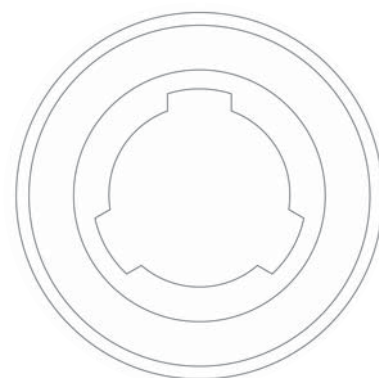


a perfect fit™



CONOLOG® IMPLANT SYSTEM PROSTHETIC RESTORATIONS



Basic Information

Planning of the prosthetic restoration

Impression taking and fabrication of the plaster model

Crown, Bridge and Hybrid Restorations

Insertion

camlog



TABLE OF CONTENTS

GENERAL SYSTEM INFORMATION ABOUT THE CAMLOG®/CONELOG® IMPLANT SYSTEM	4
SYSTEM INTRODUCTION	5
GENERAL GUIDELINES ABOUT THE FABRICATION OF IMPLANT-SUPPORTED PROSTHETICS	5
CONELOG® IMPLANT ABUTMENT CONNECTION	6
CONELOG® PROSTHETIC COMPONENTS	7
PLANNING OF THE PROSTHETIC RESTORATION	11
CONELOG® IMPRESSION TAKING AND BITE REGISTRATION	16
CONELOG® CAST FABRICATION	23
CONELOG® TEMPORARY RESTORATION	27
CONELOG® ESTHOMIC® LINE OF ABUTMENT	30
CONELOG® UNIVERSAL- AND TELESCOPE ABUTMENTS	42
CONELOG® GOLD-PLASTIC ABUTMENTS	44
CONELOG® VARIO SR ABUTMENTS	48
ACCESSORIES AND PROSTHETIC INSTRUMENTS	76
MATERIALS	77
FURTHER DOCUMENTATION	78

GENERAL SYSTEM INFORMATION ABOUT THE CAMLOG®/CONELOG® IMPLANT SYSTEM

THE CAMLOG®/CONELOG® IMPLANT SYSTEM

The CONELOG® Implant System has been developed on the basis of many years of clinical and laboratory experience. It is a user-friendly, consistently prosthesis-oriented implant system.

All CAMLOG® and CONELOG® products are always manufactured with the most state-of-the-art technology. The CAMLOG®/CONELOG® Implant System is continuously being developed by the company's research and development team in collaboration with clinics, universities and dental technicians and therefore stays abreast of the latest technology.

The CAMLOG® Implant System is very well-documented scientifically. Studies support this with respect to a great many parameters including the implant surface, time of implantation and/or implant loading, primary stability, connection design or type of superstructure. The long-term results of the CAMLOG® Implant System are convincing.

IMPORTANT NOTE

The descriptions that follow are not adequate to permit immediate use of the CAMLOG®/CONELOG® Implant System. Instruction by a surgeon experienced in using the CAMLOG®/CONELOG® Implant System is strongly recommended. CAMLOG®/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.



SYSTEM INTRODUCTION

GENERAL GUIDELINES FOR THE FABRICATION OF IMPLANT-SUPPORTED PROSTHETICS

Modern implant prosthetics is now an established component of dentistry. The expectations and demands of patients are steadily increasing. Therefore, the ultimate goal of modern implant-supported treatment concepts is for full esthetic, functional, phonetic, and psychosocial rehabilitation. This applies equally to replacements of lost single incisors associated with trauma and the complex rehabilitation of periodontally compromised remaining teeth or the treatment of an edentulous heavily atrophied maxilla and mandible.

Increasingly higher demands for quality and specialization require a multidisciplinary team approach to combine the members acquired knowledge and experience. Modern implant-supported restorations need a high level of attention to detail and clinical experience. This is true equally for the restorative dentist, the surgeon, the dental technician, and the dental office support staff such as the nurse, hygienist, and chair assistant. The CAMLOG team concept takes all of these demands into consideration. The sequence of treatment procedures is structured, and specific procedures are clearly assigned to specific team members once the joint planning phase is complete.

The implant-supported prosthetic restoration should be designed as simple and as safe as possible in regards to planning and fabrication. The required number of implants, as well as their length and diameter are determined based on the restoration planned later and the available bony implant site. The pre-implantation planning should be oriented exclusively to prosthetic needs (backward planning).

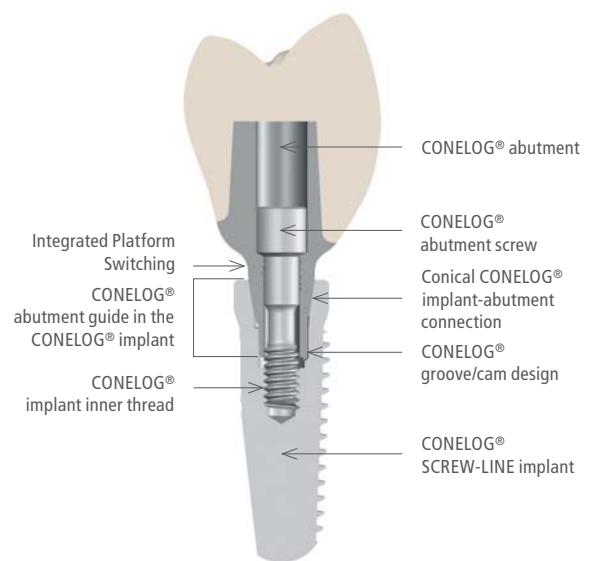
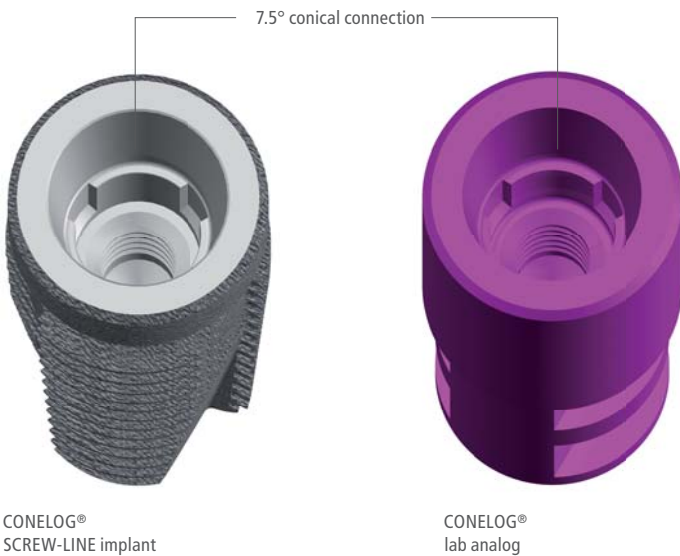
The patient is the focus of the implantological restoration. The patients needs and desires must play a part in the fabrication of the prosthetic restoration. This also requires taking into account anatomical relationships and conditions. Natural teeth are attached elastically by the periodontium to the alveolar bone. However, implants are rigidly anchored to the alveolar bone by the ankylotic connection to the bone substance. Mastication forces placed on implant-borne crown and bridge restorations are transferred directly to the bone. For this reason, the mastication forces should be transferred by a possible physiological process in the form of a suitable occlusion design thus supporting the long-term success of the integrated implants.

This can be achieved in the posterior occlusal area with a surface area of approx. 1 mm² that allows lateral freedom of movement of approx. 1 mm in habitual intercuspation. This makes it possible for the cusps to glide smoothly between the retrusive contact position (centric occlusion) and the maximum intercuspal position called «freedom in centric». In conjunction with a premolarized forming, overloads can be avoided. Extreme cusp formations should be avoided due to dentition that is too strong and vertical mastication forces affect the implant/antagonist axis preferably physiologically. Guidance functions of crown restorations on individual implants can lead to lateral force affects that are too strong and should be avoided. Appropriate planning should occur (e.g. wax-up) in advance.

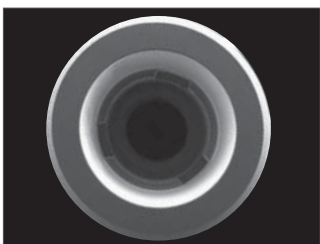
SYSTEM INTRODUCTION

CONELOG® IMPLANT-ABUTMENT CONNECTION

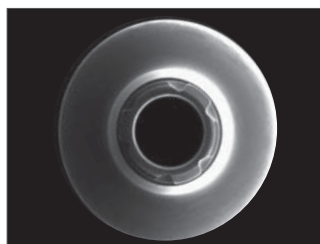
CONELOG® SCREW-LINE implants and CONELOG® lab analogs are equipped with a cone (7.5°) and three grooves in the inner configuration for positioning CONELOG® abutments. The CONELOG® abutments are apical with a cone and three cams, and lock into the conical connection and the three grooves of the CONELOG® implant/lab analog. The CONELOG® abutment does not cover the implant shoulder (integrated Platform Switching). A CONELOG® lab screw is used for fabrication of the restoration to set CONELOG® abutments in the CONELOG® lab analog. For definitive insertion, a CONELOG® abutment screw is used.



Conical CONELOG® implant-abutment connection



CONELOG® SCREW-LINE implant



CONELOG® abutment

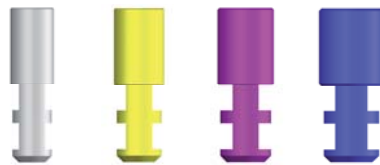
CONELOG® PROSTHETIC COMPONENTS

The prosthetic treatment of the CONELOG® SCREW-LINE implants is completed with single crowns, bridges or full dentures. Own CONELOG® prosthetic components such as CONELOG® impression posts, CONELOG® lab analogs and CONELOG® abutments are available for fabrication of the restoration.

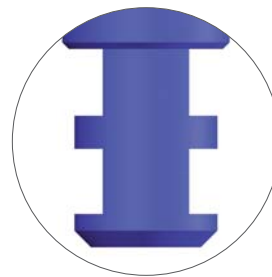
IMPRESSION TAKING AND FABRICATION OF THE PLASTER MODEL



CONELOG® impression posts
open and closed tray



CONELOG® lab analogs,
Ø 3.3/3.8/4.3/5.0 mm



CONELOG® lab analogs with
two retention notches

PROSTHETIC RESTORATION



CONELOG® temporary
abutment



CONELOG® Esthomic®
abutments



CONELOG®
Gold-plastic abutment



CONELOG® Vario SR abutment,
straight



CONELOG® Vario SR abutment,
20° angled



CONELOG® Vario SR abutment,
30° angled



CONELOG®
Universal Abutment



CONELOG®
Telescope abutment

SYSTEM INTRODUCTION

IMPORTANT NOTE

Due to the conical inner configuration of the CONELOG® SCREW-LINE implants, they are only compatible with CONELOG® components.





CONELOG®
lab analog



CONELOG®
abutment

CONELOG® LAB SCREW

To protect the CONELOG® abutment screw when fabricating the prosthetic restoration, we recommend using a CONELOG® lab screw with the corresponding diameter.

Art. No.	C4006.1601	C4006.2001
CONELOG® lab screw, hex, brown anodized		
For implant diameters	3.3/3.8/4.3 mm, Thread M 1.6	5.0 mm, Thread M 2.0





CONELOG®
screw design

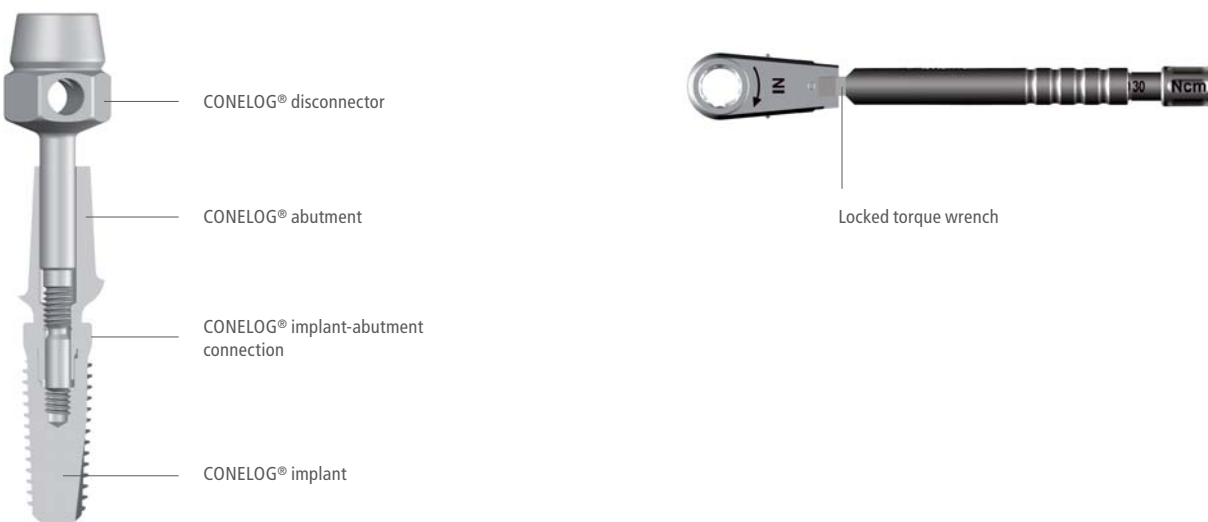
IMPORTANT NOTE

The CONELOG® Lab screws must not be used in the patient!

CONELOG® DISCONNECTOR FOR CONELOG® ABUTMENTS

CONELOG® abutments are removed from or pushed out of the CONELOG® implants/lab implants using the CONELOG® disconnecter for CONELOG® abutments. First the CONELOG® abutment screw/lab screw is removed, and the disconnecter is screwed into the screw canal until the abutment releases from the internal taper of the CONELOG® implant/lab implant. If the abutment does not release, the torque wrench (blocked setting) can be attached to the disconnecter and the abutment then released by turning the wrench counterclockwise.

Art. No.	C5300.1601	C5300.2001
CONELOG® disconnecter for CONELOG® abutments		
For implant Ø	3.3/3.8/4.3 mm, thread M 1.6	5.0 mm, thread M 2.0



PRODUCTION PRECISION

The inner and outer geometry of the CONELOG® implants and abutments are rotary machined for the most part. The tolerances can therefore be kept very low. The result is excellent part precision without impacting the material structure. The CONELOG® implant abutment connection ensures a very precise, stable and rotation-resistant connection to the CONELOG® prosthetic components.

MATERIALS

The CONELOG® lab analogs, CONELOG® abutments and CONELOG® abutment screws are made of titanium alloy Ti6Al4V ELI.

SYSTEM INTRODUCTION

COLOR-CODING

COLOR-CODING OF THE SURGICAL AND PROSTHETICAL CAMLOG®/CONELOG® PRODUCTS

	COLOR	DIAMETER
	gray	3.3 mm
	yellow	3.8 mm
	red	4.3 mm
	blue	5.0 mm
	green	6.0 mm

IMPORTANT NOTE

No components of different diameters should be used together. The system components must not be modified.

PLANNING OF THE PROSTHETIC RESTORATION

INTRODUCTION

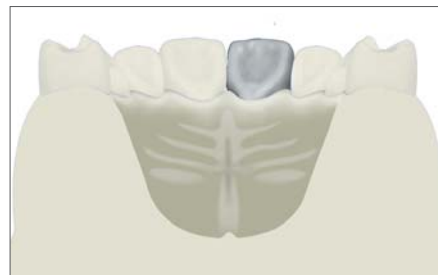
Modern implant prosthetics is planned by working back from the desired therapy goal; this is referred to as «backward planning.» It applies particularly to pre-implantation augmentation procedures to restore sufficient bony structure to allow placement of implants in the optimal prosthetic position.

Function, phonetics, and hygienic potential require prosthetically oriented implant positioning and dimensioning, which the dental technician defines on the basis of the wax-up/set-up. The prosthetic design and the required implant position(s) and axial alignment(s) are planned by the dentist and dental technician working closely together. This requires both to be fully informed of the treatment options.

If implant positions (implants approximating the former tooth positions) cannot be implemented for a fixed denture for whatever reason – functional (implant loading, crown length), esthetic (soft tissue support) or hygienic – a removable denture must be planned.

DIMENSION CONTROL, WAX-UP/SET-UP

A silicone index is used to represent the space requirement for the planned restoration on the cast. The restoration is modelled directly without abutment in wax as a wax-up/set-up. The planned prosthetic result, the implant axis, the course of the gingiva, the alveolar ridge and the residual teeth are taken into account.



PLANNING OF THE PROSTHETIC RESTORATION

SILICONE INDEX

The silicone index is then fabricated over the wax-up/set-up. The index should contain the tooth range from oral to vestibular. After curing, the index is divided along the incisal or occlusal midline. After removing the wax-up/set-up, the corresponding silicone index half (buccal or palatal/lingual half) shows the space requirement for the prosthetic restoration. After inserting the abutment into the cast, the necessary preparation for an optimal esthetic and function of the prosthetic reconstruction can be determined.



This process makes simple, fast dimension control for the prosthetic restoration options on CONELOG® abutments possible and can be used further in the subsequent work steps.

ARCH RELATIONS

The arch relations has effects on the load direction and therefore on the axial alignment of the implants. This is particularly important with cross-bite situations. Crowns cannot be placed precisely over the implants in the presence of Angle Class II dentition because the soft tissues must be supported and the space for the tongue must not be reduced. A removable denture is indicated in this situation.

DIAGNOSTIC CASTS

The diagnostic casts must clearly show not only the occlusal surfaces but also the vestibular fold and retromolar areas. The diagnostic casts are mounted in an adjustable articulator with the aid of an arbitrary face bow and centric registration as in perioprosthetics. If the occlusal height requires correction, this must be done with a splint therapy or long-term provisional before the implant-supported prosthetic restoration begins.

PLANNING TEMPLATE

A planning template is fabricated to review the planned implant positions in the mouth. The template can be converted to a drilling template later. In this template, markers can be integrated as needed for radiological control of the planned implant positions.



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

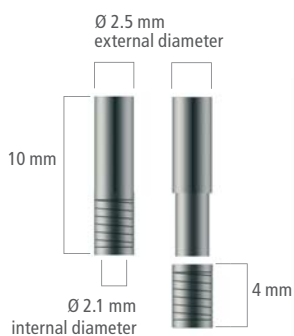
CT-tubes for the CT planning are integrated at the ideal implant positions in the planning templates created from the wax-up/set-up and are used as reference positions in the X-ray image. The CT-tubes have two parts, and the titanium material does not cause any scattering of rays in the CT/DVT. The lower section is polymerized into the template. The upper section is pluggable. The entire CT-tube is used for the radiological diagnostics; the upper section can be removed for surgery. Depending on the software used for the evaluation, titanium CT-tubes or other radio-opaque positioning elements (e.g. steel, barium sulfate) are integrated for the CT/DVT-supported planning. Placing the CT-tubes directly on the mucosa makes it possible to determine density in the CT/DVT. The documentation included with these systems contains more information on this topic.



Planning template with CT-tubes for CT/DVT planning



Template without upper tube section for use as drilling template



Example:
CT-tubes for CT planning
for pilot drill \varnothing 2.0 mm



Drill for placement of
CT-tubes



X-ray template, outlined with tubes



X-ray template with radio-opaque teeth,
pre-inserted tubes and reference element for
computer-based implant planning

PLANNING OF THE PROSTHETIC RESTORATION

ABUTMENT SELECTION

In consideration of the previous prosthetic planning, abutments should be selected in collaboration with the dentist and dental technician. CONELOG® Esthomic® Selection abutments are available for CONELOG® Esthomic® abutments.

The previously prepared silicone index is used to specifically select the suitable abutment on the cast. The following information when making the selection is important: implant axis, implant length, gingival height, groove position (important for angled CONELOG® Esthomic® abutments) and the vertical dimension of the implant to the occlusion level.

IMPLANT AXIS

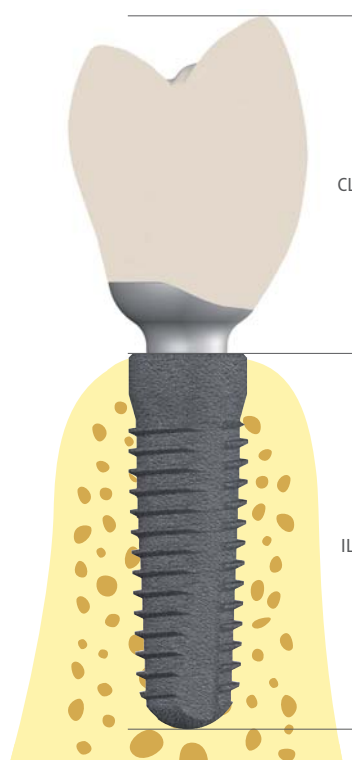
With a straight abutment, it is possible to correct implant axes of up to approx. 10° in axial alignment. If larger axis corrections are required, angled CONELOG® Esthomic® abutments or the CONELOG® Gold-plastic abutment for creating an individual mesostructure must be selected.

SELECTING THE GINGIVAL HEIGHT FOR CONELOG® ESTHOMIC® ABUTMENTS

As a selection criterion, the maximum mucosal thickness is the focus here. Because the final crown margin should lie vestibular 1.0–1.5 mm subgingivally, an CONELOG® Esthomic® abutment with appropriate gingival height must be selected. The crown margin can be prepared later for hygiene and esthetic reasons accordingly. To safely remove any remaining cement, the cement gap should not lie deeper than 1.5–2.0 mm subgingivally for cemented restorations.

VERTICAL DIMENSION TO THE OCCLUSION LEVEL

Information from implantologists for the length of implants used plays an important role in the prosthetic planning or restoration. Loading of the implant-bone interface is a result of the leverage relation generated by osseointegration-related resistance to the prosthesis load arm (equivalent to the supracrestal implant length plus the length of the crown above the implant shoulder). If IL is smaller than CL, then the load must be reduced (e.g. through prosthetic splinting). The length ratio of single crown to implant should be max. CL 0.8 : IL 1.



CL = Crown Length
IL = Implant Length

NARROW SPACE

If the space is limited, the CONELOG® Esthomic® abutment, Inset, is an appropriate solution. The distinctiveness of this abutment is that its maximum diameter is identical to the respective implant diameter.

RECOMMENDED INDICATIONS FOR THE CONELOG® ABUTMENT TYPES

CONELOG® TEMPORARY ABUTMENT

Temporary restorations for single crown restorations in esthetically critical zones.



CONELOG® ESTHOMIC® ABUTMENTS (STRAIGHT/ANGLED)

Cementable single crown and bridge restorations in esthetically critical zones, correction of implant axis divergences.



CONELOG® GOLD-PLASTIC ABUTMENT

Cast-on technique, single crowns, individual implant pillars for cementable bridge restorations, telescopic crown technique.



CONELOG® UNIVERSAL ABUTMENT

Cementable single crown and bridge restorations, telescopic crown technique.



CONELOG® TELESCOPE ABUTMENT

Cementable single crown and bridge restorations, telescopic crown technique.



CONELOG® VARIO SR ABUTMENTS (STRAIGHT, 20°/30° ANGLED)

Screw-retained crown, bridge and bar restorations



IMPORTANT NOTE

Because of the conical CONELOG® implant-abutment connection and the CONELOG® groove/cam design, CONELOG® prosthetic components are only compatible with CONELOG® implants/lab analogs!



CONELOG® IMPRESSION TAKING AND BITE REGISTRATION

IMPRESSION TAKING OF CONELOG® IMPLANTS

INTRODUCTION

The CONELOG® impression taking components provide a highly precise, rotation-resistant transfer system for both closed and open impression methods. The CONELOG® impression posts do not lock into the cone of the CONELOG® implants, but lie on the implant shoulder. A vertical offset is prevented when taking the impression. The antirotational mechanism is ensured by the CONELOG® groove/cam connection.

All system components are color-coded by implant diameter. You should make sure to apply only implants and impression components of the same diameter (by color-coding). No components of different diameters should be attached to one another. The system components must not be modified.

IMPRESSION METHODS, OPEN AND CLOSED TRAY

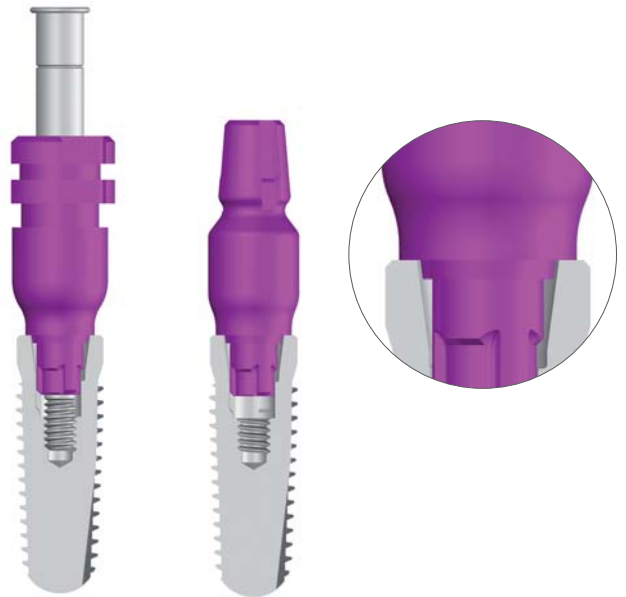
The open or closed tray method may be selected for impression taking. If heavily divergent implant axes are present or combination with a functional impression-taking is desired, the open impression-taking method should be used.

IMPRESSION MATERIAL

Silicone or polyether materials can be used as impression-taking materials for the open and closed impression-taking methods.

NOTE

The impression-taking of CONELOG® SCREW-LINE implants is only possible with CONELOG® impression posts, open and/or closed tray.







CONELOG® Impression posts, open and closed tray

CONELOG® IMPRESSION POSTS, OPEN TRAY

Art. No.	C2121.3300	C2121.3800	C2121.4300	C2121.5000
CONELOG® impression posts, open tray, incl. fixing screw				
For implant Ø	3.3 mm	3.8 mm	4.3 mm	5.0 mm
PH mm	10.0 mm	10.0 mm	10.0 mm	10.0 mm





PH: prosthetic height

CONELOG® IMPRESSION POSTS, CLOSED TRAY

Art. No.	C2110.3300	C2110.3800	C2110.4300	C2110.5000
CONELOG® impression posts, closed tray, incl. impression cap, bite registration cap and fixing screw				
For implant Ø	3.3 mm	3.8 mm	4.3 mm	5.0 mm
PH mm	10.7 mm	10.7 mm	10.7 mm	10.7 mm

PH: prosthetic height

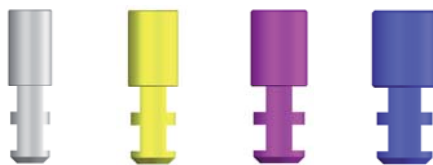
SPARE IMPRESSION CAP

Art. No.	J2111.3300	J2111.3800	J2111.4300	J2111.5000
Impression cap for impression posts, closed tray (5 units)				
For implant Ø	3.3 mm	3.8 mm	4.3 mm	5.0 mm

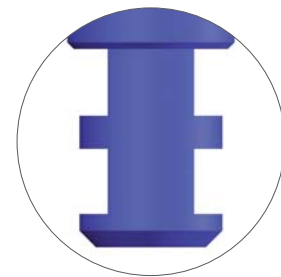
REQUIRED INSTRUMENTS/LAB ANALOGS:



Screwdriver, hex, extra short, short, long



CONELOG® lab analogs, Ø 3.3/3.8/4.3/5.0 mm



CONELOG® lab analogs with two retention notches

IMPORTANT NOTE

All components for impression taking of CONELOG® implants are for single use only and must not be modified.

CONELOG® IMPRESSION TAKING AND BITE REGISTRATION

OPEN-TRAY IMPRESSION-TAKING METHOD

The open-tray impression-taking method requires a custom-made impression tray that is perforated for the protrusion of the fixing screw extending from the implant axis.



CONELOG® impression posts, open tray

The fixing screw is secured in the CONELOG® impression post with an O-ring and must only be tightened by hand using the screwdriver, hex, both in the CONELOG® implant as well as in the CONELOG® lab analog.



NOTE

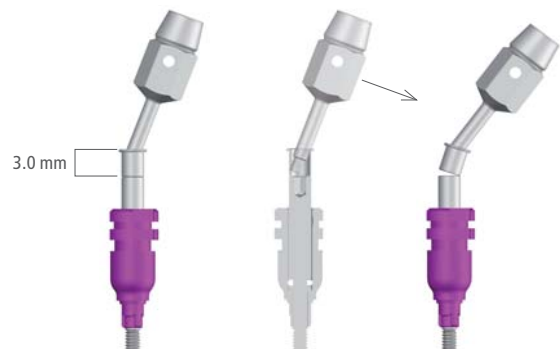
Before removing the impression, the loosened screw must be withdrawn until you can feel the limit stop (O-ring). Otherwise the axis divergences of the implant can make removing the impression difficult or can deform the impression due to the high compression.

Impressions can be taken with implant axis divergences of up to 20° (10° for each CONELOG® implant).



The fixing screw is equipped with a predetermined breaking point. If space limitations are encountered, it can be shortened by 3.0 mm by breaking it off with a screwdriver, hex.

Caution: Shorten extra-orally only!



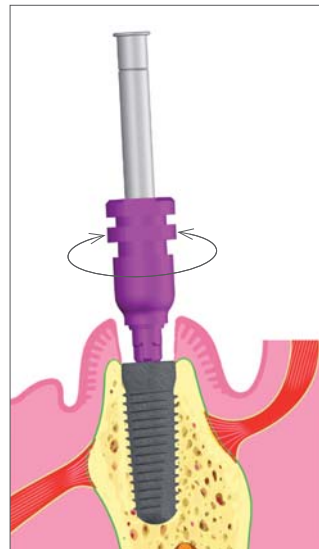
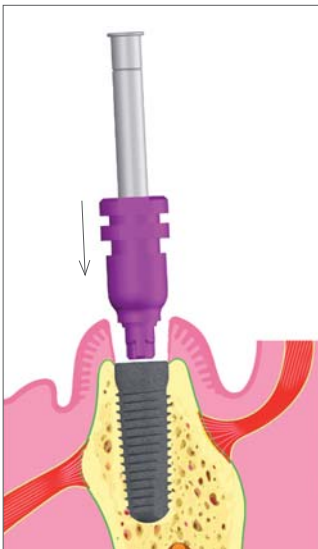
CONELOG® IMPRESSION POST INSERTION

The healing cap or temporary restoration is removed.

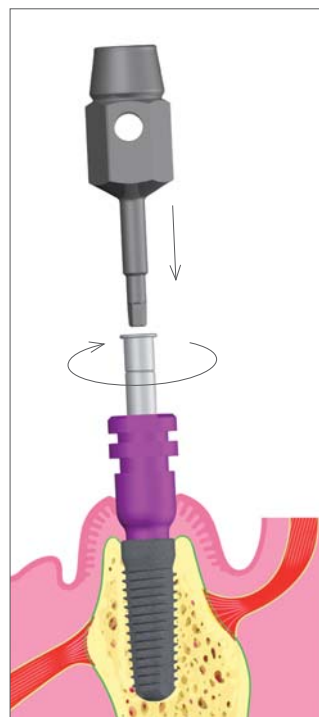
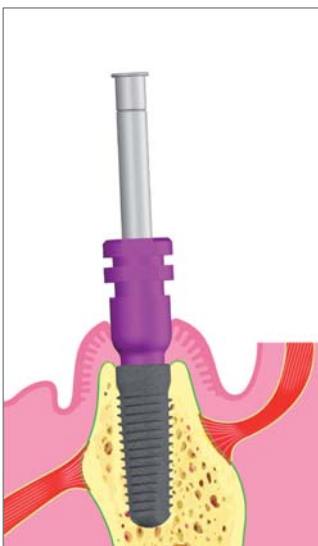
The impression post open-tray is placed on the implant and the fixing screw is gently tightened. The impression post is rotation-symmetrical and does not require any specific orientation. Carefully rotate the impression post in the implant until the cams engage with the grooves of the implant.

CAUTION!

Height difference if cams are not snapped into place is approx. 0.6 mm!



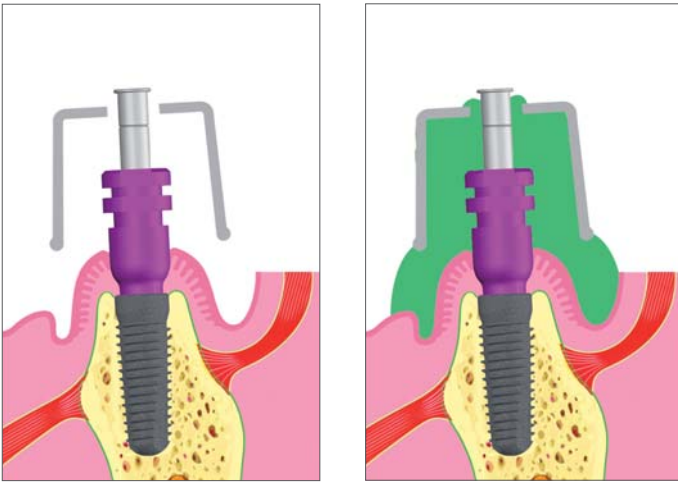
Tighten the fixing screw manually with the screwdriver, hex. We recommend taking an x-ray to check that the impression post is seated correctly before taking the impression, particularly where gingiva is tight and thick.



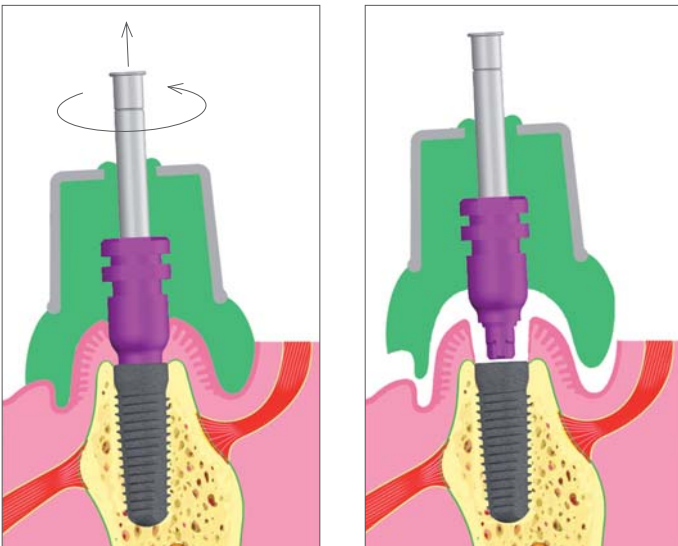
CONOLOG® IMPRESSION TAKING AND BITE REGISTRATION

IMPRESSION-TAKING

Before taking the impression, check the tray for a precision fit. The fixing screws protruding from the perforations must not touch the tray. Next, the impression is taken with silicone or polyether impression material.



To remove the impression, loosen the fixing screw, pull it back and then lift off the impression.



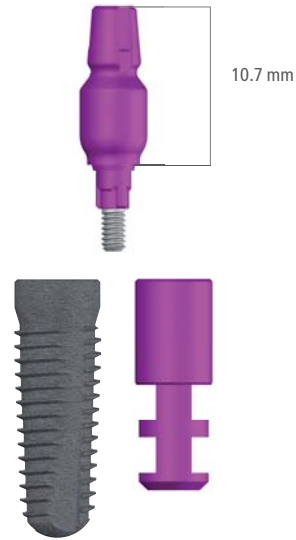
TIP: To simplify the procedure, we recommend sending the laboratory the corresponding CONOLOG® lab analog as well.

CLOSED IMPRESSION-TAKING METHOD

The CONELOG® impression posts, closed tray, are color-coded, have an internal fixing screw and are delivered with an impression cap and a bite registration cap. A prefabricated impression tray can be used for the closed-tray impression-taking method.



CONELOG® impression posts, closed tray with impression caps



The fixing screw in the CONELOG® impression post must only be tightened by hand using the screwdriver, hex, both in the CONELOG® implant as well as in the CONELOG® lab analog.



When the impression post is inserted, the fixing screw protrudes approx. 2.0 mm.



After tightening the fixing screw, it sits flush with the upper edge of the impression post (4–5 rotations).

CONELOG® IMPRESSION POST INSERTION

After removing the healing cap or the temporary restoration, the impression post (with inserted fixing screw) is inserted into the implant. As you rotate it, you will feel the cams snap into the grooves of the implant.



CONOLOG® IMPRESSION TAKING AND BITE REGISTRATION

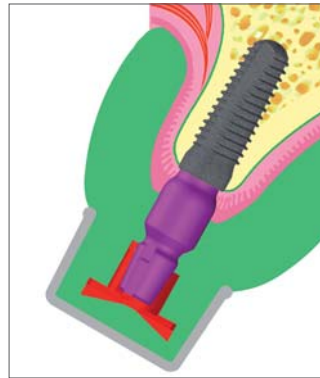
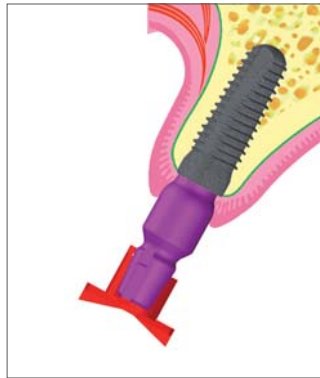
NOTE

After the impression post has locked in place and before screwing in, the fixing screw protrudes approximately 2 mm from the post.

Tighten the fixing screw manually with the screwdriver, hex. We recommend taking an x-ray to check that the impression post is seated correctly before taking the impression, particularly where gingiva is tight and thick.

IMPRESSION-TAKING

The color-coded impression cap is now placed onto the impression post using the guide grooves until a detectable pressure point is reached and the impression cap is clearly fixed into place. Three guide grooves on the impression post (each at 120°) allow for a contact-free placement with respect to the adjacent impression caps or adjacent teeth. The extensions of the impression caps must not be removed.

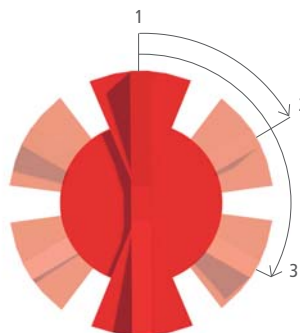


Right before taking the impression, check again to ensure that the impression caps are seated correctly.

The impression caps stay in the impression after the impression tray has been removed. If this is not the case, take the impression again.

TIP: To simplify the procedure, we recommend sending the laboratory the corresponding CONOLOG® lab analogs as well.

To prevent loss of the fixing screw, the impression post must be shipped attached to the lab analog.



Three guide grooves make three positioning options possible for the impression cap

CONELOG® CAST FABRICATION

STANDARDIZED CAST FABRICATION

The impression is taken and the working cast manufactured with prefabricated components of the CONELOG® Implant System. The CNC processing technique is used to fabricate all components. A precision rotation-resistant impression system for both closed and open impression methods is available. Simple standardized handling is available to the user and accurate transfer of the implant position to the cast is ensured. The impression is taken without abutment and in the CONELOG® implant directly, see page 16.

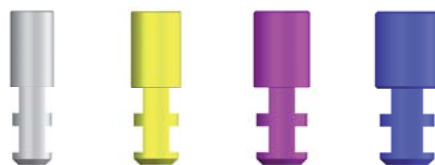
To fabricate the cast, a screwdriver (hex) and the CONELOG® lab analogs corresponding to the diameters are required in addition to the CONELOG® impression posts in the impression. A screwdriver (hex) is used to hand-tighten the CONELOG® impression post fixing screws with the CONELOG® lab analogs for cast fabrication.



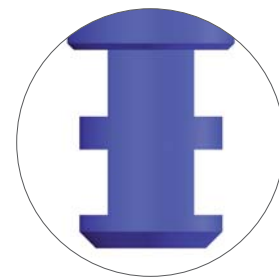
Screwdriver, hex, extra short, short, long



CONELOG® impression post,
open and closed tray



CONELOG® lab analogs, Ø 3.3/3.8/4.3/5.0 mm



CONELOG® lab analog with two
retention notches

IMPORTANT NOTE

The impression posts and lab analogs may not be modified!

CONELOG® CAST FABRICATION

CAST FABRICATION, CLOSED TRAY

PREPARATION

After the impression is taken, the impression cap remains in the impression.



Impression cap

In the dental laboratory the CONELOG® impression posts, closed tray, are attached to the corresponding CONELOG® lab analog (note proper seating).



CONELOG®
lab analog

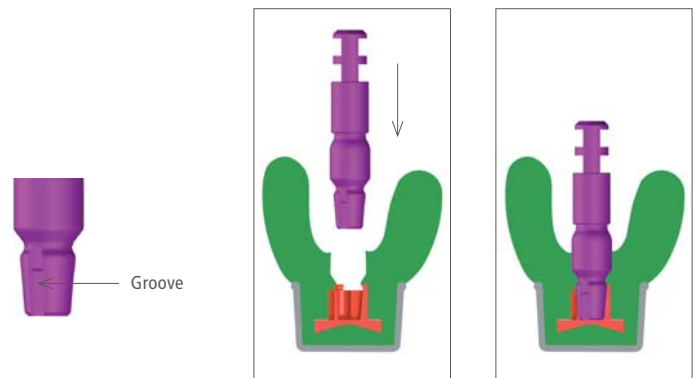
CONELOG®
impression post,
closed tray

Fixing screw

A screwdriver (hex) is used to hand-tighten the fixing screw.



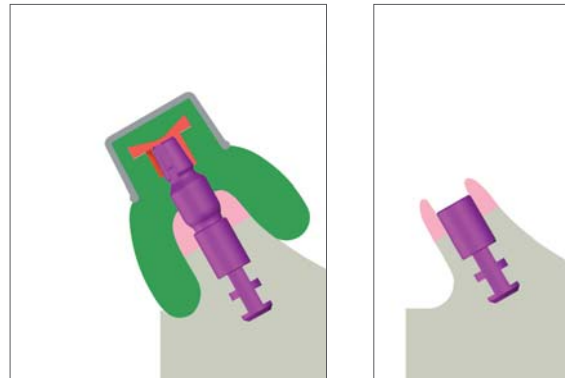
The components repositioned in the impression caps. Make sure that the grooves correctly engage in the impression cap. Do not use bonding material!



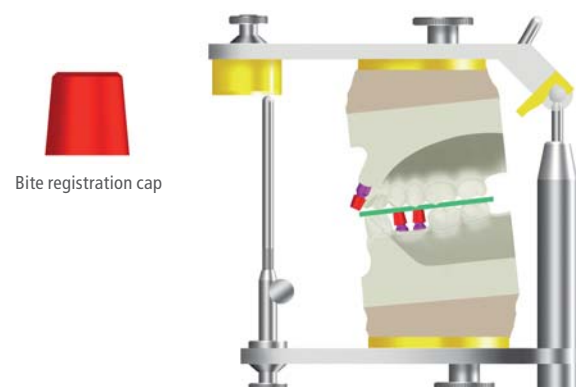
CAST FABRICATION

The impression is cast with appropriate cast plaster and the impression posts may not loosen. After curing, the impression is removed and the impression posts loosened from the lab analogs.

TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.



TIP: After removing the impression, the bite registration caps can be installed on the impression posts in the plaster cast for mounting. After that, the bite registration can be placed on the caps and the casts mounted in the articulator.



CONELOG® CAST FABRICATION

OPEN TRAY

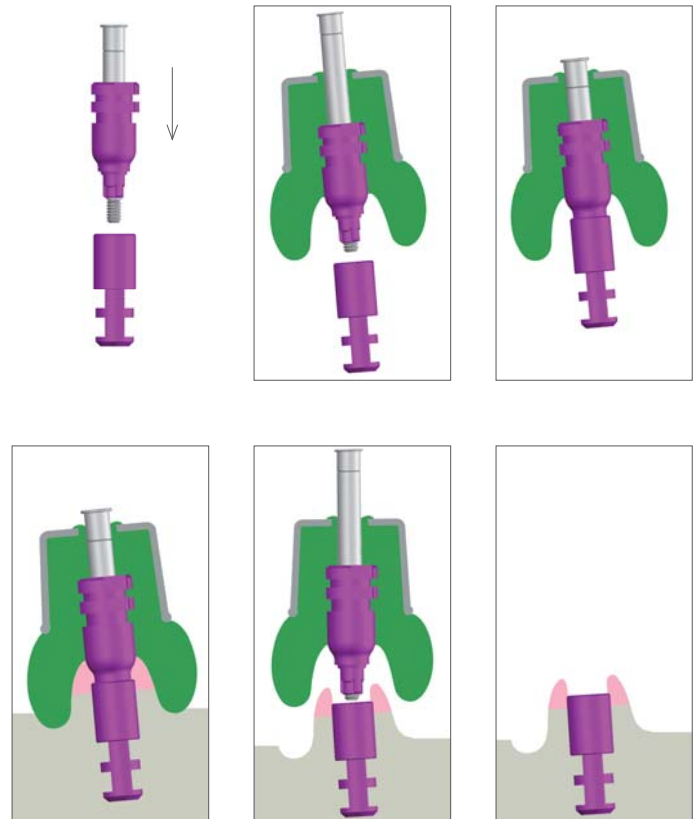
PREPARATION

After the impression is taken, the CONELOG® impression posts, open tray, are in the impression.

The CONELOG® lab analogs corresponding to the diameters are attached to the CONELOG® impression posts, open tray, in the impression (note proper seating). A screwdriver (hex) is used to hand-tighten the fixing screw.

CAST FABRICATION

The impression is cast with appropriate model material. After curing, the CONELOG® impression posts are loosened from the CONELOG® lab analogs and the impression is removed.



TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CONELOG® TEMPORARY RESTORATION

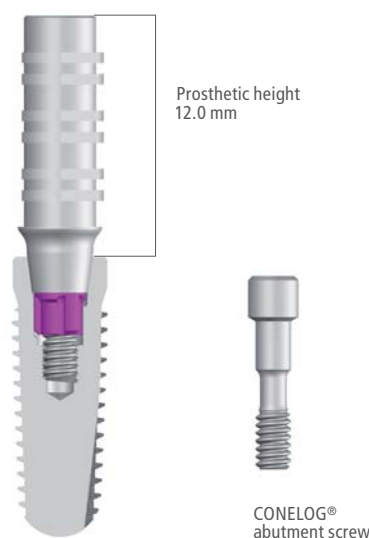
CONELOG® TEMPORARY ABUTMENT

The CONELOG® temporary abutment is made of titanium alloy and is designed for single-tooth immediate restorations in the esthetic region. If needed, it can be used for long-term temporary restorations. The benefits of immediate implantation with an esthetic, non-functional immediate restoration consist in preservation of the structures of the periodontal or peri-implant tissue in esthetically critical zones. Once an adequate healing (osseointegration) period for the implant has elapsed and the peri-implant soft tissue has matured, a new impression for the final restoration can be taken.

The color-coded CONELOG® temporary abutment is provided with a CONELOG® abutment screw and has a prosthetic height of 12.0 mm. The abutment screw is tightened by hand with the screwdriver, hex. The CONELOG® temporary abutment can be shortened to a custom length.

PH: PROSTHETIC HEIGHT

The prosthetic height (PH) is the distance between the implant shoulder surface up to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant.



CONELOG® TEMPORARY ABUTMENT

Art. No.	C2239.3800	C2239.4300	C2239.5000
CONELOG® temporary abutment (titanium alloy), incl. CONELOG® abutment screw			
for implant Ø	3.8 mm	4.3 mm	5.0 mm
PH mm	12.0 mm	12.0 mm	12.0 mm

PH: Prosthetic height (measured from the implant shoulder surface to the occlusal abutment edge of the CONELOG® abutment screwed into the CONELOG® implant).

CONELOG® TEMPORARY RESTORATION

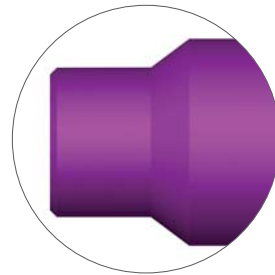
FABRICATION OF A TEMPORARY SINGLE-TOOTH RESTORATION EXAMPLE CHAIR-SIDE

The CONELOG® temporary abutment is inserted into the CONELOG® implant and turned until the cams engage with the grooves of the implant. Next, the CONELOG® abutment screw is inserted into the CONELOG® temporary abutment and tightened by hand with a screwdriver, hex. The vestibular center and the desired occlusal height are marked on the abutment.




Inserting the CONELOG® temporary abutment

The custom shortening and/or grinding of the CONELOG® temporary abutment is performed extraorally in order to prevent contamination of the surrounding tissue with particles from the grinding. To simplify handling, the abutment can be screwed onto a CONELOG® lab analog or onto a CONELOG® abutment collect for the universal holder.



CONELOG® abutment collect with universal holder

To protect the CONELOG® abutment screw, we recommend using a CONELOG® lab screw with matching diameter.

Art. No.	C4006.1601	C4006.2001
CONELOG® lab screw, hex, brown anodized		
for implant Ø	3.3/3.8/4.3 mm, Thread M 1.6	5.0 mm, Thread M 2.0



CONELOG® screw design

IMPORTANT NOTE

The CONELOG® lab screws must not be used in the patient!

After customizing and covering with opaque, the CONELOG® temporary abutment is inserted and screwed into the CONELOG® implant. A temporary crown (strip crown) is filled with the appropriate acrylic material and attached to the temporary abutment. To prevent acrylic material from flowing into the screw channel, the channel can be sealed with wax in advance. To loosen the crown again, after the acrylic has hardened, the screw channel of the abutment must be opened for the screwdriver. The crown is then shaped and the abutment inserted back into the implant. The abutment screw is tightened manually.

FABRICATION OF A TEMPORARY SINGLE-TOOTH RESTORATION EXAMPLE LAB-SIDE

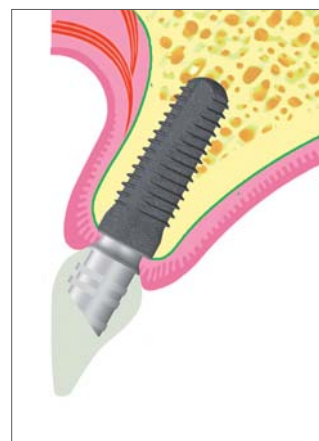
The temporary restoration can also be fabricated in the dental laboratory on the working cast based on the procedure for fabricating temporary solutions similar to those used in conventional crown restorations.

INSERTION OF THE TEMPORARY CROWN

The inner configuration of the CONELOG® implant is thoroughly cleaned and dried before inserting the CONELOG® temporary abutment. The temporary abutment is inserted into the implant and turned until the cams engage with the grooves of the implant. After tightening the CONELOG® abutment screw manually with a screwdriver, hex, the screw head is sealed with an easily removable material (e.g. gutta-percha). The screw canal can be sealed for esthetic and hygienic reasons with a material that can be removed again later (e.g. composite).



Customized temporary abutment on the working cast



CONELOG® ESTHOMIC® LINE OF ABUTMENTS

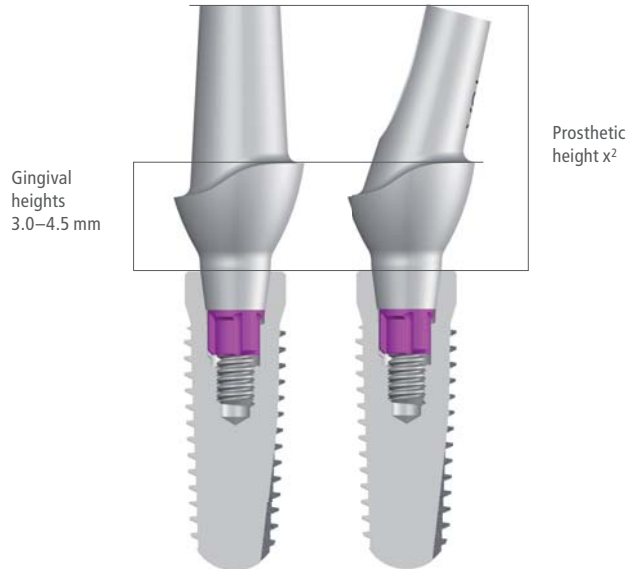
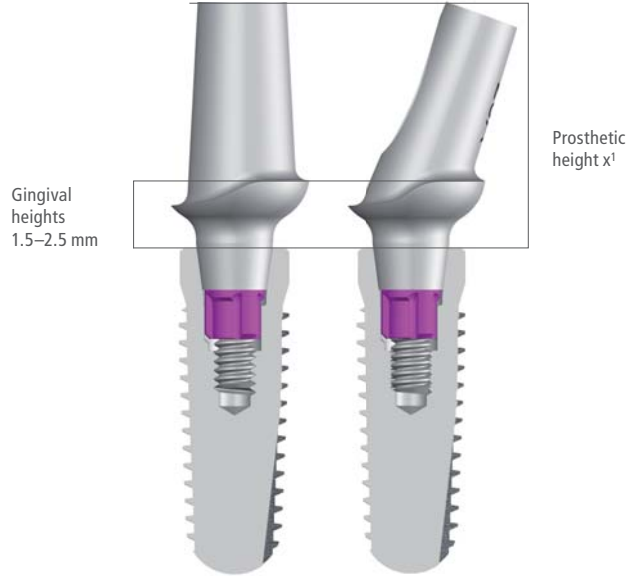
CONELOG® ESTHOMIC® ABUTMENTS

With CONELOG® Esthomic® abutments, cementable crown and bridge restorations can be fabricated in esthetically challenging areas. CONELOG® Esthomic® abutments are made of a titanium alloy, are available in straight and angled versions (15° and 20°, each as Type A and B) and can be modified individually in regards to prosthetic height. CONELOG® Esthomic® abutments are color-coded according to the diameter of the implant and include a CONELOG® abutment screw.

Due to the anatomically appropriate forming of the shoulder and the two selectable gingival heights, individual modifications are reduced in the shoulder area and the processing time shortened. Selectable gingival heights (GH) are 1.5–2.5 mm and 3.0–4.5 mm.

CONELOG® Esthomic® abutments are available based on the gingival height in various prosthetic heights (prosthetic height x^1/x^2 , see information in the tables). The prosthetic height (PH) describes the distance between the implant shoulder surface and the occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant.

The oval base form of the abutment serves as an antirotational mechanism for single crowns.



CONELOG® ESTHOMIC® ABUTMENTS, STRAIGHT

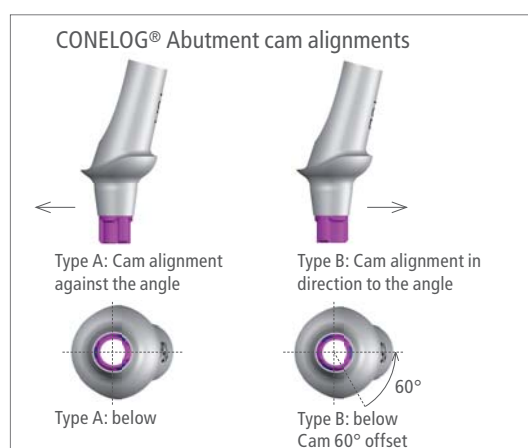
Processing of straight and angled CONELOG® Esthomic® abutments is identical.

CONELOG® ESTHOMIC® ABUTMENT, STRAIGHT, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2226.3815	C2226.3830	C2226.4315	C2226.4330	C2226.5015	C2226.5030
Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.7	11.7	9.7	11.7	9.7	11.7

CONELOG® ESTHOMIC® ABUTMENTS, 15° AND 20° ANGLED, TYPE A AND B

Type A and B angled abutments are available in the CONELOG® Esthomic® line of abutments. Type A has a cam opposing the angle direction. In contrast to type A, type B has a 60° offset cam. Both types make six different rotation positions possible to achieve an optimal prosthetic axis alignment.



CONELOG® ESTHOMIC® ABUTMENT, 15° ANGLED, TYPE A, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2227.3815	C2227.3830	C2227.4315	C2227.4330	C2227.5015	C2227.5030
Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.4	9.4	11.4	9.4	11.4

CONELOG® ESTHOMIC® ABUTMENT, 15° ANGLED, TYPE B, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)







Art. No.	C2228.3815	C2228.3830	C2228.4315	C2228.4330	C2228.5015	C2228.5030
Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.4	9.4	11.4	9.4	11.4

GH: Gingival height







PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

CONELOG® ESTHOMIC® LINE OF ABUTMENTS

CONELOG® ESTHOMIC® ABUTMENT, 20° ANGLED, TYPE A, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2231.3815	C2231.3830	C2231.4315	C2231.4330	C2231.5015	C2231.5030
						
Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.2	9.6	11.3	9.6	11.4





CONELOG® ESTHOMIC® ABUTMENT, 20° ANGLED, TYPE B, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2232.3815	C2232.3830	C2232.4315	C2232.4330	C2232.5015	C2232.5030
						
Ø mm	3.8	3.8	4.3	4.3	5.0	5.0
GH mm	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5	1.5–2.5	3.0–4.5
PH mm	9.4	11.2	9.6	11.5	9.6	11.4

CONELOG® ESTHOMIC® ABUTMENT, INSET

If space is limited, the CONELOG® Esthomic® abutment inset can be used. The diameter of the abutment shoulder is identical to the corresponding implant diameter. The CONELOG® Esthomic® abutment inset is available in gingival height 2.0–3.3 mm.

CONELOG® ESTHOMIC® ABUTMENT, INSET, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2235.3320	C2235.3820	C2235.4320	C2235.5020
				
Ø mm	3.3	3.8	4.3	5.0
GH mm	2.0–3.3	2.0–3.3	2.0–3.3	2.0–3.3
PH mm	9.1	9.0	9.0	9.0

GH: Gingival height

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

CONELOG® ESTHOMIC® ABUTMENT SELECTION KIT

After fabricating the master cast, the CONELOG® Esthomic® abutments suitable for the superstructures can be quickly and easily selected using the color-coded CONELOG® Esthomic® selection abutments in the dental laboratory. There is no longer any need for expensive and complicated storage of the original abutments, either by the dentist or at the prosthodontist or dental laboratory.

The CONELOG® Esthomic® selection abutments are identical in geometry to the original CONELOG® Esthomic® abutments. The CONELOG® Esthomic® selection abutments are made of plastic, have only one cam and are fully pigmented. CONELOG® Esthomic® Selection abutments are available in the CONELOG® Esthomic® Selection Abutment Kit (contains 2 units each).

The appropriate abutments are selected on the master cast. The implant axis, groove position, gingival line/thickness and implant diameter are taken into account. The CONELOG® Esthomic® Selection abutments can be inserted directly into the CONELOG® Lab analog and are reusable.

CAUTION!

CONELOG® Esthomic® Selection abutments may not be used on the patient!



CONELOG® Esthomic®
Abutment Selection Kit

CONELOG® Esthomic® Selection abutments



CONOLOG® ESTHOMIC® LINE OF ABUTMENTS

To protect the CONOLOG® Abutment screw when fabricating the prosthetic restoration, we recommend using a CONOLOG® Lab screw with the corresponding diameter.

IMPORTANT NOTE

The CONOLOG® Lab screws may not be used on the patient!

Art. No.	C4006.1601	C4006.2001
CONOLOG® Lab screw, hex, brown anodized		
For implant diameters	3.3/3.8/4.3 mm,	5.0 mm,
	Thread M 1.6	Thread M 2.0

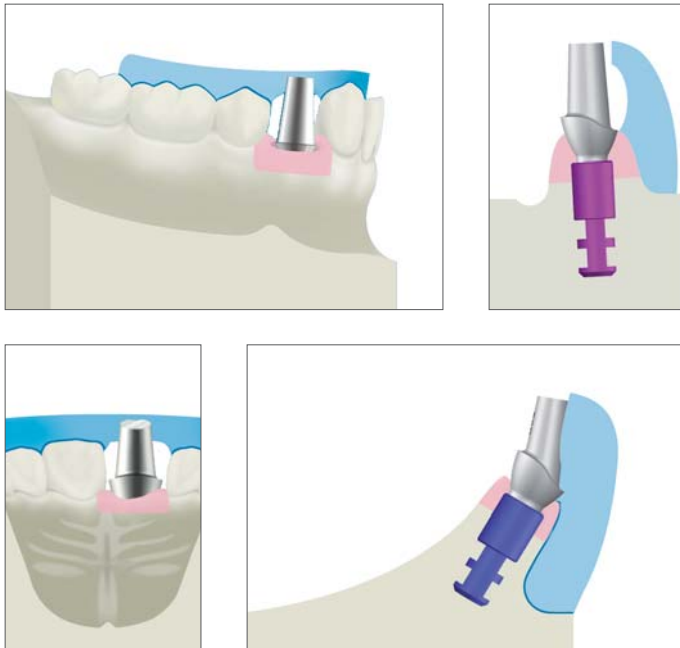
PROCESSING THE CONOLOG® ESTHOMIC® ABUTMENTS

INDIVIDUAL PROCESSING/PREPARATION (EXAMPLE: CEMENTED SINGLE CROWN)

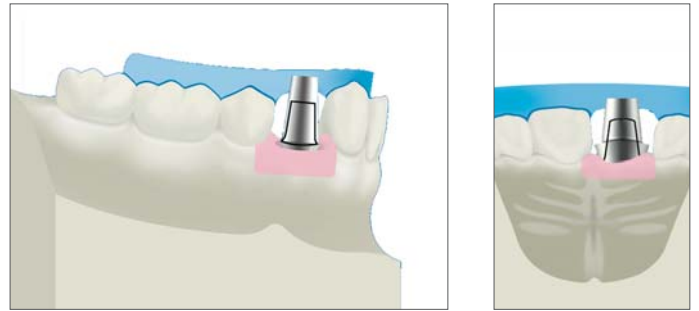
After selecting the suitable CONOLOG® Esthomic® abutment, it is individually modified in consideration of the anatomical conditions.

To prepare the abutment and to fabricate the superstructure on the plaster cast, the brown anodized CONOLOG® Lab screw should be used.

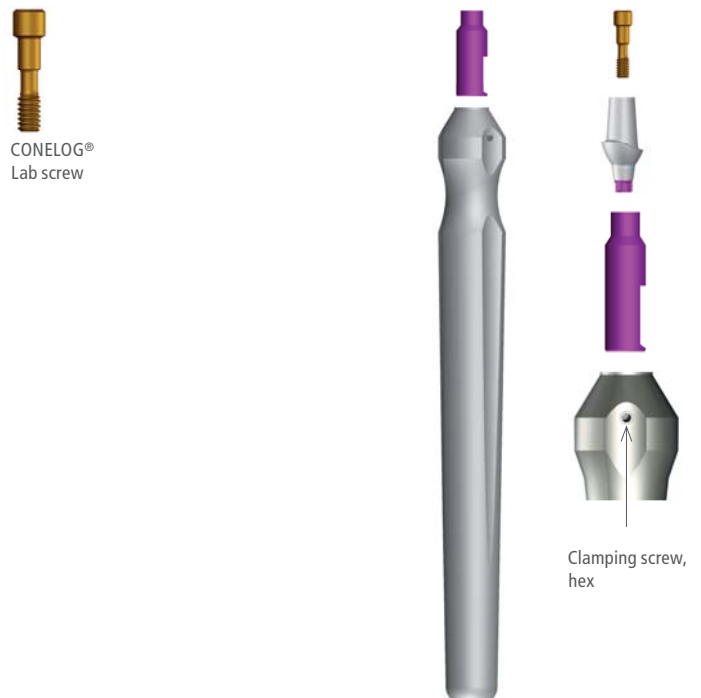
The silicone index prepared in the planning phase is used on the plaster cast for visualization of the desired prosthetic design and as support for achieving the optimal forming of the CONOLOG® abutment.



The course of the preparation edge, as well as the height and axial alignment are marked.



To simplify processing the CONOLOG® abutment, the universal holder can be used with diameter-matched, color-coded CONOLOG® abutment collects. The integrated clamping screw (hex) fixes the required insert (abutment collect) in the handle and the lab screw secures the abutment in the insert.



PROCESSING

Abrasive wheels suitable for titanium machining are used for the preparation. For fine preparation and to create the chamfer, we recommend finely toothed titanium milling cutter. For grinding, the speeds recommended by the respective manufacturer of the abrasive particles should be maintained. Use only low pressure to avoid overheating the titanium. Overheating causes a heavy "alpha-case" layer to form. It is very hard and can make further processing difficult.

First, the abutment height and axial inclination are adapted, then followed by preparation similar to standard chamfer preparation of a tooth stump based on the perioprosthetics. The ideal preparation angle is approx. 2–4°. For esthetic reasons, the crown margin should lie vestibular 1–1.5 mm subgingivally.

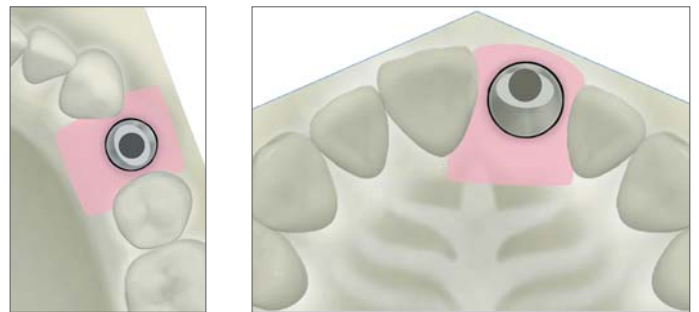
CAUTION

To safely remove any remaining cement, the cement gap should not lie deeper than 1.5–2.0 mm subgingivally for cemented restorations.

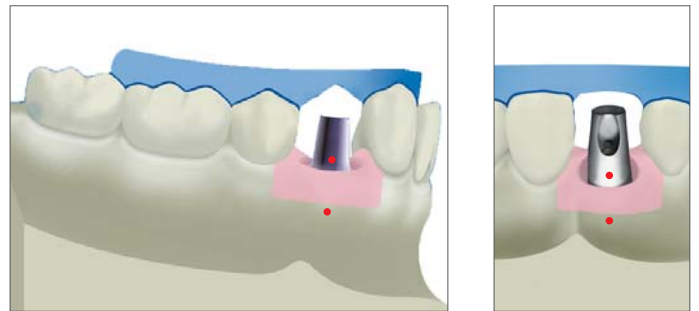
During the preparation process, we recommend to return the abutment into the cast and use the silicone index to check the forming. At the conclusion of the modification, the ground surface is smoothed (e.g. with a gumming unit).



TIP: To make later integration of the crown easier and to ensure antirotational support, the preparation cross-section should not circular, but oval similar to the root cross-section of the natural teeth and include a milled conical guide groove.



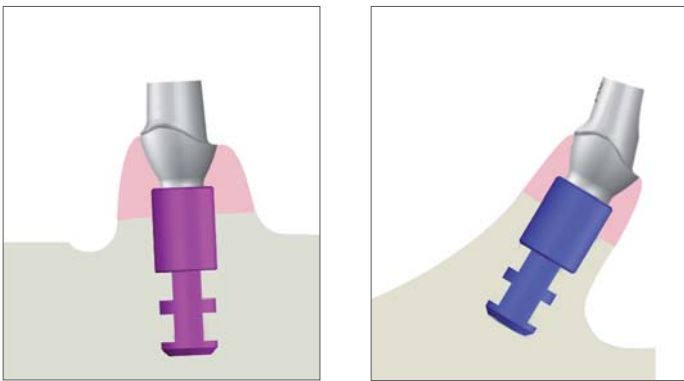
TIP: To make orientation/alignment easier when inserting the abutment into the mouth, a mark in the form of a milled depression on the vestibular side can be attached. This mark is also transferred to the plaster cast and makes handling on the cast easier in practice. This is particularly helpful with several abutments.



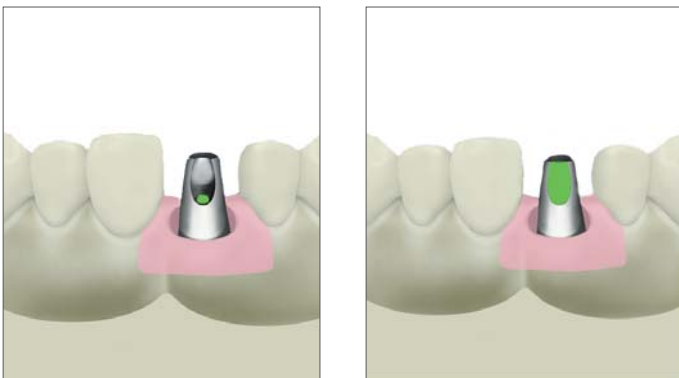
CONOLOG® ESTHOMIC® LINE OF ABUTMENTS

FABRICATION OF A CEMENTABLE CROWN ON A CONOLOG® ESTHOMIC® ABUTMENT

After completing the modifications, the abutment can be restored prosthetically.



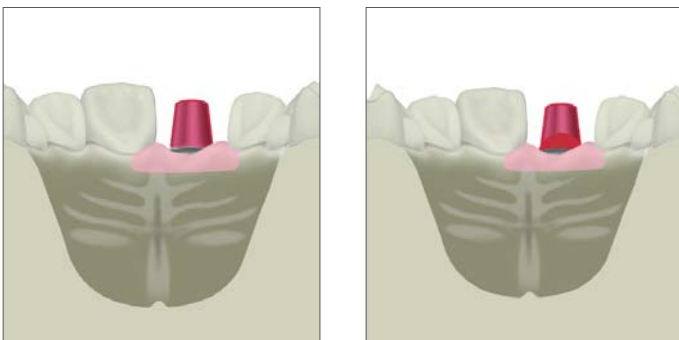
Before shaping of a wax or plastic cap, the screw head must be covered with a soft material and the screw channel closed with a removable material.



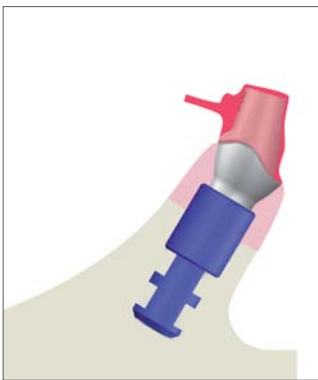
Covering the screw head

Closing the screw channel

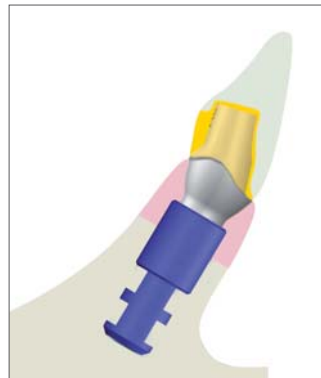
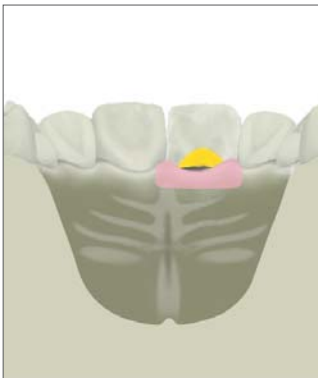
The abutment is coated with suitable separating medium. The wax-up is carried out in the conventional manner similar to perioprosthetics in consideration of function, esthetics and hygienic potential.



TIP: So that the cast crown framework for veneering can be held with an artery clip and for better removing from the abutment for the framework try-in, we recommend attaching a thin wax wire on the palatal/lingual area for the wax-up. In practice, the wire also cast can then be removed before the final insertion.



After the cast is made, the crown is veneered and completed.



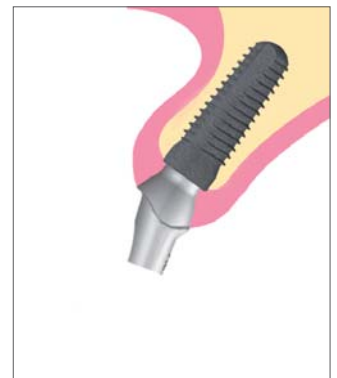
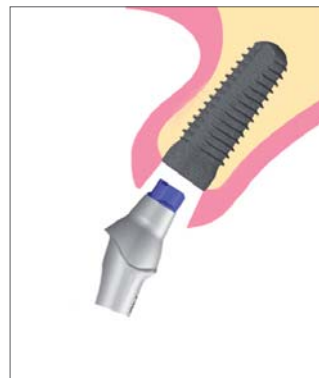
TIP: A vestibular mark makes orienting/aligning easier when inserting the crown in the mouth. This should be identical to the marks made previously on the abutment and cast. This is particularly helpful with several abutments/crowns.



INSERTING THE CONELOG® ESTHOMIC® ABUTMENT AND THE CEMENTABLE CROWN

Clean and disinfect the prosthetic components prior to insertion. Clean the internal configuration of the implant with water spray, check for residues and allow to dry. The peri-implant hard and soft tissue situation must allow gapless insertion of the CONELOG® Esthomic® abutment and crown.

To insert, the abutment mark is vestibularly oriented and the abutment slid into the implant. After seating the cams in the CONELOG® implant internal configuration, the CONELOG® abutment is lightly rotated until the cams noticeably slide into the grooves of the CONELOG® implant. The CONELOG® abutment sinks 1.2 mm into the internal configuration of the implant.





CONOLOG® ESTHOMIC® LINE OF ABUTMENTS

The CONOLOG® Abutment screw is inserted into the screw channel and tightened with a screwdriver (hex) and the torque wrench with a force of 20 Ncm.

We recommend that you retighten the CONOLOG® abutment screw after 5 minutes with the same force to achieve maximum pre-tension on the screws. Only use new and unused abutment screws.

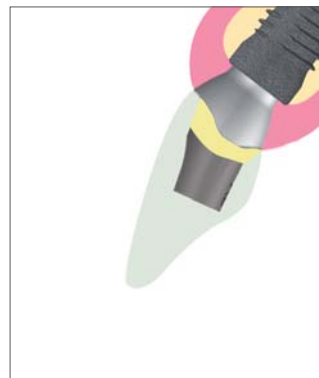
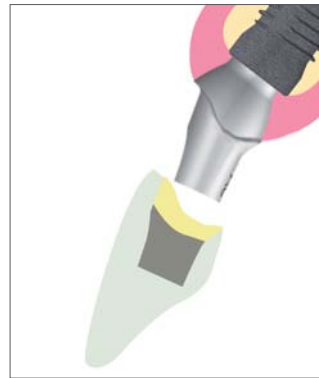


Art. No.	C4005.1601	C4005.2001
CONOLOG® abutment screw		
For implant diameters	3.3/3.8/4.3 mm, Thread M 1.6	5.0 mm, Thread M 2.0

After tightening the CONOLOG® abutment screw, use a removable material to close the screw channel concave. A convex overage should be avoided as this would negatively affect the correct seat of the crown.



Before cementing, the abutment and crown are cleaned and dried in the usual manner. We recommend phosphate or carboxylate cement for the final cementation. Manufacture instructions must be observed. To avoid an air cushion, only a thin layer of cement should be brushed into the crown.



IMPORTANT NOTE

Cement residues in the sulcus must be carefully removed.

ALL-CERAMIC CROWNS

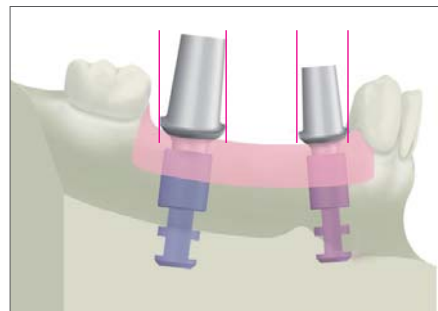
All-ceramic crowns are conditioned and cemented/bonded according to the specifications of the respective ceramic manufacturer.

**INDIVIDUAL PROCESSING/PREPARATION
(EXAMPLE OF CEMENTED BRIDGE)**

After implantation, the implant axes in the jaw rarely match. Therefore, a uniform insertion direction for the individual abutments must be found for fabricating a bridge construction on CONELOG® Esthomic® abutments. The abutments must be modified in their prosthetic area accordingly.



The cast is inserted into a parallelometer or milling machine. The uniform insertion direction of the individual abutments is checked and determined.



The uniform insertion direction of the abutments are prepared:

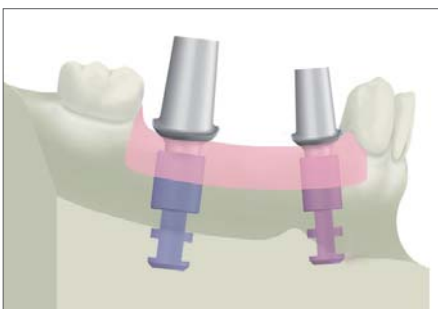
- Manually in the universal holder with alternating control of the master cast loaded in the parallelometer
- On the plaster cast/milling cast loaded in the milling machine

IMPORTANT NOTE

The insertion direction may not be achieved by grinding the CONELOG® implant abutment connection. This would destroy the precision fit of the abutment in the implant.

TIP: To protect the plaster cast when processing the CONELOG® Esthomic® abutments, we recommend that you fabricate a corresponding milling cast.

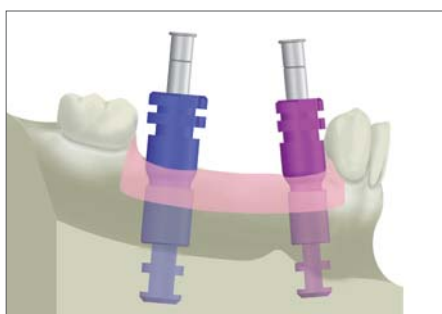
The suitable CONELOG® Esthomic® abutments are set in the CONELOG® lab analogs and manually fixed with CONELOG® lab screws. The gingival line is then marked to define the crown margin and occlusal abutment height.



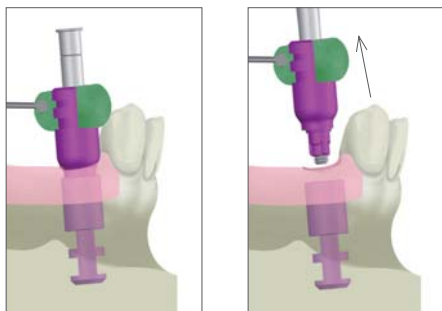
CONELOG® ESTHOMIC® LINE OF ABUTMENTS

FABRICATING A MILLING CAST:

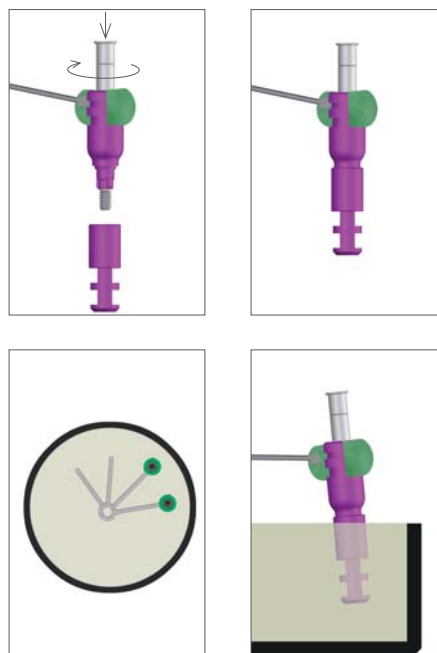
To transfer the cast situation to an individually fabricated milling base, CONELOG® impression posts, open tray and CONELOG® lab analogs corresponding to the implant diameter are required (see color-coding). The impression posts are mounted to the lab analogs in the cast. Note the proper seating.



The posts are firmly attached with a transfer assistance with cold-curing plastic in the retentive area (NOT on the fixing screw). After the plastic has cured, loosening and completely backing out the fixing screw, the transfer assistance with the CONELOG® impression posts is removed from the cast.



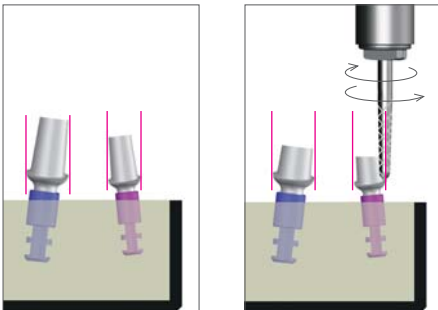
The CONELOG® impression posts are bolted together with the appropriate CONELOG® lab analogs and inserted in a milling disk filled with super-hard dental stone.



The uniform insertion direction previously determined on the master cast represents the milling axis.

PROCESSING:

The abutment heights and axial inclinations are adapted, then followed by preparation similar to standard chamfer preparation of a tooth stump based on the perioprosthetics. The ideal preparation angle is approx. 2–4°. For esthetic reasons, the crown margin should lie vestibular 1–1.5 mm subgingivally.

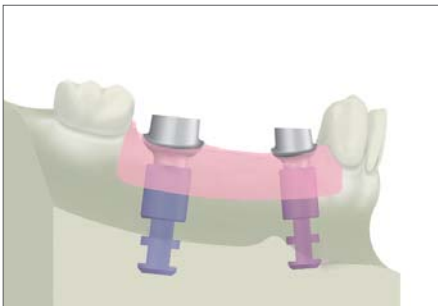


CAUTION

To safely remove any remaining cement, the cementable gap should not lie deeper than 1.5–2.0 mm subgingivally for cemented restorations.

During the preparation process, we recommend to return the abutment into the cast and use the silicone index to check the forming.

At the conclusion of the modification, the ground surface is smoothed (e.g. with a gumming unit).



Fabrication of a bridge construction on CONOLOG® Esthomic® abutments is identical to "Fabrication of a cementable crown" as described on page 37.



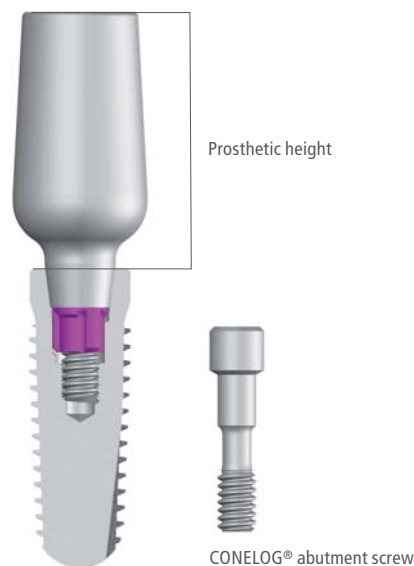
The modified CONOLOG® Esthomic® abutments and fabricated bridge construction is cleaned and inserted (see also description on page 37, "Inserting the CONOLOG® Esthomic® abutment and the cementable crown").

CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

CONELOG® UNIVERSAL ABUTMENT

The CONELOG® universal abutment can be used for individually fabricated cementable crown and bridge restorations as well as double crown restorations. The abutment is made of a titanium alloy and can be custom trimmed. Divergences of max. 20° to the implant axis can be compensated for by a suitably adapted forming and bridge restorations inserted.

The CONELOG® universal abutment is color-coded according to the diameter of the implant and includes a CONELOG® abutment screw.



The prosthetic height (PH) describes the distance between the implant shoulder surface and the occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant.

CONELOG® UNIVERSAL ABUTMENT, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2211.3300	C2211.3800	C2211.4300	C2211.5000
Ø mm	3.3	3.8	4.3	5.0
PH mm	11.0	11.0	11.0	11.0

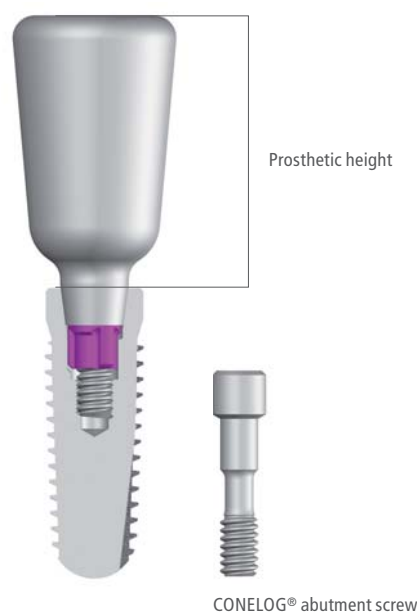
PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

IMPORTANT NOTE




The CONELOG® universal abutment with Ø 3.3 mm is not suitable for double crown restorations due to stability reasons.

CONELOG® TELESCOPE ABUTMENT

The CONELOG® telescope abutment can be used for the fabrication of double crowns (cone/telescope). The abutment is made of a titanium alloy and can be custom trimmed. The abutment has an occlusally oriented cone angle of 5° to offset large angulation corrections in the case of disparallel-placed implants. The CONELOG® telescope abutment is color-coded according to the diameter of the implant and includes a CONELOG® abutment screw.



CONELOG® TELESCOPE ABUTMENT, preparable, incl. CONELOG® abutment screw, (Ti6Al4V)

Art. No.	C2212.3800	C2212.4300	C2212.5000
			
Ø mm	3.8	4.3	5.0
PH mm	12.0	12.0	12.0

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

INDIVIDUAL PROCESSING/PREPARATION OF THE CONELOG® UNIVERSAL AND TELESCOPE ABUTMENT

After selecting the suitable CONELOG® universal or telescope abutment for the planned prosthetic restoration, it is individually modified in consideration of the anatomical conditions. To prepare the abutment and to fabricate the superstructure on the plaster cast, the brown anodized CONELOG® lab screw should be used.

Art. No.	C4006.1601	C4006.2001
CONELOG® lab screw, hex, brown anodized		
For implant diameters	3.3/3.8/4.3 mm, Thread M 1.6	5.0 mm, Thread M 2.0

For milling the abutments for a double crown restoration, we recommend fabrication of a milling cast, see page 40. Preparation, manufacture of a crown or bridge restoration and insertion are similar to the abutments of the CONELOG® Esthomic® line of abutments as described on pages 34–41.

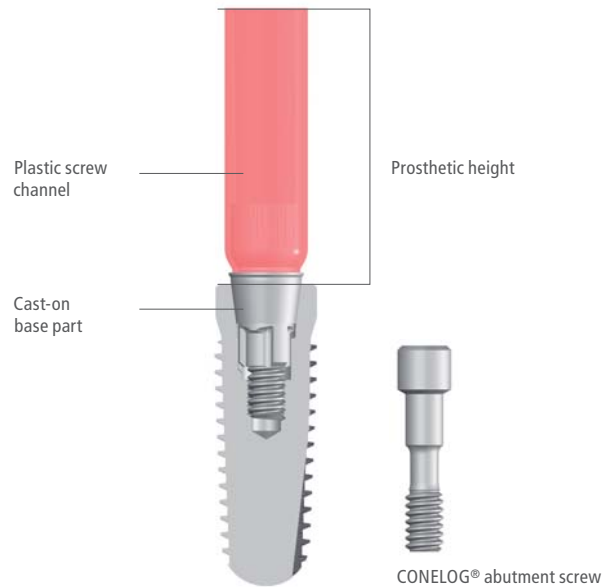
CONELOG® GOLD-PLASTIC ABUTMENT

CONELOG®GOLD-PLASTIC ABUTMENT

The CONELOG® Gold-plastic abutment consists of a prefabricated cast-on base part made of a high-melting cast-on gold alloy and a screw channel made of burn-out plastic (POM). The screw channel represents a modeling aid and ensure a clean finish of the screw channel. The screw channel is color-coded, firmly connected to the base part and can be individually shortened occlusally.

The CONELOG® Gold-plastic abutment can be used to fabricate single-crowns, individual implant abutments (mesostructures) for cementable bridge restorations and primary abutments for bridging implant axis divergences in the telescopic crown technique using the cast-on technique. The high-melting cast-on gold alloy is only suitable for the cast-on procedure with high-gold alloys.

The prosthetic height (PH) describes the distance between the implant shoulder surface and the occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant.



CONELOG® GOLD-PLASTIC ABUTMENT, cast-on, incl. CONELOG® abutment screw



Art. No.	C2246.3300	C2246.3800	C2246.4300	C2246.5000
Ø mm	3.3	3.8	4.3	5.0
PH mm	11.75	11.75	11.75	11.75

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant)

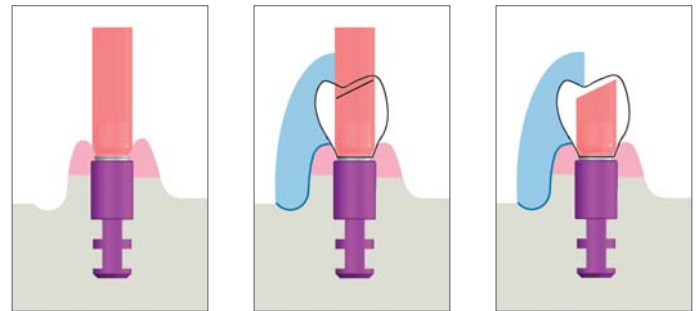
PROCESSING (EXAMPLE: ALL CERAMIC CROWN)

MODIFICATION OF THE SCREW CHANNEL

The CONELOG® Gold-plastic abutment is set into the CONELOG® lab analog and a screwdriver (hex) used to hand-tighten the CONELOG® lab screw.

Art. No.	C4006.1601	C4006.2001
CONELOG® lab screw, hex, brown anodized		
For implant diameters	3.3/3.8/4.3 mm, Thread M 1.6	5.0 mm, Thread M 2.0

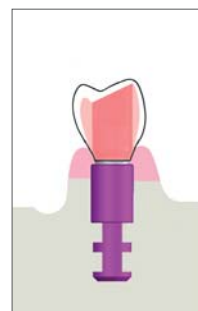
Using a previously prepared silicone index, the required height of the screw channel is indicated and shortened accordingly.



WAX-UP

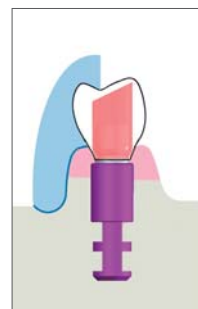
The framework is waxed up in the usual manner according to the design of the "reduced crown shape". Take care that adequate and uniform ceramic layer can be achieved for the veneering.

The minimum wax thickness over the base part must be 0.7 mm to achieve an optimal discharge behavior of the cast-on alloy and to ensure the minimum thickness. The base part consists of a non-oxidizing high-melting cast-on gold alloy and therefore cannot be ceramically veneered (no adhesive oxide formation and a different heat expansion coefficient of the ceramic lead to crack formation in the bonding ceramic).



The ideal framework form can be controlled with the previously prepared silicone index.

TIP: To prevent non-axial loads and over contouring in the posterior area, we recommend reducing wax-up to premolar size.

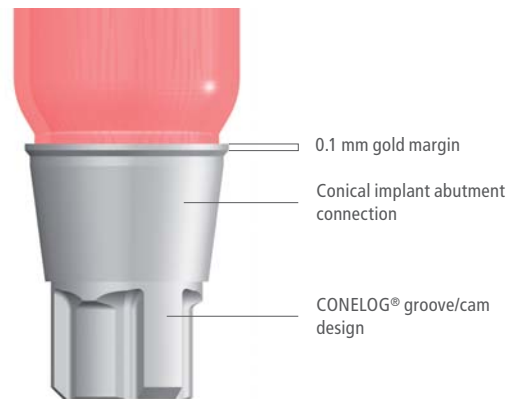


CONELOG® GOLD-PLASTIC ABUTMENT

CAUTION!

Do not cover the fine gold margin (0.1 mm) with wax. This can lead to a surplus of cast-on alloy on the conical surface of the implant abutment connection and ruin the precise fit.

After the wax-up is finished, a suitable agent must be used to clean the fine gold margin and the conical surface of the implant abutment connection of separating medium and wax particles (e.g. with a cotton swab soaked in alcohol).



EMBEDDING AND CASTING

The abutment is embedded according to the instruction manual of the muffle system used. We do not recommend the use of a wax wetting agent. The fine film from the agent can lead to a surplus of cast-on alloy on the margin or on the conical surface of the implant abutment connection. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for formation of a metallic connection is achieved. This is particularly important for voluminous casts.

The investment material must be matched with the cast-on alloy and the casting alloy used. We recommend phosphate bound investment materials. The manufacturer's processing instructions must be observed and the mixing ratios and preheating times accurately observed. We recommend you do not use any quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

INSTRUCTIONS FOR CAST-ON ALLOYS

The cast-on alloy may not exceed the liquidus temperature of 1350°C (2462°F) in its melting range. The melting range of the high-melting cast-on gold alloy lies between 1400°C–1490°C (2552°F–2714°F). The cast-on alloy must be highly gold-bearing in its components and be compatible with the high-melting cast-on gold alloy. Observe the instructions of the alloy manufacturer. The use of other cast-on alloys is not recommended.

Components of an unsuitable alloy can lead to phases with reduced corrosion resistance, less stability or a low melting range thanks to "diffusion processes" in the border zone "casting alloy/cast-on alloy".

DEVESTMENT

After casting, the cast object must be slowly cooled to room temperature and the object gently devested.

IMPORTANT NOTE

Never use sandblasting to devest the cast; this would ruin the precise fit of the CONELOG® abutment in the conical internal configuration of the implant!

We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

CASTING QUALITY

If the cast object exhibits casting defects after devestment such as incomplete effluence or casting fins/bubbles over the margin on the cone, the work should be repeated. The precision of the prefabricated base part is severely affected and also the long-term success of the prosthetic restoration.

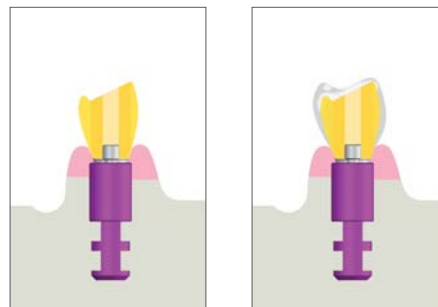
TRIMMING AND VENEERING

To prevent tension cracks in the ceramic, the minimum metal thickness of the metal ceramic alloy must not fall below 0.3 mm in the cast-on area of the base part. If the cast-on alloy is ground through, the work must be repeated because the alloy of the base part does not form any adhesive oxides during the ceramic firing which leads to cracks/spalling in the ceramic.

TIP: We recommend the use of a stereo microscope.

After trimming, the cast object is prepared for ceramic veneering. To protect the CONELOG® implant abutment connection, the cast object should be fixed with a CONELOG® lab analog before sandblasting.

The ceramic to be used must be compatible with the cast-on alloy (observe heat expansion coefficient). The occlusal surface should be designed based on the "freedom in centric" concept.



CONELOG® VARIO SR ABUTMENTS

VARIO SR PROSTHETIC COMPONENTS

The CONELOG® Vario SR abutments and the Vario SR prosthetic components can be used to fabricate occlusally screw-retained crown, bridge and bar constructions in the maxilla and mandible for the restoration of CONELOG® SCREW-LINE implants.

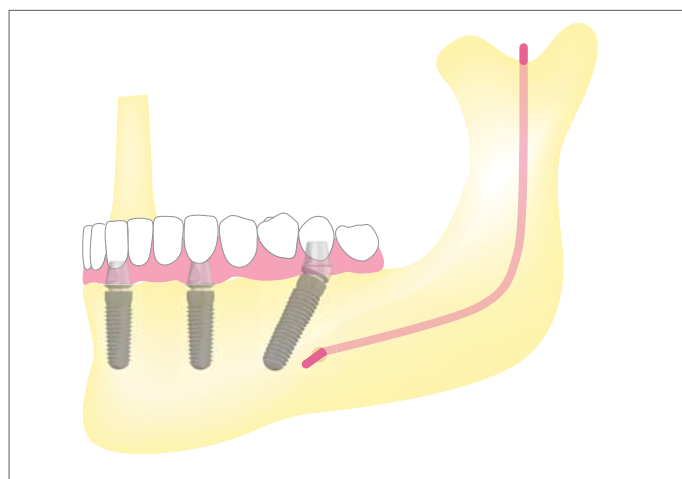
CONELOG® Vario SR abutments and Vario SR prosthetic components consist of prefabricated components precisely matched to one another that standardize the clinical and technical procedure.

CONELOG® Vario SR prosthetic components contain color-coded CONELOG® Vario SR abutments in straight and in 20° and 30° angled versions, Vario SR impression caps, open/closed tray, Vario SR analogs, burn-out Vario SR plastic copings, Vario SR titanium caps for temporary and final restorations, titanium bases for bars for laser welding and a yellow anodized Vario SR prosthetic screw.



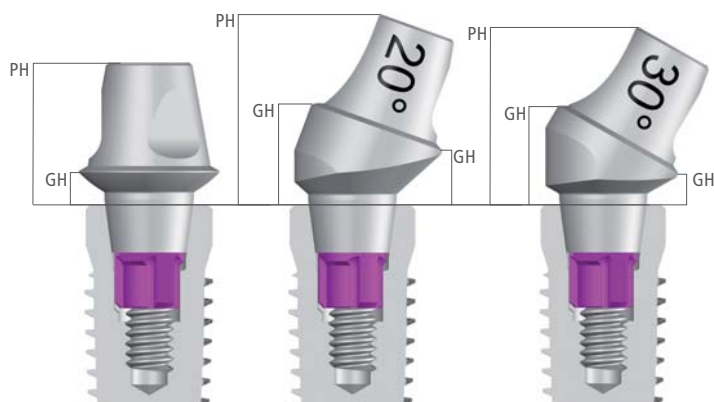
ANATOMICALLY CHALLENGING AREAS

20° and 30° angled CONELOG® Vario SR abutments are available for bridging large implant axis divergences. Where bone supply is reduced and anatomical structures are unfavorable for implantation, the implants can be placed in the distal direction and an appropriate prosthetic restoration can be created. Optimum use of the bone supply is thus ensured.






CONELOG® VARIO SR ABUTMENTS

CONELOG® Vario SR abutments are available in various gingival heights (GH) and in implant diameters 3.8/4.3/5.0 mm. They are color-coded by implant diameter. Straight CONELOG® Vario SR abutments are delivered with a CONELOG® Vario SR abutment screw (Art. No. C4007.1600, M 1.6 for Ø 3.8/4.3 mm; Art. No. C4007.2000, M 2.0 for Ø 5.0 mm). Angled CONELOG® Vario SR abutments include a CONELOG® abutment screw (Art. No. C4005.1601, M 1.6 for Ø 3.8/4.3 mm; Art. No. C4005.2001, M 2.0 for Ø 5.0 mm).









CONELOG® Vario SR abutments are available based on the gingival height (GH) in various prosthetic heights (see information in the tables). The prosthetic height (PH) describes the distance between the implant shoulder surface and the occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant.

CONELOG® VARIO SR ABUTMENTS, STRAIGHT, incl. CONELOG® Vario SR abutment screw

Art.-Nr.	C2560.3808	C2560.4308	C2560.5008
			
Ø mm	3.8	4.3	5.0
GH mm	1.2	1.2	1.2
PH mm	4.8	4.8	4.8

CONELOG® VARIO SR ABUTMENTS, ANGLED, incl. CONELOG® abutment screw

Art. No.	C2561.3800	C2561.4300	C2561.5000	C2562.3800	C2562.4300	C2562.5000
						
Ø mm	3.8	4.3	5.0	3.8	4.3	5.0
Angle	20°	20°	20°	30°	30°	30°
GH mm	3.5–1.9	3.5–1.9	4.0–1.8	3.5–1.1	3.5–1.1	4.5–1.3
PH mm	6.5	6.5	7.0	6.0	6.0	7.0

GH: Gingival height

PH: Prosthetic height (measured from the implant shoulder surface to occlusal abutment edge with the CONELOG® abutment screwed into the CONELOG® implant).


All CONELOG® Vario SR abutments incl. the enclosed abutment screws are sterile packed.

IMPORTANT NOTE

Only Vario SR prosthetic components may be used in combination (exception: angled CONELOG® Vario SR abutments 20°/30° with CONELOG® abutment screws, Art. No. C4005.1601/2001).

CONELOG® VARIO SR ABUTMENTS

CONELOG® VARIO SR ABUTMENT OVERVIEW

<p>Straight, 20° und 30° angled abutments</p>	<p>Straight CONELOG® Vario SR abutments Ø 3.8/4.3 mm</p>	<p>Angled CONELOG® Vario SR abutments Ø 3.8/4.3 mm</p>	<p>Straight CONELOG® Vario SR abutments Ø 5.0 mm</p>	<p>Angled CONELOG® Vario SR abutments Ø 5.0 mm</p>
				
<p>Abutment screw</p>	<p>CONELOG® Vario SR abutment screw M 1.6 Art. No. C4007.1600</p>	<p>CONELOG® abutment screw M 1.6 Art. No. C4005.1601</p>	<p>CONELOG® Vario SR SR abutment screw M 2.0 Art. No. C4007.2000</p>	<p>CONELOG® abutment screw M 2.0 Art. No. C4005.2001</p>
				

CAUTION

Only use the matching abutment screw type!

VARIO SR PROSTHETIC COMPONENTS

To fabricate occlusally screw-retained restorations, various Vario SR prosthetic components are available that are attached to the CONELOG® Vario SR abutments and Vario SR analogs using the Vario SR prosthetic screw (M 2.0).

SYSTEM OVERVIEW OF VARIO SR PROSTHETIC COMPONENTS

IMPRESSION TAKING

Vario SR impression caps

open and closed tray, without antirotational mechanism, for impression taking for bar and bridge restorations



Vario SR impression cap, open tray
Ø 3.8/4.3 and 5.0 mm



Vario SR impression cap, closed tray
Ø 3.8/4.3 and 5.0 mm

PH

10.0 mm

11.0 mm

CAST FABRICATION

Vario SR analogs,

for cast fabrication for bar and bridge restorations



Vario SR analog
Ø 3.8/4.3 mm



Vario SR analog
Ø 5.0 mm

TEMPORARY RESTORATION

Vario SR protection caps,

for initial temporary restoration of the CONELOG® Vario SR abutments



Vario SR protection cap
Ø 3.8/4.3 mm



Vario SR protection cap
Ø 5.0 mm

PH

6.0 mm

6.0 mm

FABRICATION OF THE SUPERSTRUCTURE

Vario SR prosthetic screw,

hex, M 2.0, yellow anodized



Vario SR prosthetic screw for all Vario SR caps and diameters

Vario SR plastic copings,

burn-out, for single crowns with antirotational mechanism, for bridge constructions and cast bar constructions without antirotational mechanism



Vario SR plastic coping crown/bridge
Ø 3.8/4.3 mm



Vario SR plastic coping crown/bridge
Ø 5.0 mm

PH

11.0 mm

11.0 mm

Vario SR titanium cap,

bridge, without antirotational mechanism, for temporary restorations and/or final bridge restorations



Vario SR titanium cap, bridge
Ø 3.8/4.3 mm



Vario SR titanium cap, bridge
Ø 5.0 mm

PH

11.0 mm

11.0 mm

Vario SR base for bar

made of titanium, for fabrication of laser-welded titanium bar constructions, without antirotational mechanism



Vario SR base of bar
Ø 3.8/4.3 mm



Vario SR base of bar
Ø 5.0 mm

PH

6.0 mm

6.0 mm

Vario SR coping and analogs are each available for diameters 3.8/4.3 mm und 5.0 mm.

PH: Prosthetic height

CONELOG® VARIO SR ABUTMENTS

APPLICATION

SELECTION AND INSERTION OF THE CONELOG® VARIO SR ABUTMENTS

The suitable CONELOG® Vario SR abutments can be selected depending on the clinical situation for bridge and bar constructions on the patient directly.

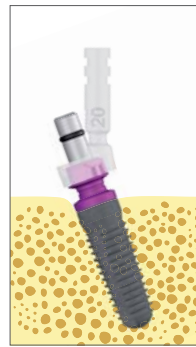
CONELOG® Vario SR abutments are sterile packed incl. the enclosed abutment screw. Sterilization of the abutment as recommended before insertion is not required for immediate final integration and when the abutments remain in the CONELOG® implant.



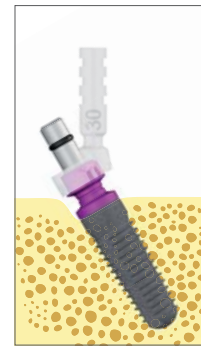
The angle of the Vario SR aligning tools is identical to the 20° and 30° angled CONELOG® Vario SR abutments.

SELECTING ANGLED CONELOG® VARIO SR ABUTMENTS WITH THE ALIGNING TOOLS 20°/30°

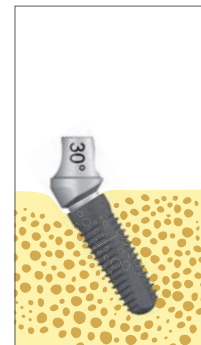
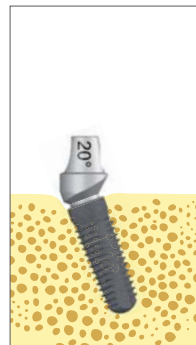
After inserting the implant, the Vario SR 20° and 30° aligning tools can be used when multiple CONELOG® implants are placed to check the respective insertion direction and alignment of the implant grooves before inserting the CONELOG® Vario SR abutments. The respective aligning tool is simply placed over the insertion post attached to the implant. If necessary, the user can slightly adjust the alignment of the grooves of the inner implant configuration.



Vario SR aligning tool 20°



Vario SR aligning tool 30°



2 chamfer = 20°

Vario SR aligning tool
and angled CONELOG®
Vario SR abutment 20°



3 chamfer = 30°

Vario SR aligning tool
and angled CONELOG®
Vario SR abutment 30°

IMPORTANT NOTE

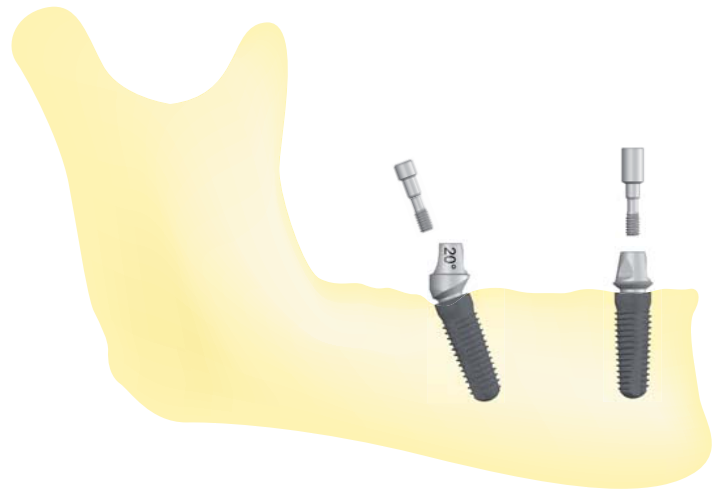
The products must always be protected from the risk of aspiration during intraoral use.

ABUTMENT INSERTION

Clean the internal configuration of the implant before inserting the abutment. The selected CONELOG® Vario SR abutment is inserted in the CONELOG® implant and rotated until tactile engagement of the cams in the grooves of the implant. The abutment is then in the final position.

ATTENTION! MAKE SURE THAT THE ABUTMENT SCREW TYPES MATCH!

- Straight CONELOG® Vario SR abutments = use CONELOG® Vario SR abutment screws
- Angled CONELOG® Vario SR abutments (20°/30°) = use CONELOG® Abutment screws



A screwdriver (hex) and torque wrench are used to tighten the abutment screw with a torque of 20 Ncm. To achieve maximum pre-tension on the screws, the abutment screw should be retightened with the same torque after approx. 5 minutes.

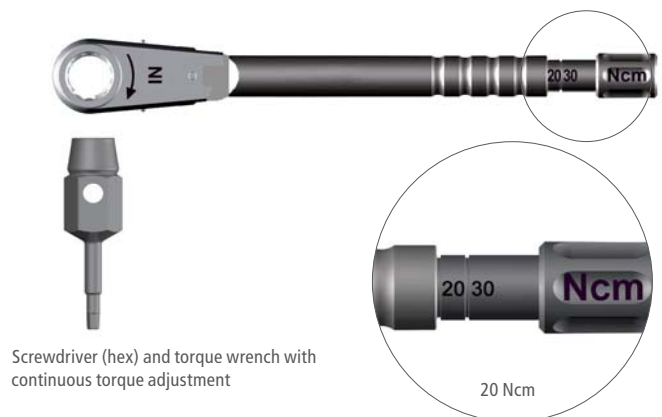
IMPORTANT NOTE

The special design of the CONELOG® Vario SR abutment screw and the CONELOG® Vario SR lab screw for the straight CONELOG® Vario SR abutment requires the sole use of the screwdriver, hex, Art. No. J5316.0501/0502/0503/0504/0510!

We recommend taking a control x-ray to make sure the abutment is correctly seated on the implant.

IMPORTANT NOTE

CONELOG® Vario SR abutments may not be modified. This would compromise the matched shape of the Vario SR prosthetic components.



Screwdriver (hex) and torque wrench with continuous torque adjustment

20 Ncm



Screwdriver, hex, extra short, short, long

CONELOG® VARIO SR ABUTMENTS

OPTIONS FOR IMPRESSION-TAKING

For bridge and bar constructions, the impression can be taken using Vario SR impression caps, open and/or closed tray, over the CONELOG® Vario SR abutment already in its final position. For single crown restorations, the impression is taken using the CONELOG® Impression posts, open and/or closed tray, in the CONELOG® implant directly.

METHODS OF IMPRESSION-TAKING, OPEN AND CLOSED TRAY

Components for the open or closed tray method are available for impression taking. If heavily divergent implant axes are present or combination with a functional impression-taking is desired, the open impression method should be used. Never modify the system components. Only implants, abut-

ments and impression components of the same diameter may be used together.

IMPRESSION MATERIAL





Silicone or polyether materials are suitable for the open and closed impression-taking methods.

NOTE

The fixing screws of the CONELOG® Impression posts and the Vario SR impression caps, open tray, as well as the Vario SR impression caps, closed tray, may only be tightened by hand!

IMPRESSION-TAKING FOR VARIO SR BRIDGE AND BAR CONSTRUCTIONS

After final fixation of the CONELOG® Vario SR abutments in CONELOG® implants, the impression is taken using the Vario SR impression caps, open or closed tray, directly over the abutment shoulder.

ART. NO.		ARTICLE	FOR IMPLANT DIAMETERS
J2566.4300		Vario SR impression cap, open tray. incl. fixing screw	3.8/4.3 mm
J2566.6000		Vario SR impression cap, open tray. incl. fixing screw	5.0 mm
J2565.4300		Vario SR impression cap, closed tray	3.8/4.3 mm
J2565.6000		Vario SR impression cap, closed tray	5.0 mm

NOTE

Vario SR impression caps, open and closed tray, have no antirotational mechanism and therefore are only suited for impression-taking directly over Vario SR abutments for bridge and bar constructions.

IMPRESSION-TAKING WITH VARIO SR IMPRESSION CAP, OPEN TRAY

Vario SR impression caps, open tray, are equipped with an integrated fixing screw and are placed directly on the CONELOG® Vario SR abutment. When tightening the fixing screw, the thread engages in the occlusal thread of the angled CONELOG® Vario SR abutment or in the head thread of the CONELOG® Vario SR abutment screw in straight abutments. The fixing screw has a break-off point in the upper area. With limited occlusal space conditions, it can be shortened extra-orally by 3 mm by breaking it off with a screwdriver (hex).

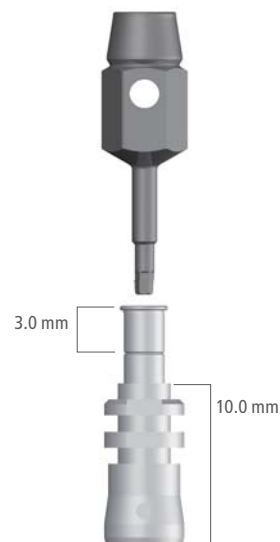
CAUTION

Shorten extra-orally only.

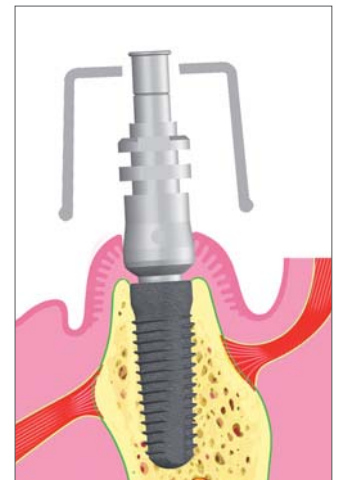
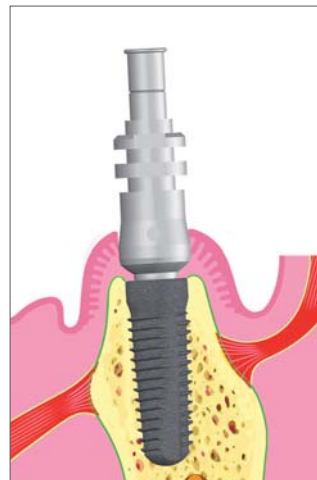
The Vario SR impression cap, open tray, is placed on the CONELOG® Vario SR abutment. The fixing screw must be hand-tightened with the screwdriver. For tight and thick gingiva in particular, we recommend a radiographic check of the correct seating of the impression cap prior to taking the impression.

The impression is taken using an individual tray with perforations for the fixing screw.

Before taking the impression, check the tray for a precision fit. The fixing screws protruding from the perforations must not touch the tray. Then use a silicone or polyether impression material to take the impression.



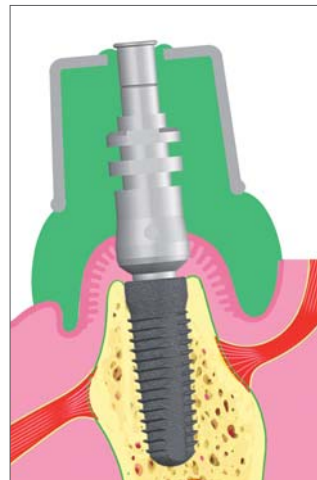
Vario SR impression cap, open tray



CONELOG® VARIO SR ABUTMENTS

To remove the impression, loosen the fixing screw, pull it back and then lift off the impression. The impression cap remains in the impression.

TIP: To simplify the procedure, we recommend also sending the matching Vario SR analog to the laboratory.



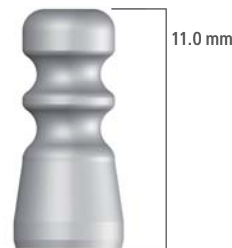
IMPRESSION-TAKING WITH VARIO SR IMPRESSION CAP, CLOSED TRAY

Vario SR impression caps, closed tray, are one piece, repositionable and are screwed on the CONELOG® Vario SR abutments directly. An internal thread engages in the occlusal thread of the angled CONELOG® Vario SR abutment respectively in the head thread of the CONELOG® Vario SR abutment screw in straight abutments. A prefabricated impression tray is used for the closed impression method.

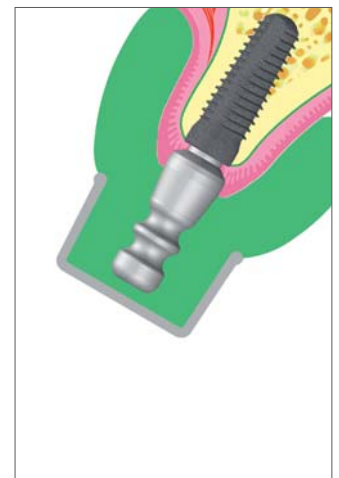
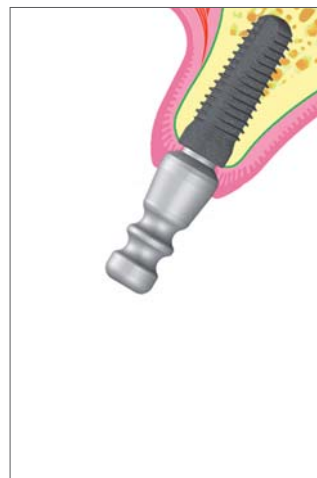
The Vario SR impression cap, closed tray, is screwed onto the CONELOG® abutment. Before taking the impression, check the tray for a precision fit. For tight and thick gingiva in particular, we recommend a radiographic check of the correct seating of the impression cap prior to taking the impression. Then use a silicone or polyether impression material to take the impression.

After removing the impression, the Vario SR impression cap, closed tray, remains on the abutment. The impression cap is removed and given to the lab together with the impression.

TIP: To simplify the procedure, we recommend also sending the matching Vario SR analog to the laboratory.



Vario SR impression cap,
closed tray, repositionable



IMPRESSION-TAKING FOR VARIO SR SINGLE CROWN FABRICATION

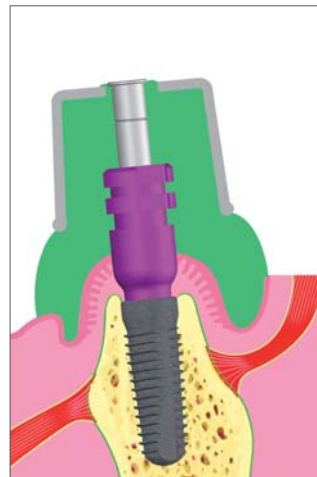
To fabricate single crown restorations on CONELOG® Vario SR abutments, the impression is taken in the CONELOG® implant directly with a color-coded CONELOG® impression post, open or closed tray. The groove orientation is also transferred over. The impression posts are equipped with a fixing screw that is tightened by hand on the implant using a screwdriver (hex).

NOTE

Taking the impression in the CONELOG® implant directly using a CONELOG® impression post, open and/or closed tray, requires that the cast be fabricated using a CONELOG® lab analog of the same color.

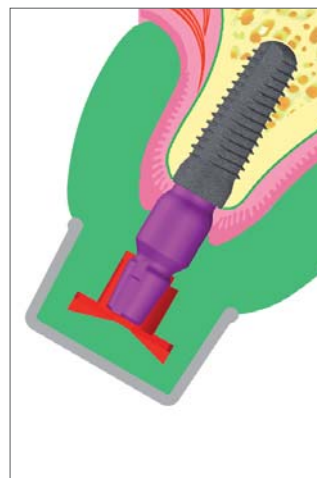
CONELOG® IMPRESSION POST, OPEN TRAY

ART. NO.	C2121.3800	C2121.4300	C2121.5000
			
PH	10.0 mm	10.0 mm	10.0 mm



CONELOG® IMPRESSION POST, CLOSED TRAY, incl. impression cap and bite registration cap

ART. NO.	C2110.3800	C2110.4300	C2110.5000
			
PH	10.7 mm	10.7 mm	10.7 mm



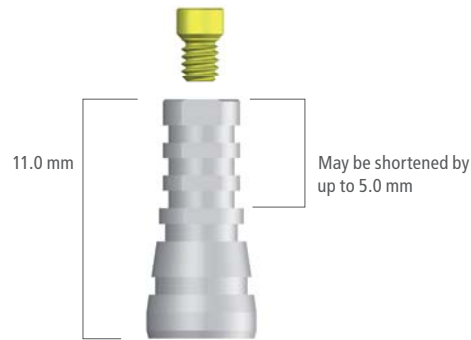
PH: prosthetic height

CONELOG® VARIO SR ABUTMENTS

BITE REGISTRATION ON CONELOG® VARIO SR ABUTMENTS

For accurate implant-supported measurement of arch relations and their transfer to the cast situations, Vario SR titanium caps, bridge, are placed on the CONELOG® Vario SR abutments in the CONELOG® implant and fixed using the Vario SR prosthetic screw.

The caps may be shortened occlusally by 5.0 mm (extra-orally) including the third chamfer.



Vario SR titanium cap, bridge, with
Vario SR prosthetic screw

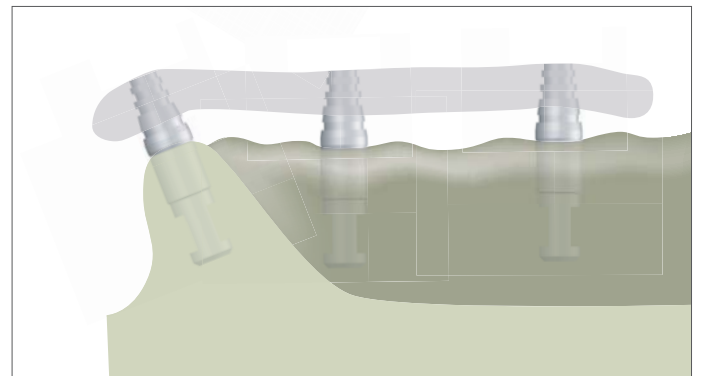
POSSIBLE OPTIONS

Implant-supported measurement of the arch relations and their transfer to the cast situation may be carried out using the Vario SR titanium caps optionally with applied commercial materials for the bite registration or splinted Vario SR titanium caps as a one-piece bite register.

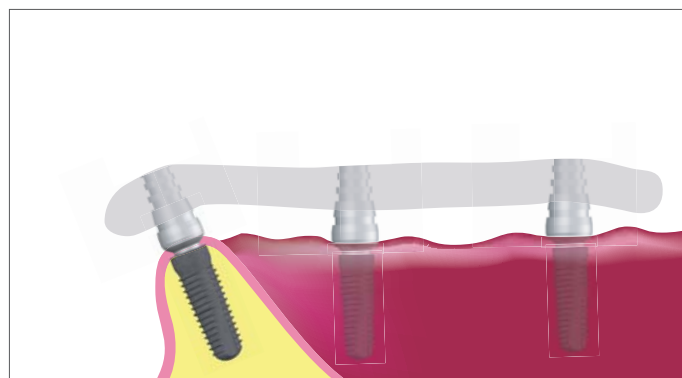
EXAMPLE BITE REGISTRATION WITH SPLINTED VARIO SR TITANIUM CAPS

After taking the impression and fabricating the cast, the Vario SR titanium caps, bridge, are screwed onto the Vario SR analogs and a bite register splinted with the caps fabricated on the working cast. The Vario SR titanium caps, bridge, are wrapped with a suitable plastic and joined. The Vario SR prosthetic screws must not be covered.

TIP: To correct distortion stress with larger restorations (edentulous jaw, large gaps), we recommend disconnecting the register between the caps and then reconnecting in the mouth with suitable plastic after attaching to the CONELOG® Vario SR abutments.



Once the register has been created, it is inserted in the mouth with the caps, a screwdriver (hex) used to hand-tighten the Vario SR prosthetic screws and the occlusion checked.

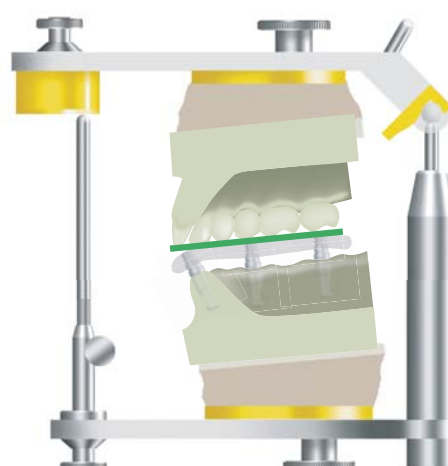


Then the registration of the habitual arch relations is carried out using standard materials.



Loosen the Vario SR prosthetic screws after curing. Remove the bite register with the integrated caps and give it to the dental laboratory.

Mount the bite register with integrated titanium caps on the Vario SR analogs in the cast and screw on. Connect the bite registration to the opposing jaw cast and mount the casts in an articulator.



CONOLOG® VARIO SR ABUTMENTS

CAST FABRICATION

STANDARDIZED CAST FABRICATION

Impression-taking and fabrication of the cast for bridge and bar constructions take place by using prefabricated Vario SR components, and for single crowns, with components of the CONOLOG® Implant System. The fixing screws of the Vario SR impression caps, open tray, respectively the CONOLOG® impression posts, open and closed tray, are hand-tightened using a screwdriver (hex) with the Vario SR analogs or CONOLOG® lab analogs for cast fabrication.

NOTE

The components must not be modified!

CAST FABRICATION FOR BRIDGE AND BAR RESTORATIONS WITH VARIO SR ANALOGS

If the impression was taken using the already inserted CONOLOG® Vario SR abutment (straight and/or angled), the Vario SR analog is used. The Vario SR analog is hand-tightened onto the respective Vario SR impression cap, open or closed tray, used.

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2567.4300	Vario SR analog	3.8/4.3 mm



J2567.6000	Vario SR analog	5.0 mm
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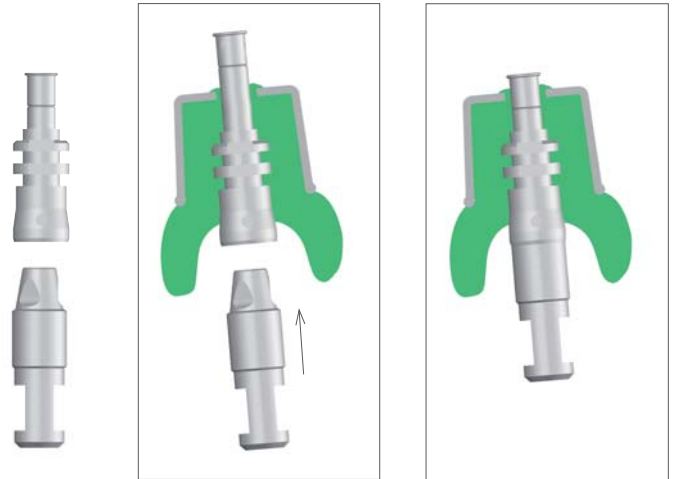
NOTE

Vario SR impression caps, open and closed tray, have no antirotational mechanism and therefore are only suited for impressions directly over CONOLOG® Vario SR abutments for bridge and bar constructions. Therefore, the cast is only fabricated with Vario SR analogs.

CAST FABRICATION WITH VARIO SR IMPRESSION CAP, OPEN TRAY

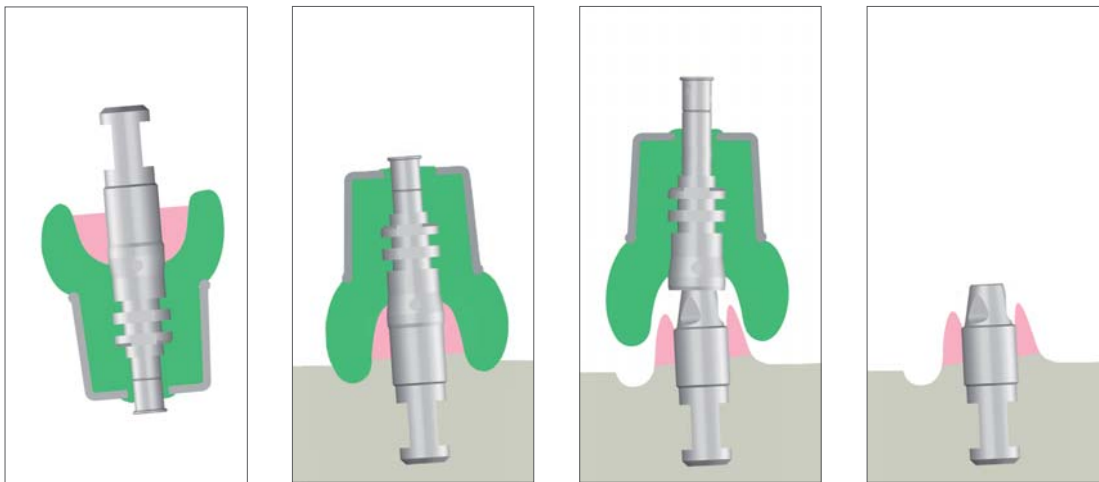
After the impression is taken, the Vario SR impression caps, open tray, are in the impression.

The Vario SR analogs corresponding to the diameters are attached to the Vario SR impression caps, closed tray, in the impression (note proper seating) in the dental laboratory. A screwdriver (hex) is used to hand-tighten the fixing screw.



Vario SR impression cap, open tray, with Vario SR analog

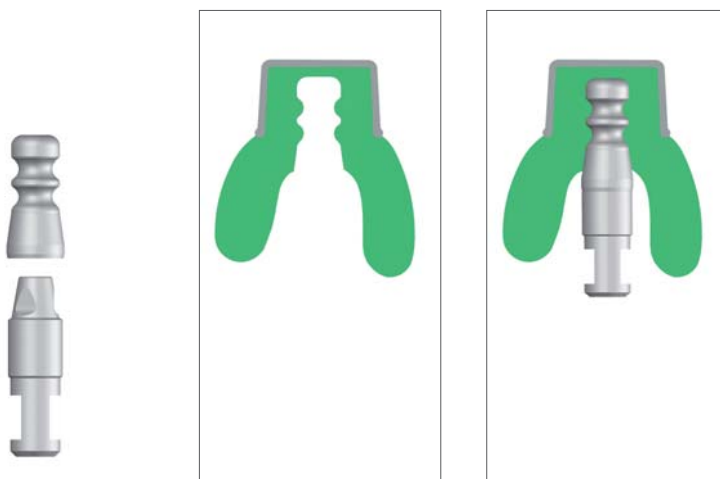
The impression is cast with suitable model material. After the cast material has cured, the Vario SR impression cap fixing screws are loosened and the impression removed.



TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.

CAST FABRICATION WITH VARIO SR IMPRESSION CAP, CLOSED TRAY

After the impression is taken, the one-piece Vario SR impression caps, closed tray, are screwed together with the Vario SR analogs and repositioned in the impression in the dental laboratory. Do not use bonding material!

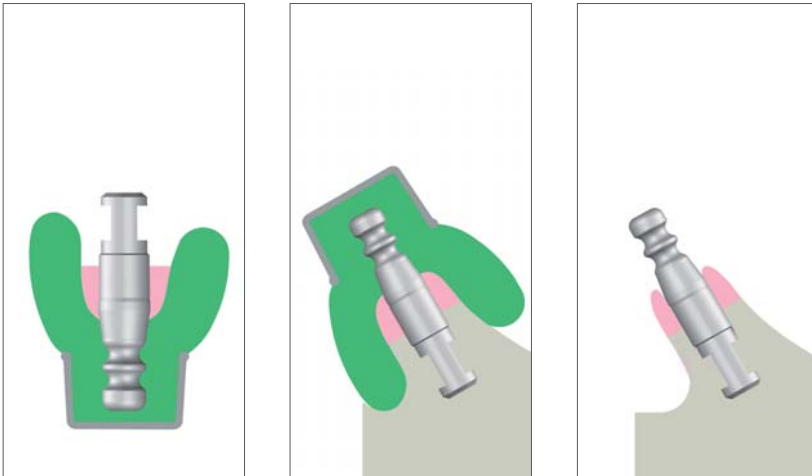


Vario SR impression cap, closed tray, with Vario SR analog

CONELOG® VARIO SR ABUTMENTS

The impression is cast with appropriate cast material and the Vario SR impression caps may not loosen. After the cast material has cured, the impression is lifted off the cast and the impression caps are removed from the analogs.




TIP: We recommend that you fabricate the cast with a gingival mask. The surrounding gingiva is represented elastically and true to the situation especially for subgingival crown margins and restorations in esthetic areas. An optimal design of the crown contour is easier to achieve.



CAST FABRICATION FOR SINGLE TOOTH RESTORATIONS WITH THE CONELOG® LAB ANALOG

If the impression was taken without CONELOG® Vario SR abutment in the CONELOG® implant, the CONELOG® lab analog is used for cast fabrication. The CONELOG® lab analog is attached to the CONELOG® impression post, open or closed tray, and hand-tightened using a screwdriver (hex).

CONELOG® LAB ANALOG

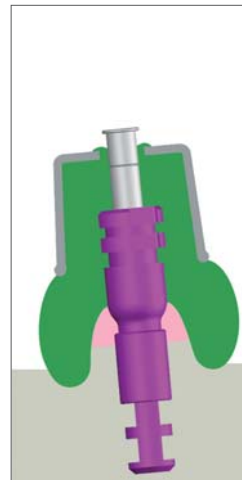
ART. NO.	C3010.3800	C3010.4300	C3010.5000
			

NOTE

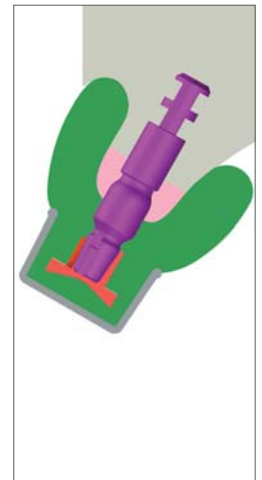
Taking the impression directly in the CONELOG® implant using a CONELOG® impression post, open and/or closed tray, requires that the cast be fabricated using a CONELOG® lab analog of the same color.

After fabricating the cast, a straight or angled CONELOG® Vario SR abutment is placed in the CONELOG® lab analog based on the clinical situation and fixed by hand using a corresponding brown anodized CONELOG® lab screw (see also page 67).

The single crown is fabricated on the original CONELOG® Vario SR abutment.



CONELOG® impression post, open tray



CONELOG® impression post, closed tray



CONOLOG®

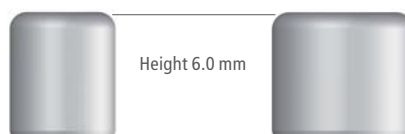
VARIO SR ABUTMENTS

TEMPORARY RESTORATIONS

VARIO SR PROTECTION CAPS

Vario SR protection caps can be used for the initial restoration as the final prosthetic restoration is being fabricated. Vario SR protection caps are made of titanium alloy, are one piece, sterile packed and each available in 3.8/4.3 mm and 5.0 mm diameters.

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2568.4300	Vario SR protection cap	3.8/4.3 mm
J2568.6000	Vario SR protection cap	5.0 mm



Vario SR protection caps are screwed directly onto the CONOLOG® Vario SR abutments (straight/angled) attached definitively to the CONOLOG® implant. The caps are picked up with a screwdriver (hex) and screwed in hand-tightened.



NOTE

If an existing prosthesis is used as a temporary restoration, it must be hollow ground in the areas of the Vario SR protection caps. The prosthesis must not lie on the Vario SR protection caps and thus compromise implant healing by transferring mastication forces.

NOTE




During intraoral use, products must be secured in general against aspiration and swallowing.

TEMPORARY BRIDGE RESTORATIONS VARIO SR TITANIUM CAPS

Vario SR titanium caps are attached to the already inserted Vario SR abutments (straight/angled). They are equipped with a retention surface on the outside for coating with plastic. The caps are made of titanium alloy and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

NOTE

Vario SR titanium caps, bridge, have no antirotational mechanism and therefore are only suited for bridge restorations.

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2564.4301	Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	3.8/4.3 mm
		
J2564.6001	Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	5.0 mm
		
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	
		

Information about fabricating a temporary bridge restoration is available on page 72.

CONELOG® VARIO SR ABUTMENTS

FABRICATION OF THE PROSTHETIC RESTORATION

To fabricate occlusally screw-retained restorations, various Vario SR prosthetic components are available that are attached to the CONELOG® Vario SR abutments (straight and angled) using the Vario SR prosthetic screw (M 2.0). A screwdriver (hex) is used to tighten the screws (see also information on page 53).

PROSTHETIC SCREW CONNECTION FOR STRAIGHT CONELOG® VARIO SR ABUTMENTS

Straight CONELOG® Vario SR abutments are fixed in the implant using the CONELOG® Vario SR abutment screw. When inserting the superstructure, the Vario SR prosthetic screw is used to secure the Vario SR caps. The prosthetic screw engages in the thread in the head of the CONELOG® Vario SR abutment screw and fixes the cap to the abutment.



CONELOG® Vario SR abutment, straight



PROSTHETIC SCREW CONNECTION FOR ANGLED CONELOG® VARIO SR ABUTMENTS

Angled CONELOG® Vario SR abutments are fixed in the implant using the CONELOG® Abutment screw. When inserting the superstructure, the Vario SR prosthetic screw is used to secure the Vario SR caps. The prosthetic screw engages in the thread in the head of the CONELOG® Vario SR abutment and fixes the cap to the abutment.



CONELOG® Vario SR abutment, angled












OPTIONAL FABRICATION OF THE SUPERSTRUCTURE DIRECTLY ON CONELOG® VARIO SR ABUTMENTS

BROWN ANODIZED LAB SCREWS

The superstructure (bridge/bar) can also be fabricated on the CONELOG® Vario SR abutment (straight/angled) directly. However, fabrication of a single crown restoration requires fabrication on the original CONELOG® Vario SR abutments (see also Impression-taking for Vario SR single crown restoration, page 57).

After fabricating the cast with CONELOG® lab analogs, the CONELOG® Vario SR abutment is set in the CONELOG® lab analog. In this case, we recommend the use of a brown anodized CONELOG® lab screw (hex) for fixation of the abutment in the CONELOG® lab analog. The abutment screw attached to the abutment is only used for final insertion in the implant.

CONELOG® VARIO SR ABUTMENT OVERVIEW

Straight, 20° und 30° angled abutments	Straight CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Angled CONELOG® Vario SR abutments Ø 3.8/4.3 mm	Straight CONELOG® Vario SR abutments Ø 5.0 mm	Angled CONELOG® Vario SR abutments Ø 5.0 mm
				
Lab screws	CONELOG® Vario SR lab screw M 1.6 Art. No. C4008.1600 	CONELOG® lab screw M 1.6 Art. No. C4006.1601 	CONELOG® Vario SR lab screw M 2.0 Art. No. C4008.2000 	CONELOG® lab screw M 2.0 Art. No. C4006.2001 

CAUTION

Only use the matching lab screw type!

CONOLOG®

VARIO SR ABUTMENTS

CAST SUPERSTRUCTURE VARIO SR PLASTIC COPINGS

To fabricate the prosthetic restoration, prefabricated burn-out Vario SR plastic copings are available for single crown, bridge and bar constructions. The wax-up (wax, plastic) is fabricated on the plastic copings directly. The wax-up is cast in a suitable alloy using the casting technique and can be ceramically veneered for single crown and bridge restorations.

VARIO SR PLASTIC COPINGS FOR CROWN RESTORATIONS ON STRAIGHT CONOLOG® VARIO SR ABUTMENTS

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2563.4302*	Vario SR plastic coping, crown, with triple-surface antirotational mechanism for straight CONOLOG® Vario SR abutments, burn-out (POM)	3.8/4.3 mm
J2563.6002*	Vario SR plastic coping, crown, with triple-surface antirotational mechanism for straight CONOLOG® Vario SR abutments, burn-out (POM)	5.0 mm
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

VARIO SR PLASTIC COPINGS FOR BRIDGE RESTORATIONS ON STRAIGHT AND ANGLED CONOLOG® VARIO SR ABUTMENTS

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2563.4301	Vario SR plastic coping, bridge, for straight and angled CONOLOG® Vario SR abutments, burn-out (POM)	3.8/4.3 mm
J2563.6001	Vario SR plastic coping, bridge, for straight and angled CONOLOG® Vario SR abutments, burn-out (POM)	5.0 mm
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

VARIO SR PLASTIC COPINGS FOR CROWN RESTORATIONS ON 20° AND 30° ANGLED CONOLOG® VARIO SR ABUTMENTS

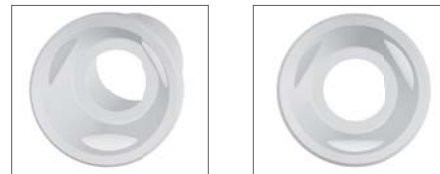
ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2563.4303**	Vario SR plastic coping, crown, with single-surface antirotational mechanism for angled CONOLOG® Vario SR abutments, burn-out (POM)	3.8/4.3 mm
J2563.6003**	Vario SR plastic coping, crown, with single-surface antirotational mechanism for angled CONOLOG® Vario SR abutments, burn out (POM)	5.0 mm
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

*Incompatible with angled Vario SR abutments.

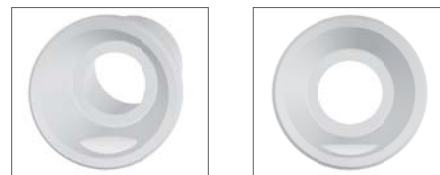
**Incompatible with straight Vario SR abutments.

VARIO SR ANTIROTATIONAL MECHANISMS

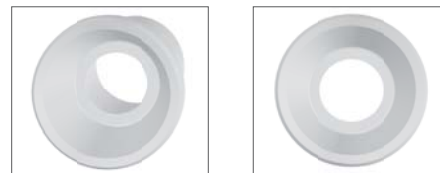
For single crown restorations on straight CONOLOG® Vario SR abutments, plastic copings with three antirotational surfaces in the inner configuration are used.



For single crown restorations on angled CONOLOG® Vario SR abutments, plastic copings with one antirotational surface are used.



For bridge and bar constructions on straight and angled CONOLOG® Vario SR abutments, plastic copings with round inner configuration are used.



EXAMPLE OF FABRICATING A FINAL BRIDGE RESTORATION

To fabricate a bridge restoration, Vario SR plastic copings, bridge, are set on the Vario SR analogs and fixed using the Vario SR prosthetic screw. The copings can be shortened occlusally by 5.0 mm.

CAUTION

On angled Vario SR abutments, the abutment screw channel opposes the antirotational surface. Due to different dimensions, care must be taken that the copings with antirotational mechanism grip in the milled antirotational mechanism of the abutment. The copings are marked on the outside accordingly.



Vario SR plastic copings, bridge, with Vario SR prosthetic screw

WAX-UP

The framework is waxed up in the usual manner according to the design of the "reduced crown shape". Take care that adequate and uniform ceramic or plastic layer can be achieved for the veneering. The wax thickness over the plastic coping should be at least 0.3 mm. Do not mold over the delicate coping edge.

IMPORTANT NOTE

When burning out the casting muffle, swelling may occur due to the thermal expansion of the plastic and damage the investment compound in the area of the plastic coping. This can cause investment compound to be included in the casting metal. Therefore, a minimum wax thickness of 0.3 mm should be applied to the plastic coping. When heating, the wax softens first and gives the plastic enough space to expand.

CONELOG® VARIO SR ABUTMENTS

The ideal framework form can be controlled with a previously prepared silicone index.

TIP: To prevent non-axial loads and over contouring in the posterior area, we recommend reducing wax-up to premolar size (Information about vertical dimensioning, see page 14).



EMBEDDING, CAST AND DEVESTMENT

The embedding is done according to the instruction manual of the flask system used. We do not recommend the use of a wax wetting agents. However, if wax wetting agents are used, they must be suitable for use with POM plastic components. When embedding, the correct placement of the wax-up in the casting muffle is of importance. Volume ratios and pin angles must be selected so that the required temperature for casting is achieved. This is particularly important for voluminous casts.

We recommend phosphate bound investment materials. The manufacturer's processing instructions must be observed and the mixing ratios and pre-heating times accurately observed. We recommend you do not use any quick heating processes (speed investment materials). The cast delay time must be kept as brief as possible.

After casting, the cast object must be slowly cooled to room temperature and the object gently devested. We recommend gentle devestment in an ultrasonic bath with waterjet or stripping.

After trimming, the cast object is prepared for ceramic or plastic veneering. The ceramic to be used must be compatible with the alloy (observe heat expansion coefficient). The occlusal surface should be designed based on the "freedom in centric" concept.

INSERTION OF THE PROSTHETIC RESTORATION

The finished bridge restoration is transferred to the CONELOG® Vario SR abutments and fixed using the new unused Vario SR prosthetic screws. The tightening torque is 15 Ncm.

For hygiene and esthetic reasons, we recommend closing the transocclusal screw opening. To ensure that the Vario SR prosthetic screw can be removed again, the screw head is covered with some wax or gutta-percha and the screw channel closed with e.g. composite.



Clean and disinfect the prosthetic components prior to insertion. We recommend component sterilization (see also the "Preparation Instructions for the CAMLOG®/CONELOG® Implant System", Art. No. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration.

CONOLOG® VARIO SR ABUTMENTS

BRIDGE CONSTRUCTIONS MADE OF PLASTIC VARIO SR TITANIUM CAPS

Vario SR titanium caps are equipped with a retention surface on the outside for coating with plastic. They are made of titanium alloy and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

NOTE

Vario SR titanium caps, bridge, have no antirotational mechanism and therefore are only suited for bridge restorations.

VARIO SR TITANIUM CAPS FOR BRIDGE RESTORATIONS ON STRAIGHT AND ANGLED CONOLOG® VARIO SR ABUTMENTS

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2564.4301	Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	3.8/4.3 mm
J2564.6001	Vario SR titanium cap, bridge, incl. Vario SR prosthetic screw	5.0 mm
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	

A temporary bridge restoration can be fabricated directly on the CONOLOG® Vario SR abutments (straight/angled) inserted in the implant or on the working model.

EXAMPLE OF FABRICATING A FINAL BRIDGE RESTORATION

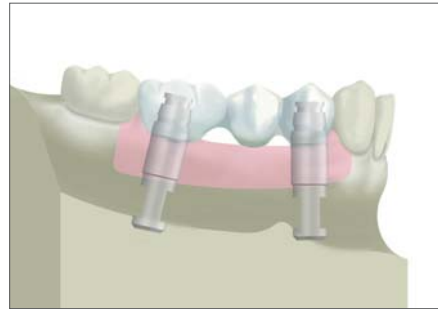
To fabricate a bridge restoration, Vario SR titanium caps, bridge, are set on the Vario SR analogs and fixed using the Vario SR prosthetic screw. The caps may be shortened occlusally by 5.0 mm up to and including the third chamfer.

CAUTION

Shorten extra-orally only!



The caps are then veneered and attached with suitable plastic in the usual manner.



INSERTION OF THE PROSTHETIC RESTORATION

The finished plastic bridge is transferred to the CONELOG® Vario SR abutments and fixed using the new unused Vario SR prosthetic screws. The tightening torque is 15 Ncm.

For hygiene and esthetic reasons, we recommend closing the transocclusal screw opening. To ensure that the Vario SR prosthetic screw can be removed again, the screw head is covered with some wax or gutta-percha and the screw channel closed with e.g. composite.



Clean and disinfect the prosthetic components prior to insertion. We recommend component sterilization (see also the "Preparation Instructions for the CAMLOG®/CONELOG® Implant System", Art. No. J8000.0032). The peri-implant hard and soft tissue situation must allow gapless insertion of the restoration.

CONOLOG®

VARIO SR ABUTMENTS

HYBRID PROSTHETICS LASER-WELDED BAR CONSTRUCTIONS VARIO SR BASES FOR BAR

Vario SR bases for bar are made out of grade 4 titanium and are suitable for laser-welded bar constructions with prefabricated bar elements made out of identical material. The copings do not have an antirotational mechanism and are each available in the 3.8/4.3 mm and 5.0 mm diameters.

VARIO SR BASES FOR BAR FOR BAR CONSTRUCTIONS ON STRAIGHT AND ANGLED CONLOG® VARIO SR ABUTMENTS

ART. NO.	ARTICLE	FOR IMPLANT DIAMETERS
J2570.4300	Vario SR base for bar, laser-weldable, incl. Vario SR prosthetic screw	3.8/4.3 mm
J2570.6000	Vario SR base for bar, laser-weldable, incl. Vario SR prosthetic screw	5.0 mm
J4005.2004	Vario SR prosthetic screw, hex, M 2.0, yellow anodized	



NOTE

Vario SR bases for bars have no antirotational mechanism and therefore are only suited for bar constructions.

TASKS OF A BAR RESTORATION

In implantological hybrid prosthetics, bar restorations represent stable implant-connecting constructions; a hybrid prosthesis can be securely anchored.

- Protecting the prosthesis against shearing and lifting forces
- Shear distribution
- Stabilization and primary splinting of the implants
- Resilience compensation through degrees of freedom

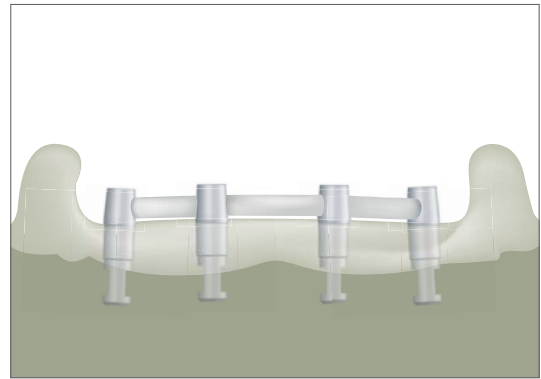
FABRICATING A BAR CONSTRUCTION

To fabricate a bar construction, Vario SR bases for bar are set on the Vario SR analogs. A screwdriver (hex) is used to screw in the Vario SR prosthetic screw hand-tight.



Vario SR base for bar with Vario SR prosthetic screw

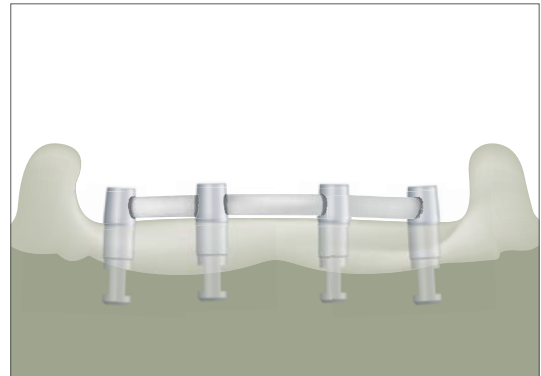
The bar elements are cut accordingly and in consideration of a joining gap that is as small as possible fitted between the Vario SR bases for bar.



After assembling all the components, the bar segments are laser-welded together with the Vario SR bases for bar under sufficient argon gas purging and the bar are high-gloss polished.

IMPORTANT NOTE ABOUT LASER-WELDING

Blue discoloration on the welds must be avoided. This points to insufficient purging with argon gas and to oxygen uptake of the titanium. Brittleness and associated weakness in the weld is the result. Observe the operating instructions of the laser devices used!



After completing the bar construction, the final bar prosthesis with base reinforcement made out of metal is fabricated in the usual manner. The teeth are positioned based on the principle of modern complete dentures. An existing full prosthesis can also be converted into a bar-retained prosthesis with suitable bar matrices.

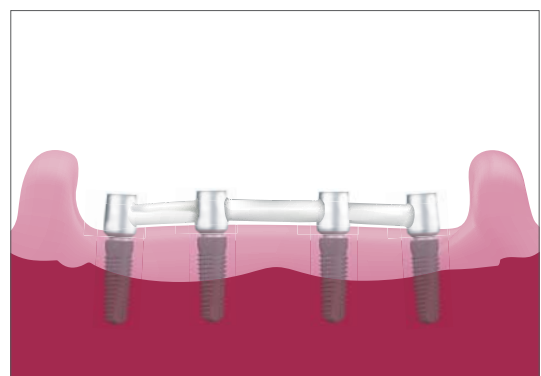
IMPORTANT NOTE

The matrix should be placed before fabrication of the prosthesis with a suitable relief wire. Only then is vertical translation of the prosthesis on the bar ensured.







INSERTING THE BAR CONSTRUCTION

The finished bar construction is transferred to the CONELOG® Vario SR abutments and with new unused Vario SR prosthetic screws fixed with 15 Ncm using a screwdriver (hex). The full prosthesis is then inserted and checked for proper fit.






ACCESSORIES AND PROSTHETIC INSTRUMENTS



CONOLOG® LAB ANALOGS FOR CAST FABRICATION

Art. No.	C3010.3300	C3010.3800	C3010.4300	C3010.5000
				
Ø mm	3.3	3.8	4.3	5.0





SCREWDRIVER, HEX, FOR LAB AND PROSTHETIC SCREWS

Art. No.		Article
J5316.0510		Screwdriver, hex, extra short
J5316.0501		Screwdriver, hex, short
J5316.0502		Screwdriver, hex long

UNIVERSAL HOLDER

Art. No.		Article
C3709.0010		Universal holder, incl. 2 CONOLOG® lab screws (Thread M 1.6 and M 2.0) and each 1 CONOLOG® abutment collect for implant diameters Ø 3.3/3.8/4.3/5.0 mm
J3709.0015		Universal holder

CONOLOG® ABUTMENT COLLECTS FOR UNIVERSAL HOLDER

Art. No.	C3709.3300	C3709.3800	C3709.4300	C3709.5000
				
Ø mm	3.3	3.8	4.3	5.0

MATERIALS

TITANIUM GRADE 4	PROPERTIES:			
Chemical structure (in %):	O	0.4 max.		
	Fe	0.3 max.		
	C	0.1 max.		
	N	0.05 max.		
	H	0.0125 max.		
	Ti	> 99.0		
	Mechanical properties:	Tensile strength	680 MPa min.	
		Elongation	10 %	
	TITANIUM ALLOY Ti6Al4V ELI	PROPERTIES:		
	Chemical structure (in %):	Al	5.5–6.75 max.	
V		3.5–4.5 max.		
Fe		0.3 max.		
C		0.08 max.		
N		0.05 max.		
H		0.015 max.		
Ti		~ 90		
Mechanical properties:		Tensile strength	860 MPa min.	
	Elongation	10 %		
CAST-ON GOLD ALLOY CONOLOG® GOLD-PLASTIC ABUTMENT	PROPERTIES:			
Chemical structure (in %):	Au	60		
	Pd	20		
	Pt	19		
	Ir	1		
	Physical properties:	Melting range	1400–1490 °C	
Density		17.5 g/cm ³		
E-Modul		136 GPa		
Coefficient of thermal expansion (20–500°C)		11.9 µm/m·°C		
Coefficient of thermal expansion (20–600°C)		12.2 µm/m·°C		
Color		white		
Mechanical properties:		drawn		
	Hardness HV5	> 215		
	Tensile strength (Rm)	> 750 MPa		
	0.2% Elongation limit (Rp 0.2%)	> 650 MPa		
	Elongation at break	> 2 %		

FURTHER DOCUMENTATION

Further information about CONELOG® products is available in the following documentation:

- CONELOG product catalog
- CONELOG® working instructions
- Preparation instructions
- Instruction manuals (included with CAMLOG®/CONELOG® products as package inserts)
- www.camlog.com

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