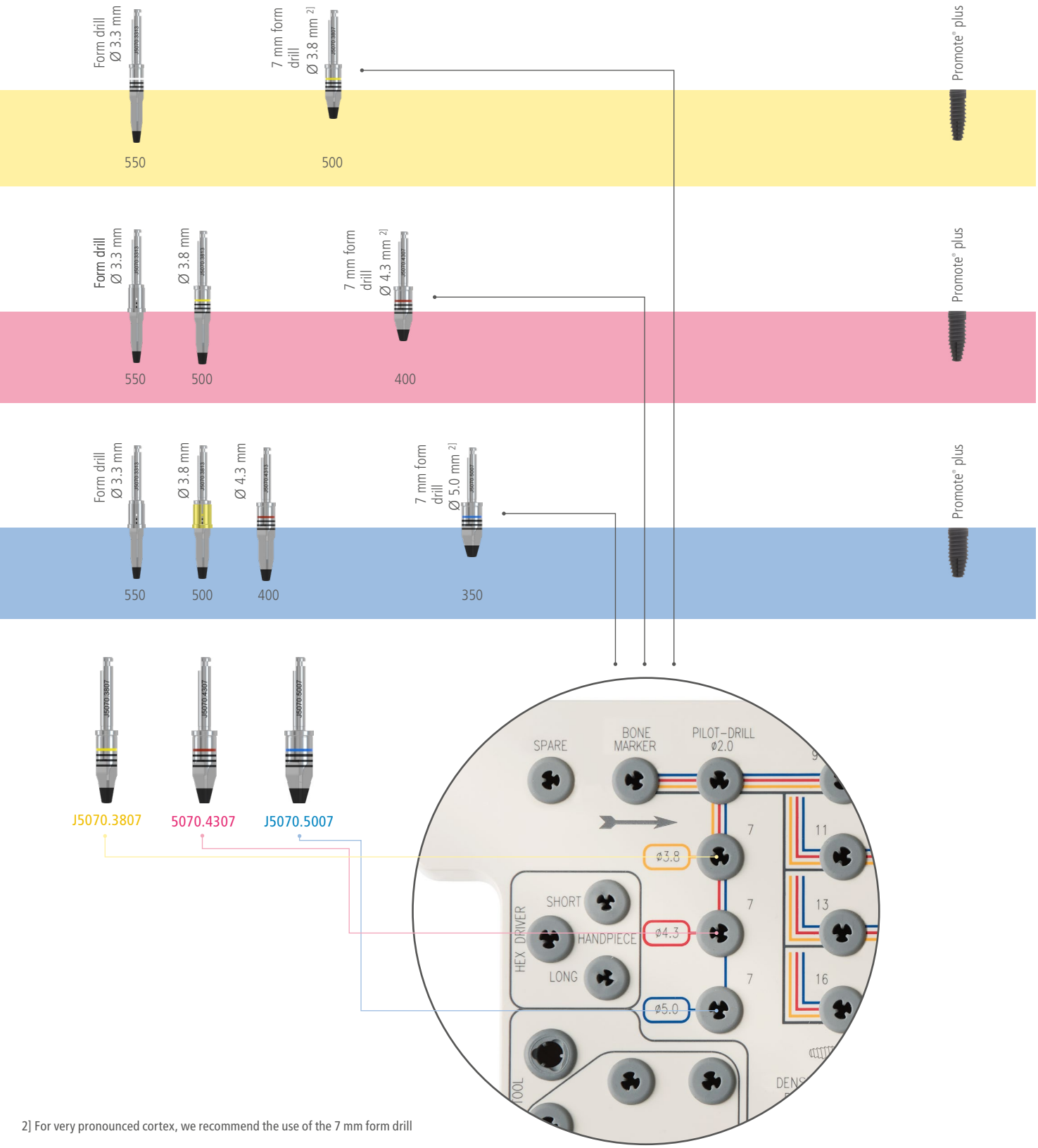
SURGICAL PROCEDURE

ALTERNATIVE DRILLING SEQUENCE FOR SOFT BONE

In particularly soft bone, it is sometimes advisable to underprepare the implant bed to achieve additional primary stability.
Underpreparation is achieved by not using the last form drill intended according to the standard protocol.
The 7 mm PROGRESSIVE-LINE form drill is used instead of the last form drill according to the standard protocol **in the case of pronounced cortical bone**; this form drill has the function of a countersink and reduces the pressure on the cortical bone.

IMPORTANT NOTE
If too high torques are achieved during insertion of the implants, it is necessary to revert to the standard protocol.





2] For very pronounced cortex, we recommend the use of the 7 mm form drill

SURGICAL PROCEDURE

DRILL SPEEDS

Depending on the drill type and diameter, the maximum drill speeds (350-800 rpm) vary according to the table. (handpiece angle reduction ratio 16:1–20:1).

The maximum speed for taps is 15 rpm (contra-angle reduction 70:1-100:1). The tap adapter for the torque wrench also permits manual tapping.

The lower edge of the depth mark is the reference for the preparation depth.

COOLING OF DRILLS

The cooling occur through external irrigation on the angled hand piece with sterile saline solution (pre-chilled to 5°C/41°F).

DRILL LIFE

Drill longevity depends on bone quality and the drilling technique. The pilot drills and form drills are good for 10–20 drilling cycles. If excessive force has to be applied because of a dull drill, then change the drill immediately to prevent overheating of the bone.

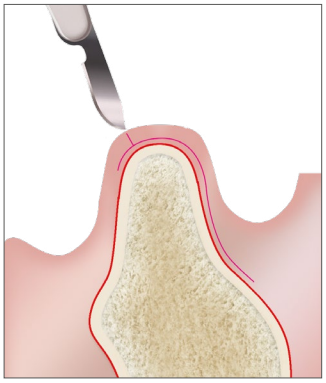
CAUTION
The maximum apical extension length of the drill is 0.5 mm.

Description	⌀	max. speed (rpm)
Round bur	–	800
Pilot drill with/without depth stop	2.0 mm	800
PROGRESSIVE-LINE Form drill with/without depth stop	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
PROGRESSIVE-LINE Dense bone drill	3.3 mm	550
	3.8 mm	500
	4.3 mm	400
	5.0 mm	350
PROGRESSIVE-LINE Tap	3.3 mm	max. 15
	3.8 mm	
	4.3 mm	
	5.0 mm	

INCISION LINE

The indication used as an example illustrates the insertion of a Ø 4.3/ L13 mm CONELOG® PROGRESSIVE-LINE Promote® plus implant. The incision and flap formation result from the planned implant position and the clinical characteristics of the implantation site.
There is also the option of soft tissue punching (gingiva punch) to gain access to the bone.

Corresponding gingiva punches are available.



Mucosal incision

SURGICAL PROCEDURE

The implant bed preparation for CONELOG® PROGRESSIVE-LINE Implants is identical to the implant bed preparation for CONELOG® SCREW-LINE Implants in certain work sections. Therefore, the pilot drills as well as their depth stops, the drill extension and the paralleling pin SCREW-LINE can also be used for preparing the implant bed of the CONELOG® PROGRESSIVE-LINE Implants.

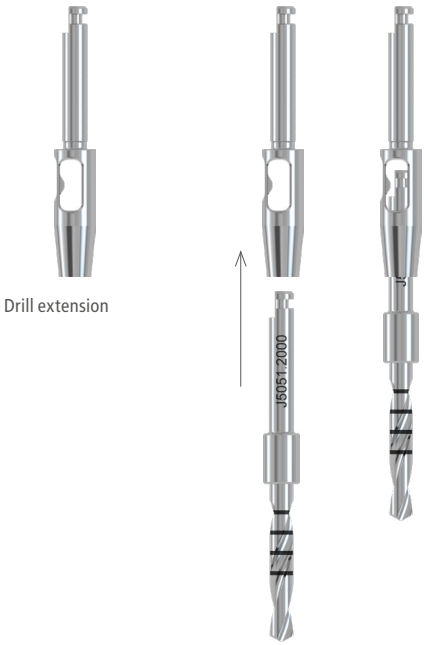
NOTE
It is important that the last form drill as well as the dense bone drill (or alternatively the tap) of the CONELOG® PROGRESSIVE-LINE System are used.

IMPLANT BED PREPARATION

GENERAL

DRILL EXTENSION

A drill extension is available to prevent resting of the angled handpiece on the remaining dentition during preparation of the implant bed adjacent to elongated teeth.

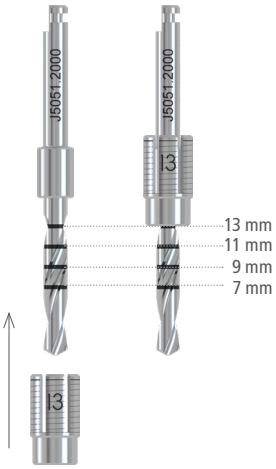


DEPTH STOP FOR PILOT DRILLS

An attachable depth stop limits the drilling depth to either 7, 9, 11 or 13 mm.

Final form drilling should be performed without a depth stop if the implant is to be placed epicrestally (see page 24).

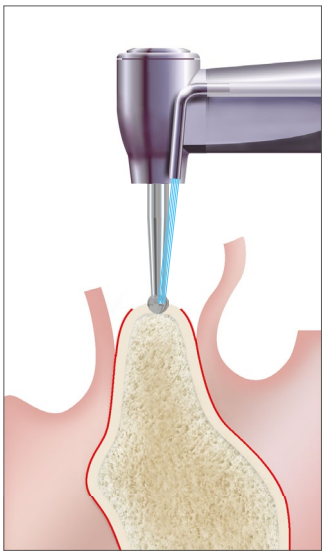
Depth stops SCREW-LINE



PUNCH-MARKING THE CORTICAL BONE

The round bur Ø 2.3 mm is used for punch-marking the cortical bone, which simplifies the use of the drills to follow. In the process, the spherical tip of the round bur is lowered to the equator.

Maximum speed: 800 rpm



Punch-marking the cortical bone

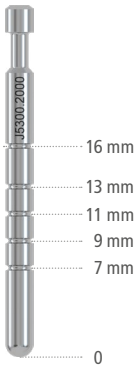
SURGICAL PROCEDURE

PILOT DRILLING AND DEPTH CONTROL

The pilot drill determines the depth and axis of the implant site. The depth marks on the drill correspond to the implant lengths 7, 9, 11 and 13 mm. The maximum drilling depth is 16 mm. For safety reasons, a depth stop matching the proposed implant length should be used.

Maximum speed: 800 rpm

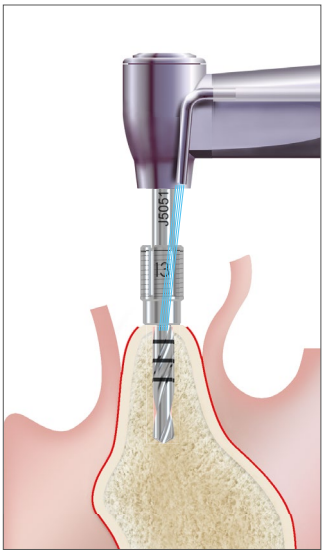
Pilot drill
Ø 2.0 mm max. 800 rpm



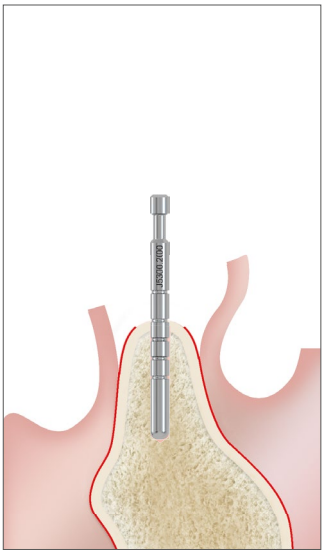
Paralleling pin PROGRESSIVE-LINE

Once drilling is complete, the depth and axis of the implant bed is checked using the paralleling pins. If several implants are being placed, a paralleling pin is inserted into the first hole in order to align the other implant axes.

The pilot drill is aligned parallel to the paralleling pin and visually checked from two planes (sagittal and transversal).



Pilot drilling

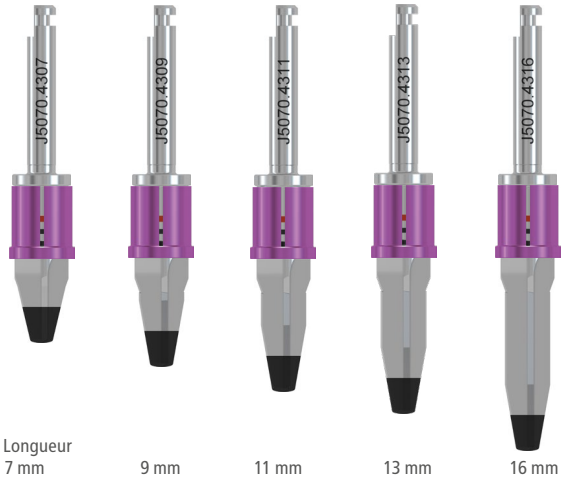


Depth control following pilot drilling

FORM DRILLING

Diameter- and length-specific form drills are available for each implant size. The form drills are color-coded and laser-marked.

The form drills included in the surgery sets are supplied with a color-coded, removable depth stop.

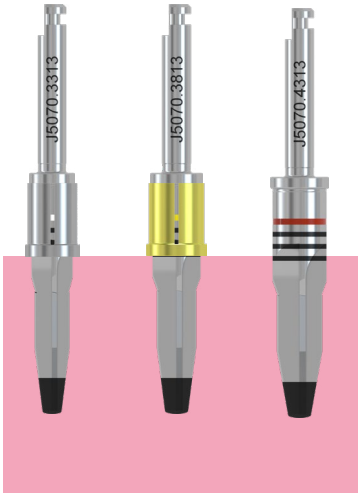


Depending on the specified drilling depth (implant length), the hole diameter is expanded progressively with the series of form drills until the intended implant diameter is achieved. The small graduations in diameter achieve a gentle preparation of the bone.

Maximum speeds:
Ø 3.3 mm, 550 rpm
Ø 3.8 mm, 500 rpm
Ø 4.3 mm, 400 rpm
Ø 5.0 mm, 350 rpm

Drill sequence in ascending order to the drill hole expansion up to the defined implant diameter.

PERFORMING FORM DRILLING (STANDARD DRILLING SEQUENCE)
Performing form drilling using CONELOG® PROGRESSIVE-LINE Implants of size Ø 4.3/13 mm as an example:
1. Form drill Ø 3.3/13 mm **with** depth stop,
2. Form drill Ø 3.8/13 mm **with** depth stop,
3. Form drill Ø 4.3/13 mm **without** depth stop (final form drilling).

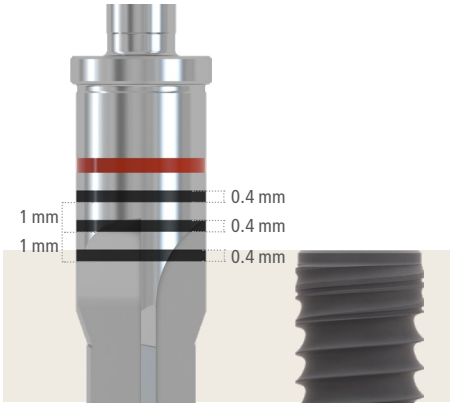


SURGICAL PROCEDURE

FINAL FORM DRILLING

The CONELOG® PROGRESSIVE-LINE Implant Promote® plus, is placed **epicrestally.** To do this, final form drilling is performed **without depth stop** and to the upper edge of the first filled depth mark. If final form drilling is performed with the depth stop, the implant lies 0.4 mm supracrestal.

The reusable depth stops can be used with replacement form drills (delivered without depth stops).

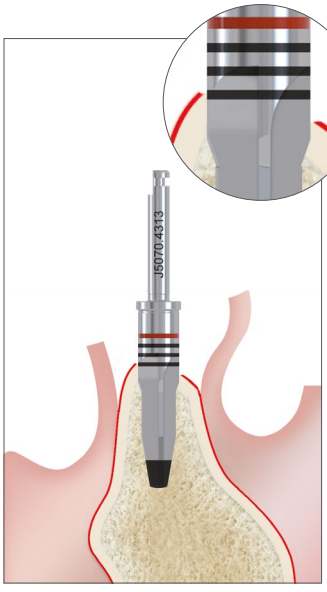


If the circular bone level is uneven, the depth stop rests on the highest point of the crest and thereby limits the insertion depth.

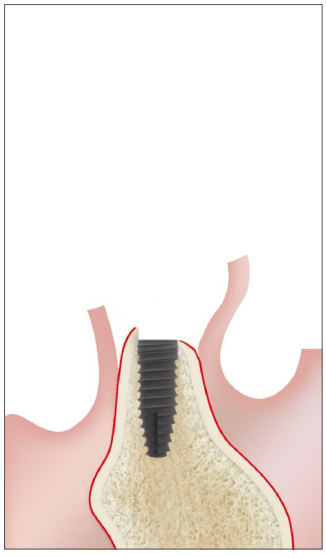
If a deeper insertion is required for functional or esthetic reasons, the depth stop can be removed and form drilling can be continued in steps of 1 mm (watch for anatomic structures!). In this case, preparation is performed using the laser marks (black). The marks are arranged at intervals of 1.0 mm and are 0.4 mm in width.

CAUTION
The maximum apical extension length of the drill is 0.5 mm.

The depth stops must be removed before cleaning the drills. The cleaned depth stops must be reattached before sterilization (see «Preparation instructions for the CAMLOG®/CONELOG® Implant System», Art. No. J8000.0032). The depth stops can be reordered individually.

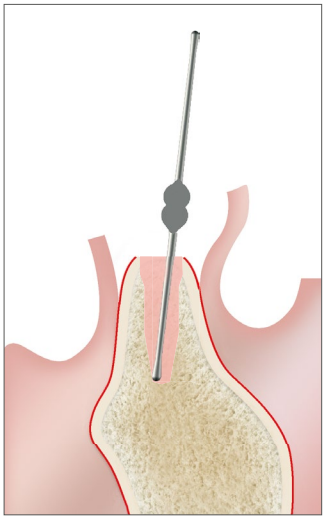


Form drilling without depth stop for deeper insertion


Example: insertion depth for an irregular bone profile

CHECKING THE IMPLANT BED

Probing of the implant bed drill hole for fenestration is recommended. Results of probing tests for the absence of soft tissue in the implant bed hole must be documented in the patient file.



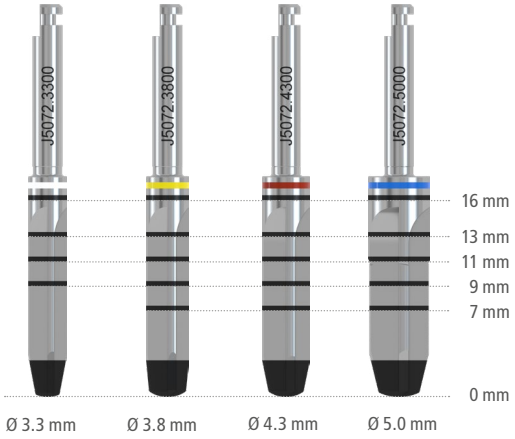
Checking the implant bed

PROCEDURE IN HARD BONE

All CONELOG® PROGRESSIVE-LINE Implants come with a self-tapping thread. However, for bone qualities 1* and 2*, the use of the dense bone drills is required to reduce the torque when inserting the implant.

The use of the dense bone drill is considerably easier compared to the tap, as the dense bone drill can be used at higher speeds and without changing the direction of rotation like all form drills. It can be used directly using the angled hand piece.

Furthermore, the 4 cutting edges of the dense bone drill allow the collection of bone chips.



Dense bone drill PROGRESSIVE-LINE

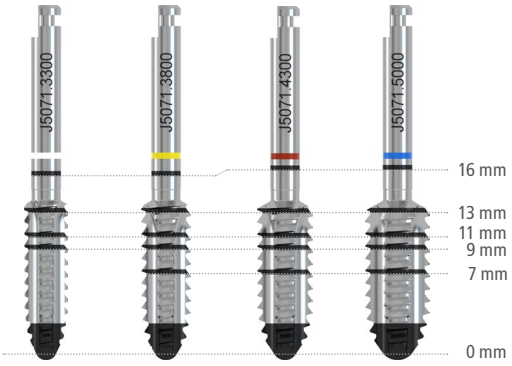
* See [C] in section «Further documentation» on page 44

SURGICAL PROCEDURE

ALTERNATIVE

Taps can also be used as an alternative to the dense bone drill. These are inserted into the cavity at different depths depending on the implant length. The marks on the taps represent the length-specific insertion depths (not proportional to the implant length) for 7 mm, 9 mm, 11 mm, 13 mm and 16 mm implants.

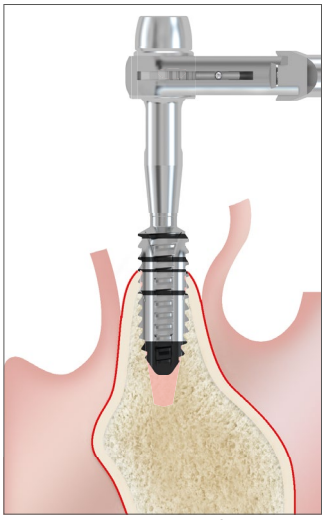
The maximum speed of 15 rpm must not be exceeded with automated tapping. Manual tapping is recommended.



Tap PROGRESSIVE-LINE, max. 15 rpm

The adapter ISO shaft and the locked torque wrench are used to manually tap the thread. Make sure to pay attention to the axial direction of the implant bed when inserting and removing the tap.

Locked torque wrench



Tapping in the upper region of the implant bed

Adapter ISO shaft

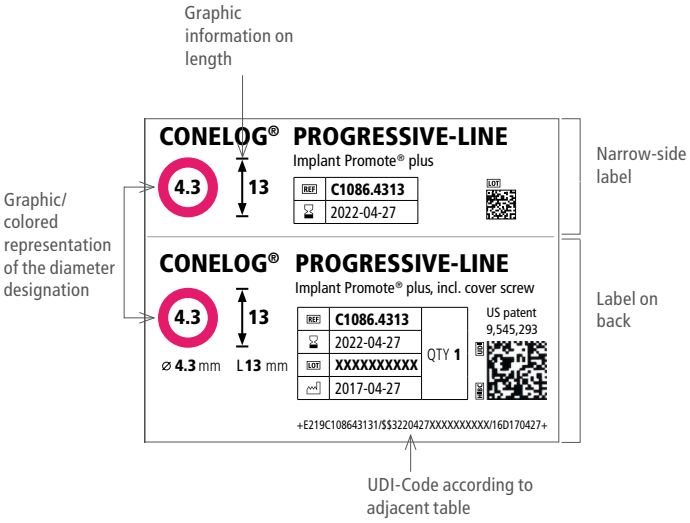
IMPLANTATION

GENERAL INFORMATION ON PACKAGING AND IMPLANT HANDLING

A) Exterior packaging (cardboard) with label:

The label on the exterior packaging contains relevant system information and is applied on three sides. This means that the label is clearly readable regardless of stacking of the packages.

Example product label on the exterior packaging:



UDI CODE

A B C D E F G H I J K

+E219C108643131 / $$3220427XXXXXXXXXX /16D170427+

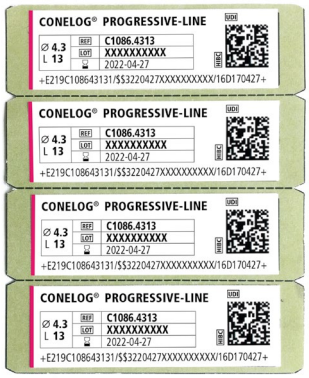
Sections of the primary code (UDI-DI)	Code	Explanation
A	+	Protected HIBC-ID (1 digit)
B	E219	Manufacturer's code (ALTATEC)
C	C10864313	Article number (max. 13 digits)
D	1	Quantity index (number of packaging units, 1 digit)
Sections of the secondary code (UDI-DI)	**Code**	**Explanation**
E	/	Separator primary/secondary
F	$$3	Identifier for expiry date
G	220427	Expiry date (6 digits) 27.04.2022
H	XXXXXXXXXX	Manufacturer's batch (10 digits)
I	/16D	Identifier for date of manufacture
J	170427	Date of manufacture (6 digits) 27.04.2017
K	+	Variable test marks

Further information on the exterior packaging:
The bottom side of the CONELOG® Implant packaging refers to the instruction manual in electronic form: https://ifu.camlog.com. In addition, it includes a QR code which links directly to the corresponding Internet page.

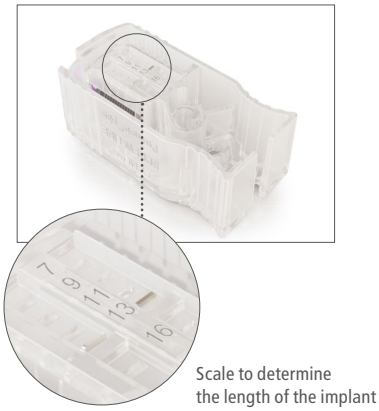
The left side view of the CONELOG® Implant packaging contains the CE label, the corresponding warnings as well as the address of the manufacturer.

SURGICAL PROCEDURE

B) Transparent blister with Tyvek® foil and primary label:
The blister with the Tyvek® foil represents the primary packaging, the contents of which are sterile - implant holder with implant and cover screw. Furthermore, the blister includes four self-adhesive patient labels. These can, for example, be used for the patient records, the implant pass, the letter of referral. For faster orientation, the diameter information is also highlighted in color here.



C) Implant holder with implant and cover screw:
The implant holder securely fixates the implant and the cover screw in the packaging. Both the implant and the cover screw can be released and removed via a simple click mechanism with the implant holder. In addition, the implant can be clearly identified in the implant holder after removal from the primary packaging:
a) The implant diameter can be identified via the color-coding of the insertion post and the cover screw.
b) A scale on the bottom side of the implant holder allows reading the length of the implant: the position of the titanium retaining plate on the scale gives the implant length 7, 9, 11, 13 and 16 mm.



Scale to determine the length of the implant

D) Mounted insertion posts:
The implants are secured in the implant holder with a color-coded insertion post corresponding to the diameter. The insertion posts **are mounted** in the implant and can be pulled off easily from the implant after implantation without requiring further tools.

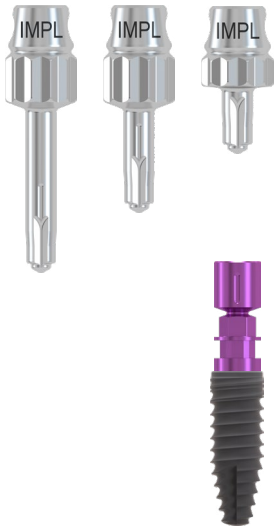
E) Insertion tools

The implant can be picked up directly with the insertion tool via the mounted insertion post and removed from the implant holder. One of the five illustrated insertion tools can be used for this purpose.

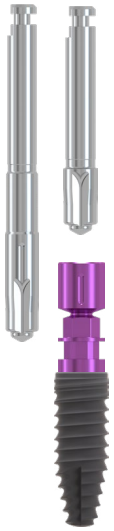
The insertion posts and insertion tools are designed such, that they are also suitable for narrow gaps: none of the components required for inserting the implant have a diameter greater than that of the implant itself.

Furthermore, the long insertion tools also allow the placement of implants in narrow and deep anatomical situations.

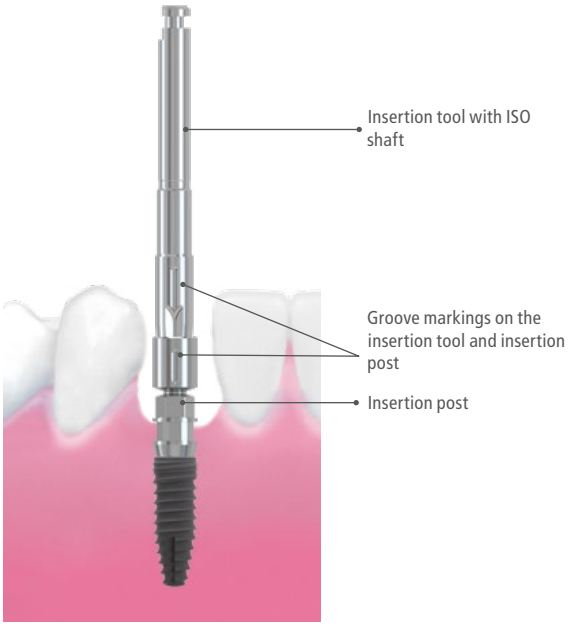
The three manual insertion tools for use with the wrench (long, short, extra short).



The two insertion tools with ISO shaft (long and short) for use with the angled hand piece.



The figure illustrates the use of a handpiece insertion tool (with ISO shaft) with insertion post for the CONELOG® Implant Ø 3.3 mm under tight interdental conditions.



F) Insertion aid:

If low primary stability is expected in a sinus lift procedure or in soft bone, then CAMLOG recommends the assembly of the insertion aid (see page 34) in place of the pre-mounted attached insertion post. The insertion aid is screw-retained as compared to the attached insertion post, and allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

SURGICAL PROCEDURE

OPENING THE PACKAGING AND TRANSFER OF THE IMPLANT HOLDER TO THE STERILE ZONE

The exterior packaging is opened with the perforated packaging tab.

NOTE
If the perforated packaging tab is partially or fully open, the packaging is deemed damaged and the implant may no longer be used.

The four self-adhesive patient labels included with the blister, are intended for documentation purposes for example:

- Implant pass
- Patient records
- Letter of referral

The blister with the Tyvek® foil forms the sterile barrier. As long as the blister as well as the Tyvek® foil are undamaged, sterility of the content is assured.

Opening of the blister:
At the two sharp angle corners, the blister is fitted with tabs which allow easy separation of the Tyvek® foil from the blister.

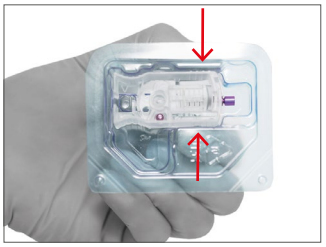
There are two ways to transfer the implant holder to the sterile zone **(A and B):**

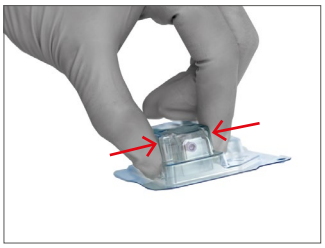
A: DISCARDING THE IMPLANT HOLDER ONTO THE STERILE SHELF

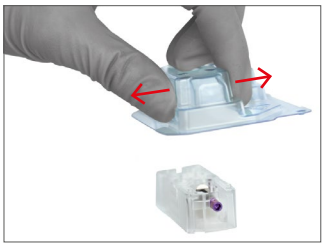
The opened blister is gently compressed between two fingers in the marked position.

The blister is designed such, that the implant holder is retained in the blister as long as finger pressure is maintained. This allows controlled placement over the sterile shelf.

By releasing finger pressure, the holder can be discarded onto the sterile shelf in a controlled manner.







B: PASSING THE IMPLANT HOLDER TO THE IMPLANTOLOGIST

The opened blister is passed to the implantologist.

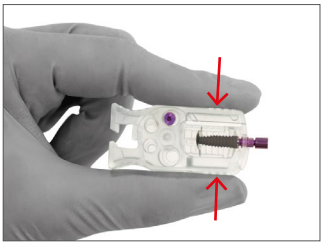
The implantologist takes the implant holder with two fingers at the intended place.

Then the implant holder can be used in the sterile zone.

SURGICAL PROCEDURE

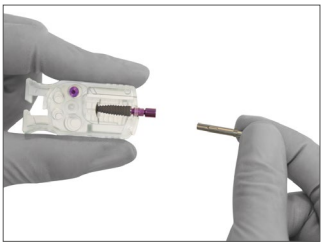
PICKING UP THE INSERTION POST WITH THE MANUAL INSERTION TOOL

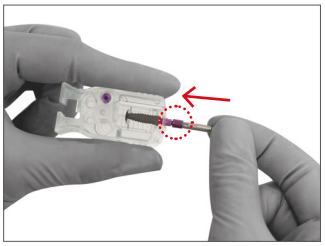
The front part of the implant holder is held between two fingers and the insertion tool is mounted into the insertion post **by applying pressure.** This ensures a secure seat of the insertion tool in the insertion post.

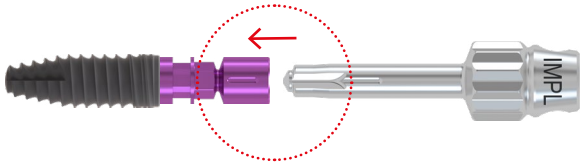


NOTE

It should be noted that **picking up the insertion post with the insertion tool is done by applying pressure.** This ensures secure retention of the insertion post in the insertion tool.







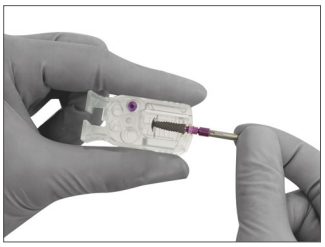
Observe the correct alignment during the pick-up process!

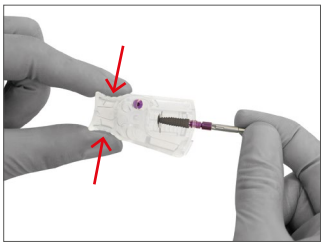
The three groove markings on the head of the insertion post serve easy picking up of the post with the insertion tool, which is also fitted with the corresponding three markings.

Furthermore, the three groove markings on the insertion tool and on the insertion post relate to the groove position of the implant-abutment connection.

Only after inserting the insertion tool on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the implant on the insertion post **upwards in a straight line** (do not kink).

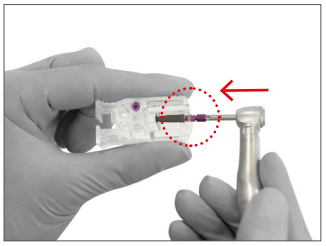


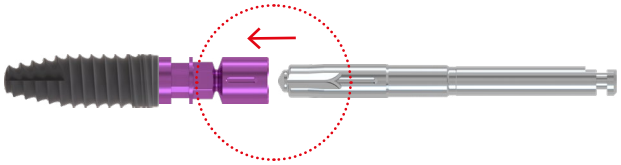


PICKING UP THE INSERTION POST WITH THE ANGLED HANDPIECE

Optionally, the insertion post can also be picked up directly with the ISO shaft handpiece insertion tool on an angled hand piece. The front part of the implant holder is held and then the insertion post is picked up with the handpiece insertion tool by **applying pressure**.

During the pick-up process, observe the correct alignment of the three groove markings on the head of the insertion post and the insertion tool.





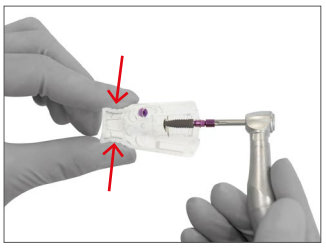
Observe the correct alignment during the pick-up process!

NOTE

It should be noted that **picking up the insertion post with the insertion tool is done by applying pressure.** This ensures secure retention of the insertion post in the insertion tool.

Only after inserting the insertion tool on the insertion post, press the implant holder together at the rear section (see arrows in the illustration) to release the lock on the implant holder and thus the implant.

Lift out the insertion post **upwards in a straight line** (do not kink).



SURGICAL PROCEDURE

IMPLANT INSERTION AND POSITIONING

The implant is inserted manually into the coronal section of the implant bed using the insertion tool.
Then it can be turned manually with the wrench or with the angled hand piece (maximum speed of 15 rpm must not be exceeded) clockwise carefully into the final position. Pay attention to the axial alignment of the implant bed.

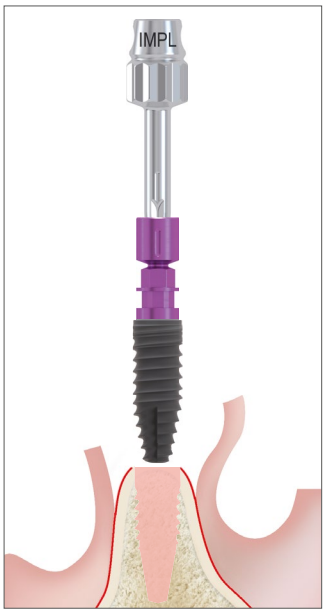
If the thread was cut in advance, the positions of the threaded ends in the cortical bone and on the implant must match.

It is recommended to first rotate the insertion tool with the implant carefully to the left manually, until the thread socket can be felt. Then the implant is screwed in clockwise manually with the insertion tool.

When reaching the planned insertion depth (see section on «form drilling»), one of the three grooves should face in a vestibular direction.

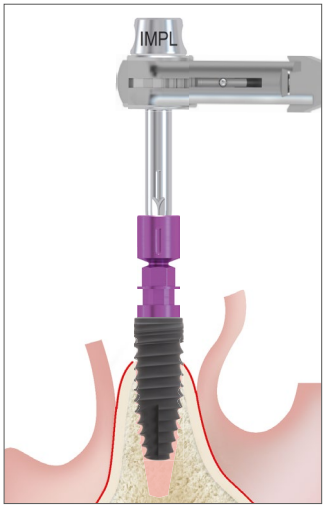
If it was decided to set preparation depths for the implants individually by removing the depth stop during form drilling, this must be kept in mind when inserting the implant. It is possible to individually position implants vertically to match the drilling depth.

NOTE
If low primary stability is expected in a sinus lift procedure or in soft bone, but this method is nonetheless still selected, then we recommend assembly of the insertion aid short in place of the pre-mounted insertion post (see page 34). This is screw-retained as compared to the attached insertion post, and allows intraoperative corrections in positioning of the implant in all three spatial dimensions.

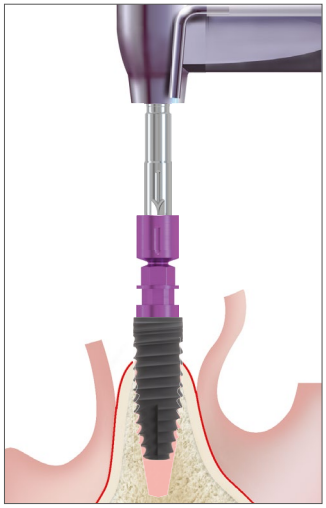


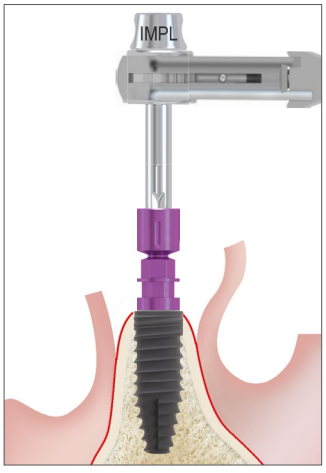
Insertion of implant with a manual insertion tool


Insertion of implant with a machine insertion tool

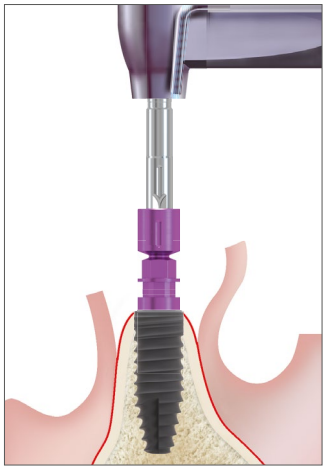


Screw insertion of implant with manual insertion tool and wrench


Screw insertion of implant with a machine insertion tool and angled hand piece (max. 15 rpm)



Manually screwed in implant


Machine screwed in implant

The following is to be observed during implantation:

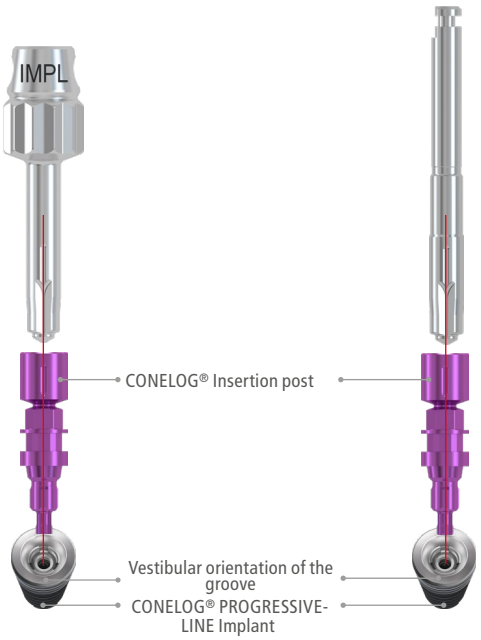
Groove markings are applied to the insertion tool and the insertion post which correspond to the three grooves of the implant-abutment connection. These permit a check of the groove positions during the insertion and their orientation as required for the prosthesis.

If the dental technician has not indicated the groove position, a vestibular orientation is advantageous in most cases since the angle of angulated abutments originates at a groove.

NOTE
Keep in mind during positioning of the grooves that turning to the next groove position (120°) will cause the implant to be inserted about 0.3 mm deeper.

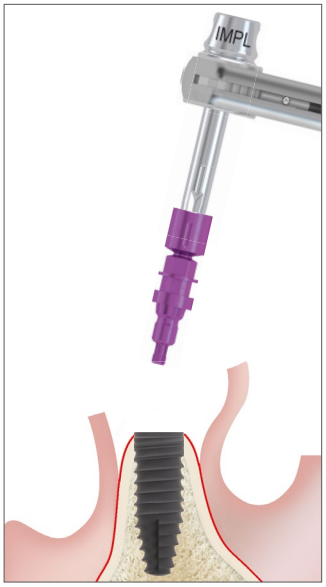
Manual insertion tool for wrench

Machine insertion tool with ISO shaft

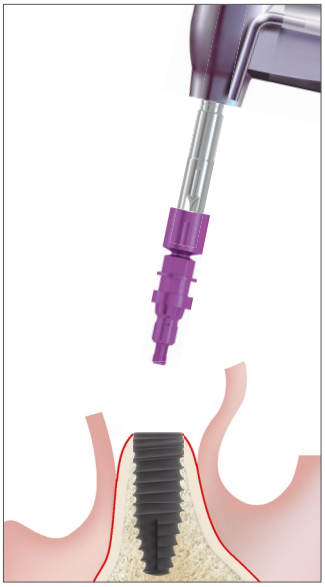


After successful checking of the implantation depth (see section "Form drilling") as well as the position of the grooves (see above), the placed insertion post can be pulled from the implant using the insertion tool. Sufficient primary stability of the implant should be available here. Should the insertion post be stuck in the implant, it can simply be pulled out with forceps. If it is desired to leave the insertion post in the implant for the time being (e.g. in order to be able to compare the axes of several implants better), the insertion post may have to be retained in the implant by applying axial pressure using forceps.

If the primary stability is not sufficient, the implant can be stabilized with a suitable instrument during extraction of the placed insertion post.



Removal of the insertion post for manual screwing in



Removal of the insertion post for machine screwing in

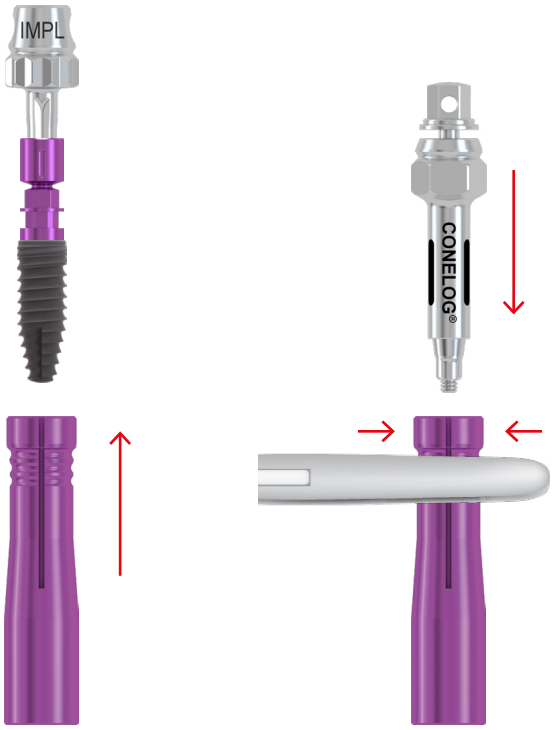
SURGICAL PROCEDURE

ADDITIONAL INSTRUMENTS

INSERTION AID SHORT

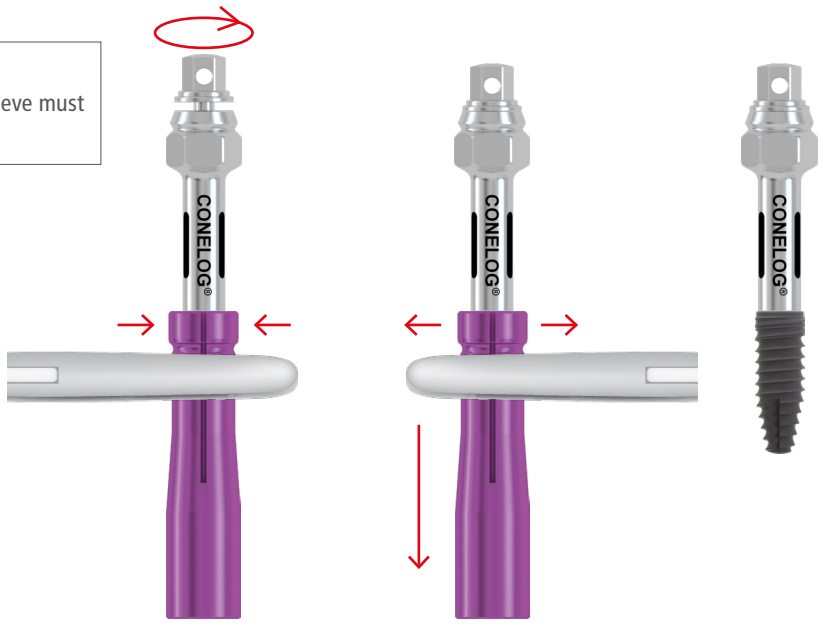
The insertion aid short can be mounted as described below:

- Pick up implant with the insertion tool
- Slide the color-coded sleeve with the appropriate diameter over the endosseous part of the implant
- Compress sleeve at implant shoulder level with a hemostatic clip
- Remove the insertion tool with insertion post
- Insert the insertion aid appropriate for the diameter into the implant until the cams engage in the grooves.
- Fixation of the implant with the fixing screw of the insertion aid (tighten manually)
- Remove the hemostatic clip and the sleeve



IMPORTANT NOTE

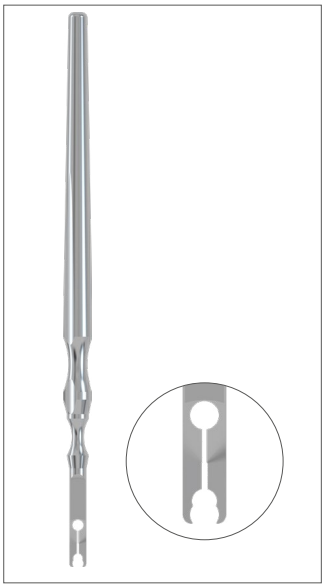
The hemostatic clip, the CONELOG® Insertion aid and the sleeve must be sterilized prior to use.



PICKUP INSTRUMENT

By default, the implant can be removed from the implant holder with the insertion tool. As an alternative to the insertion tool, the PickUp instrument can also be used to remove the implant.

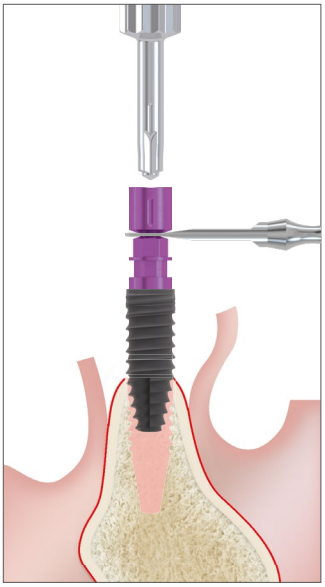
To this purpose, the PickUp instrument is pushed into the notch on the insertion post above the hexagon.



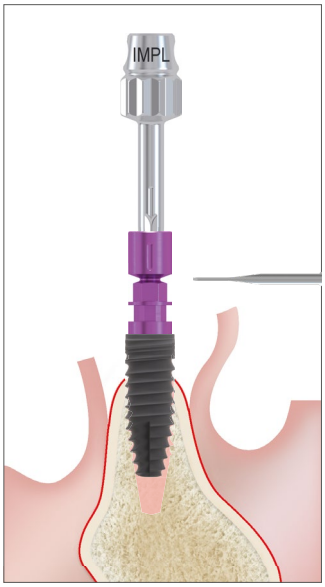
PickUp instrument

Placing the PickUp instrument on the CONELOG® Insertion post

For the insertion procedure, place the selected insertion tool on the CONELOG® Insertion post. The implant is inserted into the bone, and the PickUp instrument is removed.



Placing the insertion tool and insertion of the implant



Inserting the implant and removing the PickUp instrument.

SURGICAL PROCEDURE

REMOVAL ADAPTER FOR IMPLANTS / PREDETERMINED BREAKING POINT OF THE INSERTION POSTS

If the torque or bending moment are too high when screwing in the implant, the insertion post snaps off at the pre-defined breaking point. This protects the inner configuration of the implant. This ensures that the inner configuration of the implant is not damaged and that the fracture fragment of the post can be removed with forceps as a single piece from the implant.

If the predetermined breaking point snaps, the fractured piece must be secured with a thread prior to removal to avoid aspiration.

The following two situations may occur:

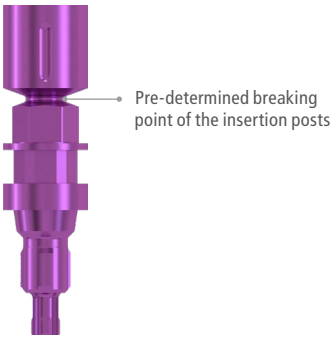
A: If snapping at the predetermined breaking point occurs at the same time as final positioning of the implant, the fragment of the insertion post is extracted as described above, and the procedure can be continued as planned. The cover screw or a healing cap is inserted into the implant, or it is already fitted with a prosthetic component.

B: If the implant is not in the final position when the pre-defined breaking point snaps, the implant must be removed as described in the following, and the reason for snapping investigated.

The removal adapter is used to unscrew the implant after the predetermined breaking point of the insertion post has snapped. To do this, remove the fragment and place the removal adapter on the broken insertion post in the implant. Insert the insertion tool into the removal adapter and unscrew the implant counter-clockwise using the initially blocked torque wrench.

NOTE
Both fragments of the insertion post, the removal adapter as well as the implant are not attached to each other, which is why all elements must be secured against aspiration.

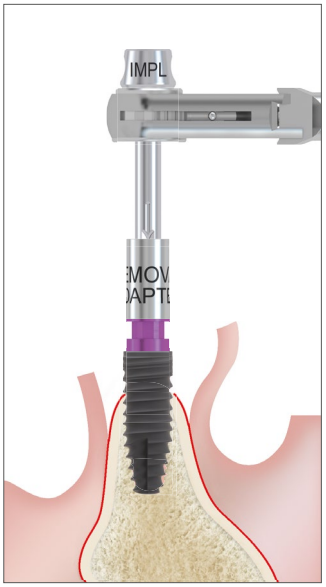
The CONELOG® Removal adapters should only be used for the explantation of non-osseointegrated implants.



CONELOG® Removal adapters for all diameters

Afterwards the implant can be unscrewed with the mounted removal adapter using the insertion tool and the initially locked torque wrench. The implant must be disposed of.

Placing the removal adapter on the broken insertion post



Unscrewing the implant with the aid of the removal adapter and mounted torque wrench

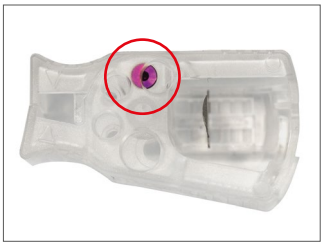
HEALING OPTIONS

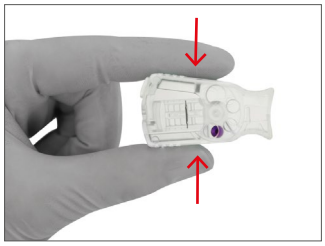
SUBMERGED HEALING

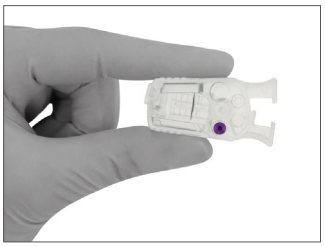
The cover screw for submerged healing is located in the middle section of the implant holder and protected against falling out (red circle) in a provided well (Ø 3.3 mm, Ø 3.8 mm, Ø 4.3 mm and Ø 5.0 mm).

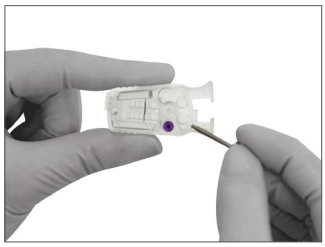
By closing (compressing) the implant holder (see illustration) the cover screw can be released. The screw is freely accessible after this procedure. This procedure is only possible if the insertion post and implant are no longer contained.

Using a screwdriver, hex, the cover screw can be picked up directly from the implant holder **applying pressure.**

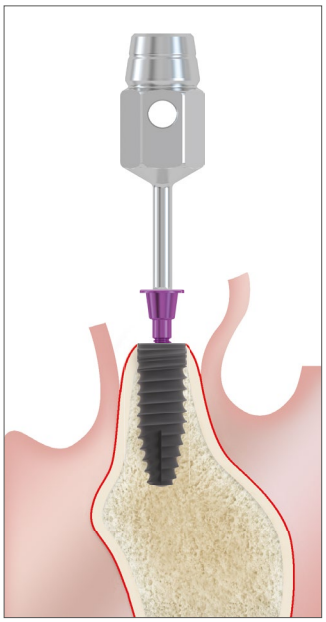




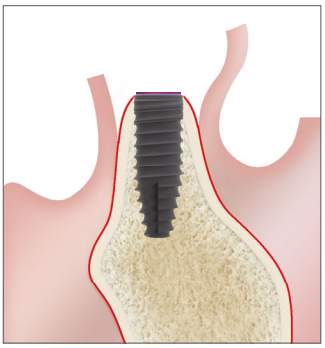




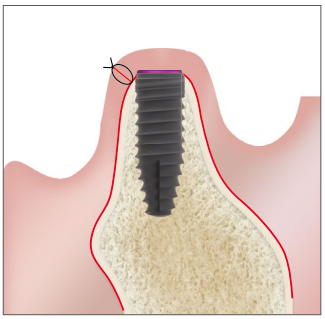
Pick up the cover screw with the screwdriver, hex, and insert it into the CONELOG® PROGRESSIVE-LINE Implant manually controlled (danger of aspiration!). The cover screw must only be tightened manually controlled using the hex screwdriver.



Inserting the CONELOG® Cover screw



CONELOG® PROGRESSIVE-LINE Implant with CONELOG® Cover screw



Wound closure

TRANSGINGIVAL HEALING

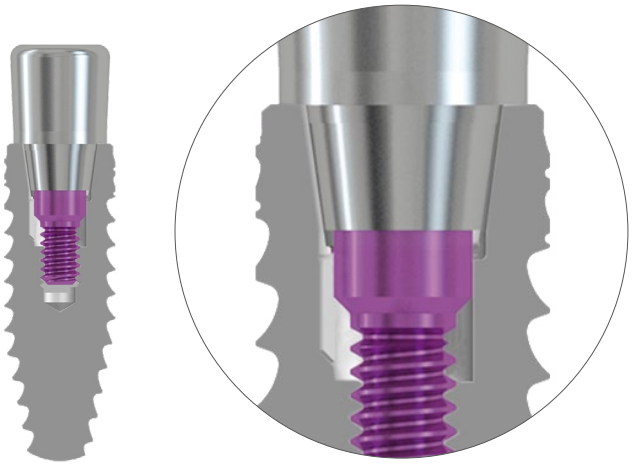
CONELOG® HEALING CAPS

Use of the CONELOG® Healing cap supports the development of peri-implant soft tissue. CONELOG® Healing caps are available in three different geometries:

- cylindrical
- wide body
- bottleneck

The healing caps are color-coded to match the implant diameter.

CONELOG® Healing caps are screwed hand-tight into the CONELOG® PROGRESSIVE-LINE Implant with a screwdriver, hex, whereby the conical surfaces do not come into contact. The healing cap sits on the machined implant shoulder, but does not cover it completely. As a result, the soft tissue over the shoulder can be adapted.



Connection CONELOG® PROGRESSIVE-LINE Implant – CONELOG® Healing cap

HEALING MODALITIES

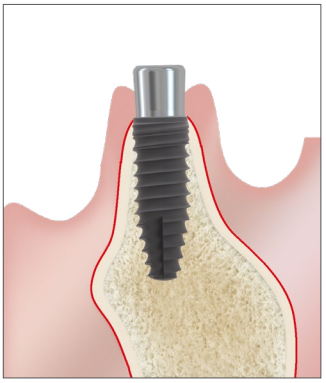
	Article	Art. No.	Ø	GH	GØ
	**CONELOG® Healing caps cylindrical** sterile **Material** Titanium alloy	C2015.3320	3.3 mm	2.0 mm	3.0 mm
		C2015.3340		4.0 mm	3.0 mm
		C2015.3820	3.8 mm	2.0 mm	3.5 mm
		C2015.3840		4.0 mm	3.5 mm
		C2015.3860*		6.0 mm	3.5 mm
		C2015.4320	4.3 mm	2.0 mm	3.8 mm
		C2015.4340		4.0 mm	3.8 mm
		C2015.4360*		6.0 mm	3.8 mm
		C2015.5020	5.0 mm	2.0 mm	4.5 mm
		C2015.5040		4.0 mm	4.5 mm
		C2015.5060*		6.0 mm	4.5 mm
	**CONELOG® Healing caps wide body** sterile **Material** Titanium alloy	C2014.3340	3.3 mm	4.0 mm	4.8 mm
		C2014.3840	3.8 mm	4.0 mm	5.3 mm
		C2014.3860		6.0 mm	5.3 mm
		C2014.4340	4.3 mm	4.0 mm	5.8 mm
		C2014.4360		6.0 mm	5.8 mm
		C2014.5040	5.0 mm	4.0 mm	6.5 mm
		C2014.5060		6.0 mm	6.5 mm
	**CONELOG® Healing caps bottleneck** sterile **Material** Titanium alloy	C2011.3340	3.3 mm	4.0 mm	3.3 mm
		C2011.3840	3.8 mm	4.0 mm	3.8 mm
		C2011.3860		6.0 mm	3.8 mm
		C2011.4340	4.3 mm	4.0 mm	4.0 mm
		C2011.4360		6.0 mm	4.0 mm
		C2011.5040	5.0 mm	4.0 mm	4.7 mm
		C2011.5060		6.0 mm	4.7 mm

GH: Gingival height
GØ: Gingival diameter

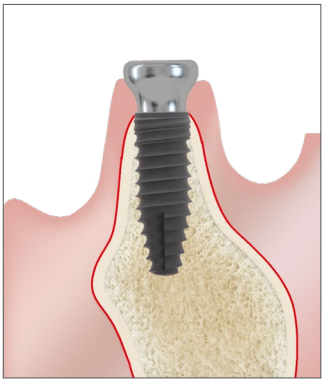
* suitable for bite registration

CONELOG® HEALING CAP, CYLINDRICAL AND WIDE BODY

The cylindrical and wide body CONELOG® Healing caps are for standard use. For insertion into the implant, a CONELOG® Healing cap corresponding to the diameter, is screwed in manually using the screwdriver, hex. A gingival height ensuring that the healing cap sits 1–1.5 mm supragingivally should be selected. The impression is taken once the peri-implant soft tissue has been stabilized.



CONELOG® Healing cap, cylindrical



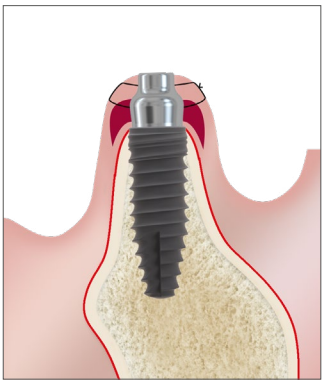
CONELOG® Healing cap, wide body

CONELOG® HEALING CAP, BOTTLENECK

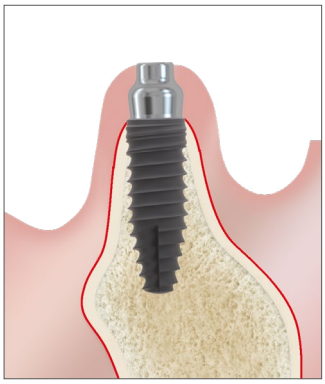
In esthetically challenging areas, the treatment outcome can be optimized by using CONELOG® Healing caps, bottleneck. The coronally tapered crosscut enables soft-tissue generation during healing.

After 3–4 weeks (and before the final organization of the elastic fibers) a CONELOG® Healing cap cylindrical is screwed in. No tissue should be excised.

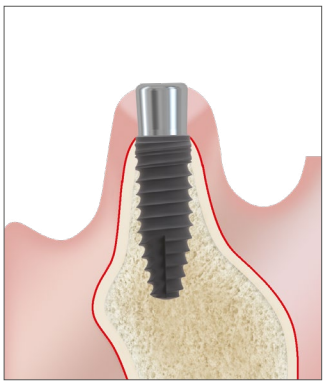
The tissue is coronally suppressed and thereby forms a papilla-like structure. The impression is taken after stabilization of the peri-implant soft tissue.



Healing phase



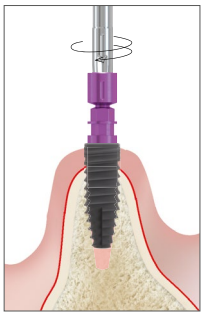
Soft-tissue generation



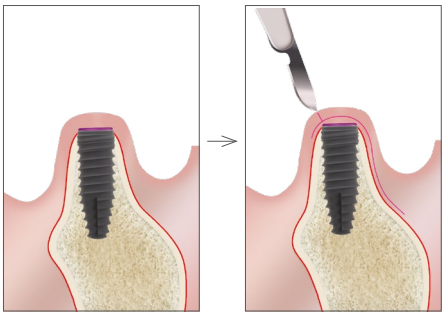
Coronal suppression of the soft tissue by substitution with a CONELOG® Healing cap, cylindrical

TISSUE GENERATION/TISSUE SUPPORT

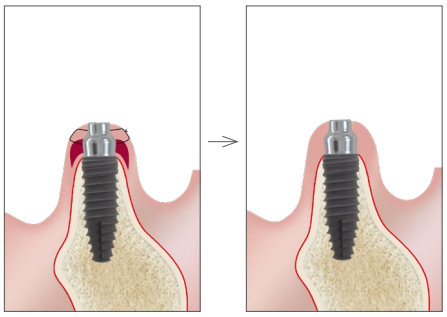
Application
one-step use (transgingival)



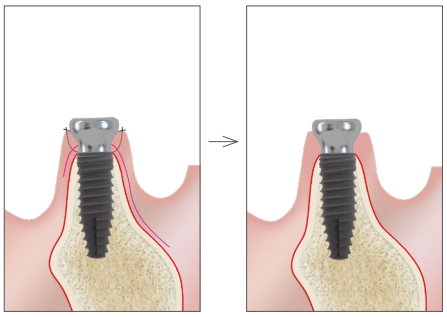
Application
two-step use (submerged)



bottleneck
Tissue generation–step 1

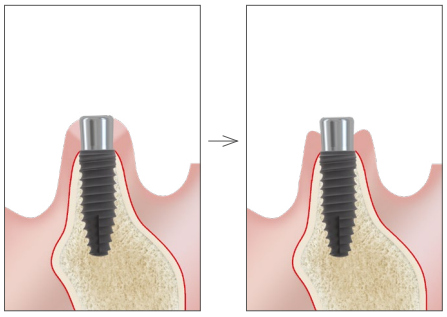


wide body
Tissue support

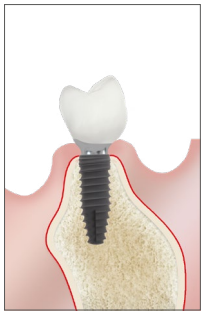


optional

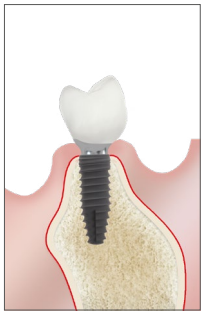
cylindrical
Tissue generation–step 2



Temporary restoration with CONELOG®
Temporary abutment



Final restoration
Abutment with suprastructure



FURTHER DOCUMENTATION

Further information on the CONELOG® Products can be found in the following documents:

- CONELOG® Product catalog
- CONELOG® Working instructions
- CONELOG® Instruction manuals
- Preparation instructions
- CAMLOG Literature overview
- CAMLOG and science

[A] Schwarz F, Alcoforado G, Nelson K, Schaer A, Taylor T, Beuer F, Strietzel FP. Impact of implant–abutment connection, positioning of the machined collar/microgap, and platform switching on crestal bone level changes. CAMLOG Foundation Consensus Report. Clin.Oral Impl. Res. 2014; 25(11): 1301-1303.

[B] Histology of an implant with revers buttress thread of the same geometry. Histologic evaluation of 3 retrieved immediately loaded implants after a 4-month period. I Giovanna, G Pecora, A Scarano, V Perrotti, A Piattelli. Implant Dentistry. Vol 15, Number 3, 2006.

[C] Bone quality as documented in Lekholm U, Zarb GA. Patient selection and preparation. In: Branemark PI, Zarb GA, Albrektsson T, editors. Tissue-integrated prostheses-Osseointegration in Clinical Dentistry. Chicago: Chicago: Quintessance Publishing Co; 1985. p. 199–209.

The documents, with the exception of [A], [B] and [C] are available from the local CAMLOG representative.

See also:

https://ifu.camlog.com
www.camlog.com

Art. No. J8000.0240 Rev.00 03/2019

CE 0123

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camlog