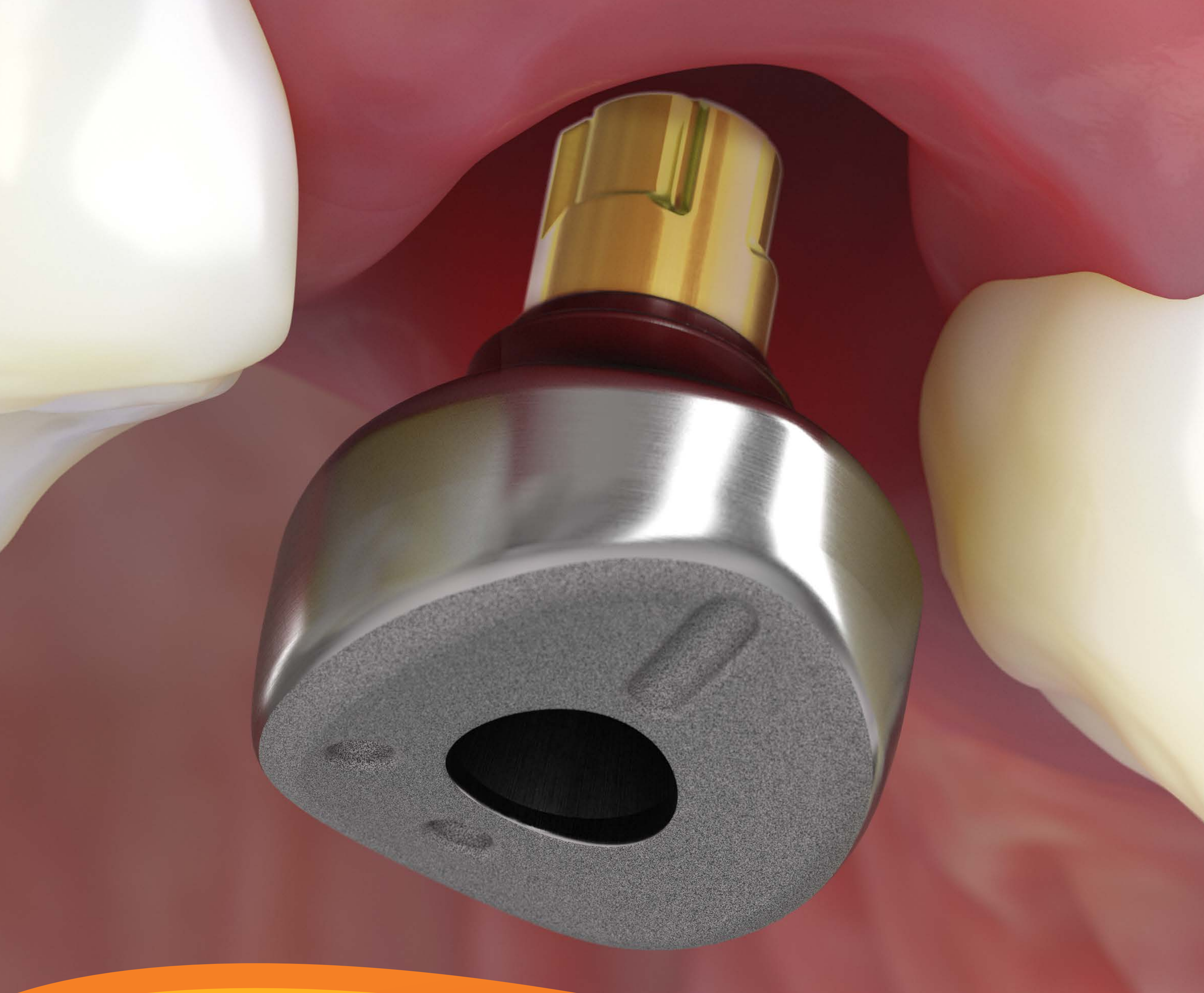

Tapered Pro Conical

Prosthetic technique manual

BIOHORIZONS®

table of contents

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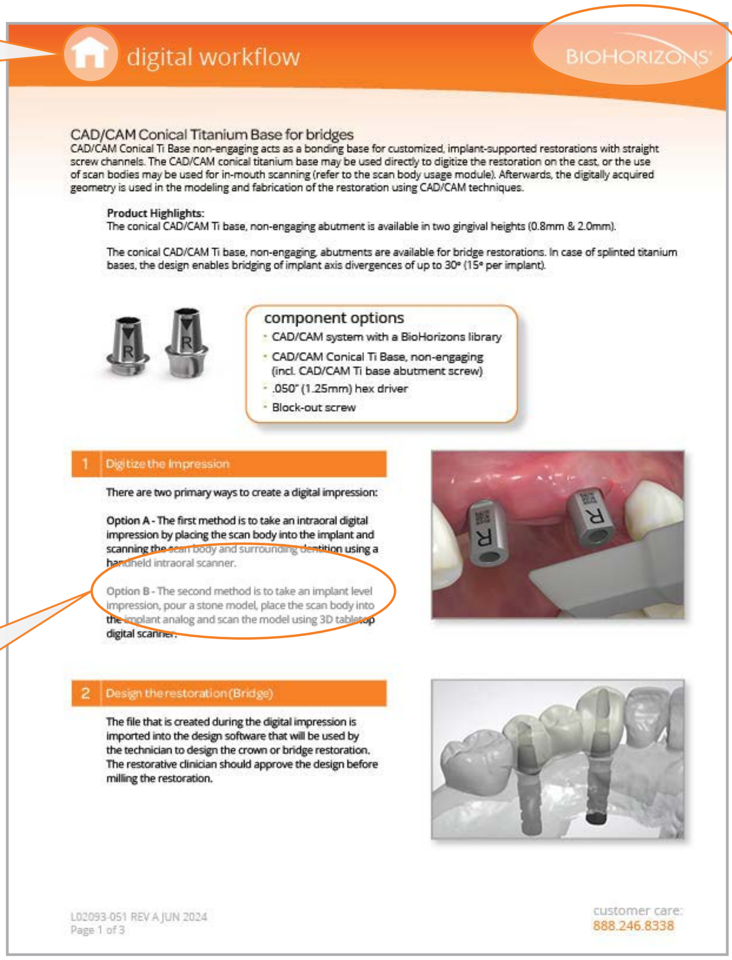
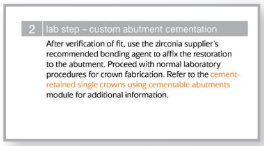
How to use this manual

This prosthetic manual has many features enabled to make it easier to navigate and shop for the prosthetic components that are needed for each technique. Below are some instructions to help you on your way to using one of the most advanced technique manuals in implant dentistry. This manual is separated into technique modules that are updated frequently to describe the most current protocols used in implant dentistry. For best results on a tablet device, use the iBook or Adobe Reader app.

At any time, you can jump back to the table of contents by clicking on the home icon located at the top of each page.



Every page has a quick link to the BioHorizons website to browse the latest product information and continuing education courses.



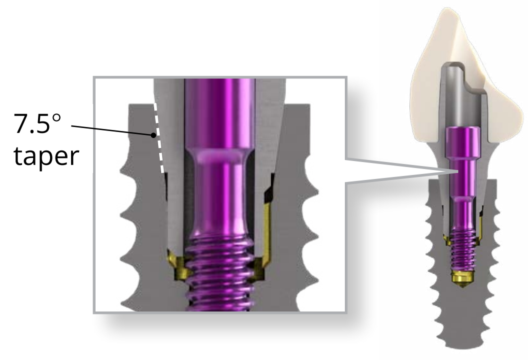
Click on module names in orange text to view additional content on the current topic.

Each prosthetic module can also be printed using Adobe Reader.

Engaging abutment connection & orientation

BioHorizons Tapered Pro Conical and Tapered Short Conical implants are equipped with a 7.5-degree internal taper cone and six (6) grooves in the inner configuration for positioning of the corresponding abutments.

The abutments are apical with a cone and three (3) cams and are designed to rotationally lock into the conical connection supported by the implant's grooves. For definitive insertion, the corresponding abutment screw is used.

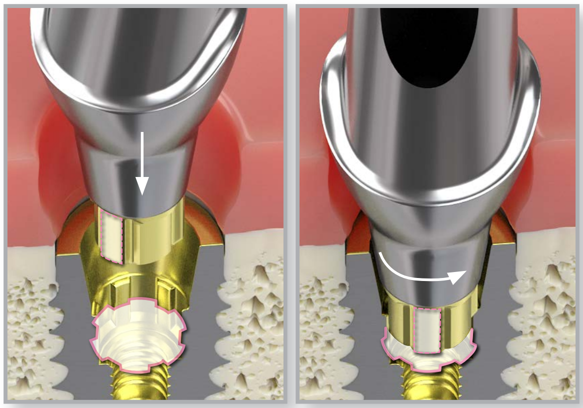


1 Abutment placement

Place the abutment above the implant connection and begin insertion.

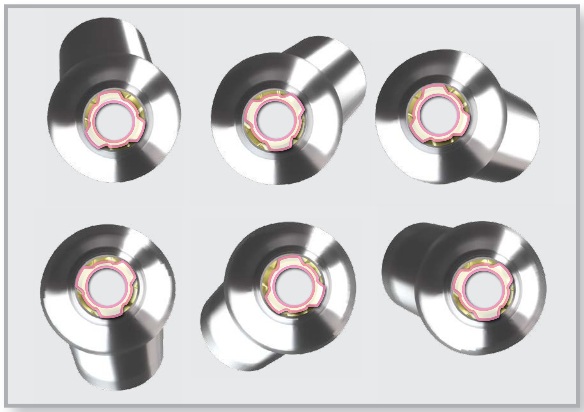
Rotate the abutment to the desired orientation and insert so that a clear perceptible tactile feedback confirms that the abutment is positioned correctly by three of the six grooves of the implant and apical external taper of the abutment.

Once a perceptible tactile engagement of the abutment is achieved, complete the insertion to final depth.



2 Abutment orientation

Abutments may be oriented in six (6) different ways at a 60-degree offset based on the position of the six (6) grooves in the implant connection.



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Disconnector tool

BioHorizons Tapered Pro Conical and Tapered Short Conical implants are designed with a deep conical connection that ensures a very precise, stable and rotation-resistant connection to the prosthetic components, and, therefore, an above-average precision fit between the abutment and the implant.

To safely remove the abutment from the implant (adhesion force), a disconnector tool may be needed.

The disconnector tool should only be used for the removal of final abutments that engage the cone.

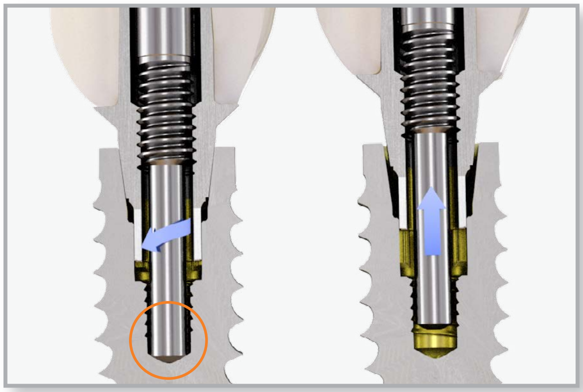
1 Remove the abutment screw

Remove the abutment screw or the lab screw which is securing the abutment to the implant.

2 Engage the disconnector tool

Screw the disconnector tool into the screw channel until the abutment releases from the internal taper of the implant or lab implant.
If the abutment does not come loose, a torque wrench may be placed on the disconnector (in the locked setting) and the abutment may be loosened by turning clockwise.

Note:
The disconnector tool is not compatible with OD Secure abutments.



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Open tray impression taking

The open tray, also known as the direct pick-up method, is used to make a single or multiple-unit, implant-level impression for fabrication of a working model. In this method, the impression post is attached to the dental implant, and it is important that the coping screw be longer than the impression post when making the impression.

Note:
The coping 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 the hex driver. Ensure to shorten the coping screw extra-orally only.

component options

- Conical impression post, open tray (including coping screw)
- Conical lab analog
- .050" (1.25mm) hex driver

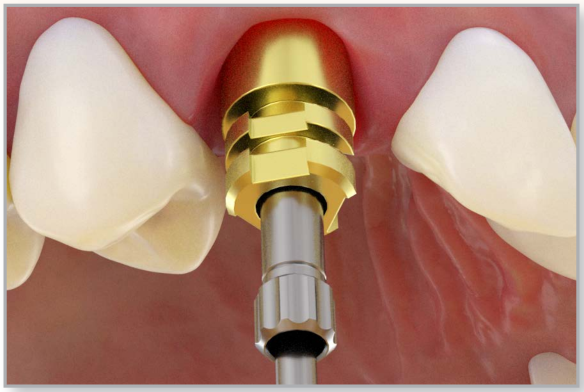
1 Remove the healing abutment

Remove the healing abutment using an .050" (1.25mm) hex driver. Confirm that the implant's prosthetic platform is free of any bone debris or soft tissue.

Helpful Hint:
When placing impression posts on multiple implants, remove one healing abutment at a time, replacing it immediately with the impression post. This reduces the likelihood of soft tissue collapse onto the implant. It is recommended to work from posterior to anterior.

Open tray impression taking

2 Place the conical impression post

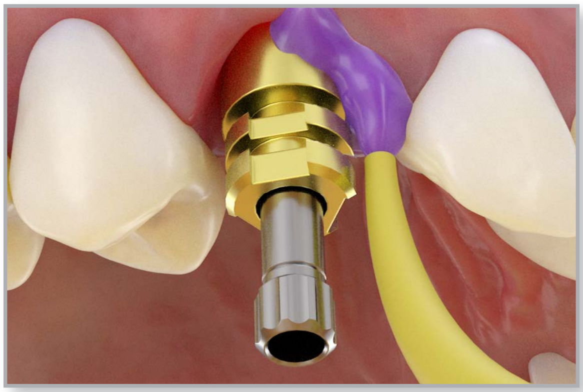


Place the conical impression post on the implant and gently tighten the coping screw to retain the impression post. The conical impression post is rotation-symmetrical and does not require any specific orientation. Carefully rotate the conical impression post in the implant until the cams engage with the grooves of the implant. Hand tighten to secure the coping.

Take a radiograph along the long axis of the implant to ensure that the impression post is seated completely on the shoulder of the implant (flat-to-flat seat).

Note:
The X-ray tube must be positioned perpendicular to the implant prosthetic platform.

3 Make a full-arch impression



Try the custom impression tray or modified stock tray to verify that the coping screw protruding from the perforations are not interfering with the tray.

Syringe a medium or heavy body elastomeric impression material around the coping body, leaving the screw exposed. Load the tray with impression material and make the impression.

Important:
Before the material sets, use your finger to wipe the impression material from the top of the screw so it is exposed for access.

4 Remove the coping screw and impression

After the impression material has set, loosen the coping screws by hand or by using the 0.50 hex driver, pull the coping screw back and then lift off the tray from the mouth. Verify the impression material is completely adapted around the pick-up copings.

Place the healing abutment immediately to prevent soft tissue collapse.

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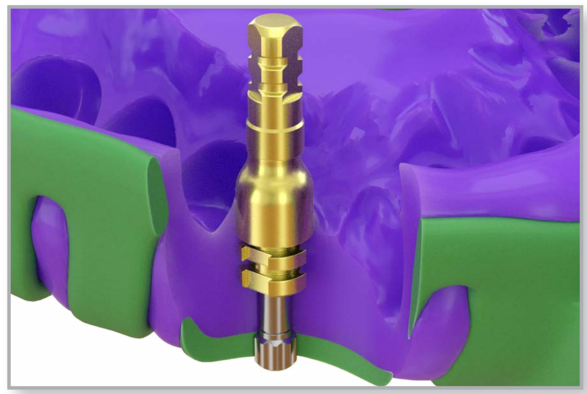
Open tray impression taking

send to lab

- Impression with the embedded conical impression posts and the coping screws
- Bite registration
- Prescription with lab instructions

5 Lab step - Assemble the analog

Attach the appropriate conical lab analog to the conical impression post and secure retention by hand-tightening the coping screw using the .050 hex driver.

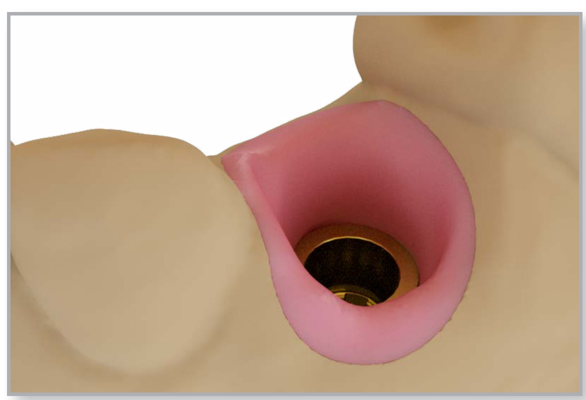


6 Lab step -Make a soft tissue model

Verify the coping and analog assembly are properly connected. Apply lubricant where the soft tissue replica material is to be applied. Syringe a soft tissue replica material around the analog.

7 Lab step -Fabricate the stone model

Fabricate a working model in minimal expansion, high hardness die stone. Articulate according to normal laboratory procedures.



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Closed tray technique using the indirect transfer coping

The closed tray, also known as the indirect transfer method, is used to make a single or multiple-unit, implant-level impression for fabrication of a working model. The biggest advantage of the closed tray method is that it is easier to apply in the clinic and there is no need for an individual tray. Since a prefabricated tray is used, the thickness of the impression materials around the impression post is greater, thus providing more support and a more stable impression.

component options

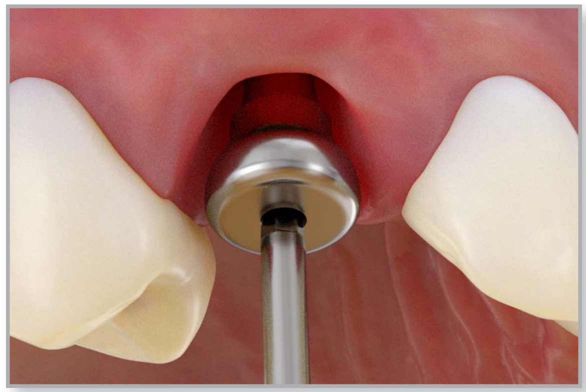
- Conical impression post, closed tray (including coping screw)
- Conical impression cap
- Conical lab analog
- .050" (1.25mm) hex driver

1 Remove the healing abutment

Remove the healing abutment using an .050" hex driver. Confirm the implant prosthetic platform is free of any bone debris or soft tissue.

Note:
If a custom cast is planned, the emergence will be determined by the lab prescription.

Helpful Hint:
When placing impression posts on multiple implants, remove one healing abutment at a time, replacing it immediately with the closed tray impression post. This reduces the likelihood of soft tissue collapse onto the implant. It is recommended to work from posterior to anterior.

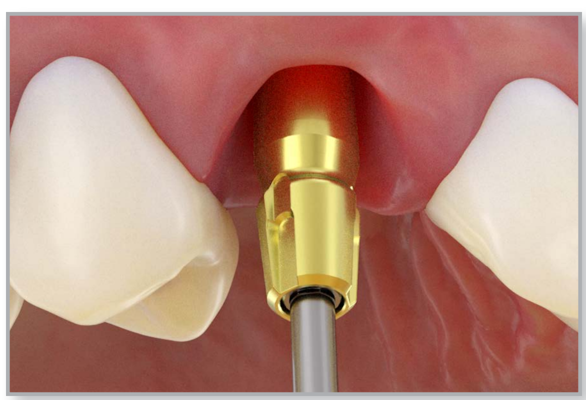


2 Place the conical impression post (closed tray)

Hand-tighten the conical closed tray impression post on the implant. The conical closed tray 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 and gently hand-tighten (10-15 NCm) the coping screw to retain the impression post.

Take a radiograph along the long axis of the implant to ensure that the impression post is seated completely into the grooves of the implant.

Note:
The X-ray tube must be positioned perpendicular to the implant prosthetic platform.



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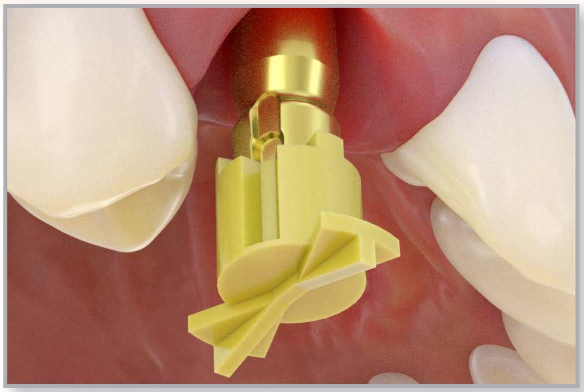
Closed tray technique using the indirect transfer coping

3 Place the impression cap

Place the appropriate impression cap onto the conical closed tray impression post using the guide grooves until a detectable pressure point is reached and the impression cap is clearly fixed into place. Orient the wings of the impression cap to be buccal-lingual.

Note:
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.

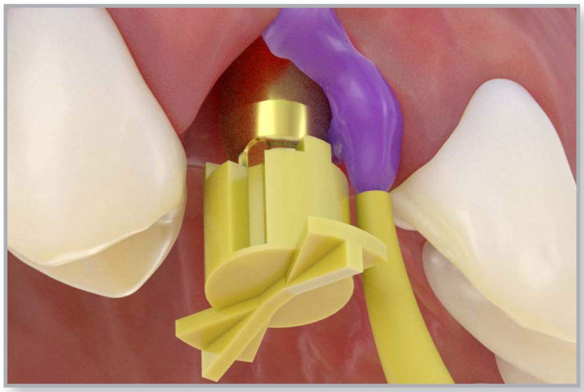


4 Make a full-arch impression

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

Syringe a medium or heavy body elastomeric impression material around the coping body, leaving the screw exposed. Load the tray with impression material and make the impression.

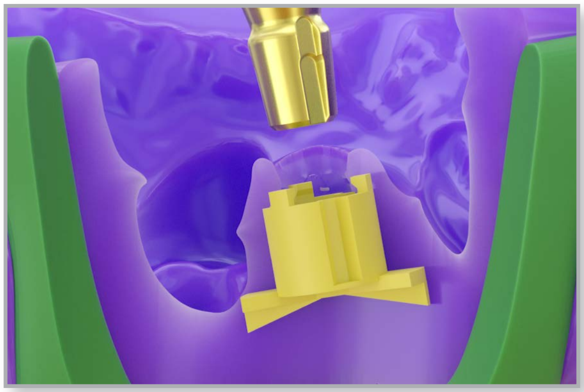
After the impression material has set, remove the tray from the mouth. The impression caps must stay in the impression after the impression tray has been removed. If this is not the case, take the impression again.



5 Remove the impression post

Loosen the coping screws by hand or by using the .050" hex driver, pull the coping screw back and then remove the conical closed tray impression post from the implant. Place the healing abutment immediately over the implant to prevent soft tissue collapse.

To prevent the loss of the coping screw, attach the corresponding lab analog to the conical closed tray impression post using the .050" hex driver.



send to lab

- Impression with the embedded impression cap
- Conical closed tray impression posts with the lab analog attached
- bite registration
- prescription with lab instructions

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Closed tray technique using the indirect transfer coping

6 Lab step - Assemble the impression post

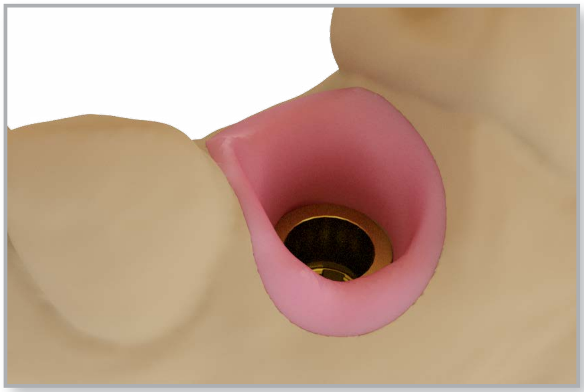
Position the assembled impression post and lab analog on the impression caps embedded in the impression. Make sure that the grooves correctly engage in the impression cap and do not use bonding material.

7 Lab step - Make a soft-tissue model

Verify the coping and analog assembly are properly connected. Apply lubricant where the soft tissue replica material is to be applied. Syringe a soft tissue replica material around the analog.

8 Lab step - Fabricate the stone model

Fabricate a working model in minimal expansion, high hardness die stone. Articulate according to normal laboratory procedures.



Bite registration

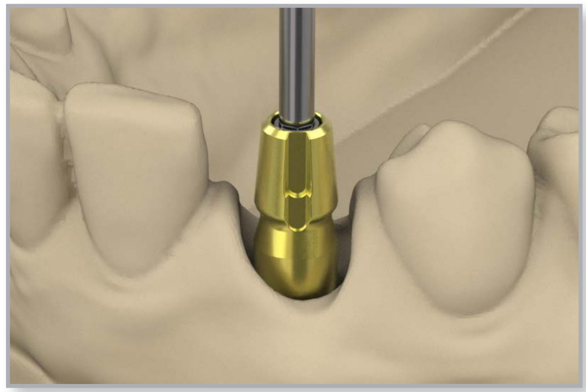
The bite registration is taking an impression of a patient's upper and lower teeth in the bite position to assist in the making and fitting of restorations.

component options

- Conical impression post, closed tray (including coping screw)
- Conical bite registration cap
- Stone impression models (lab analogs embedded)
- .050" (1.25mm) hex driver

1 Place the impression post

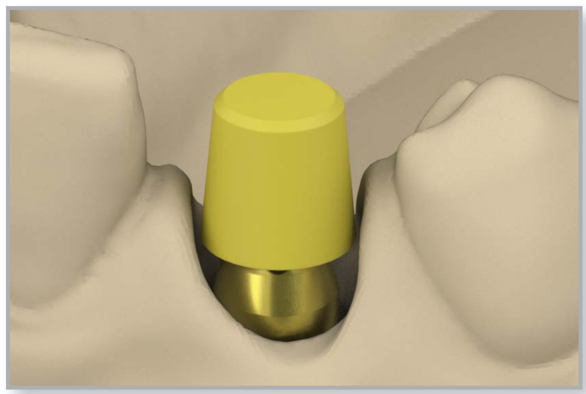
Place the conical impression post on the lab analog embedded in the stone model. Hand tighten the impression post using the coping screw and the .050" hex driver.



2 Install bite registration cap

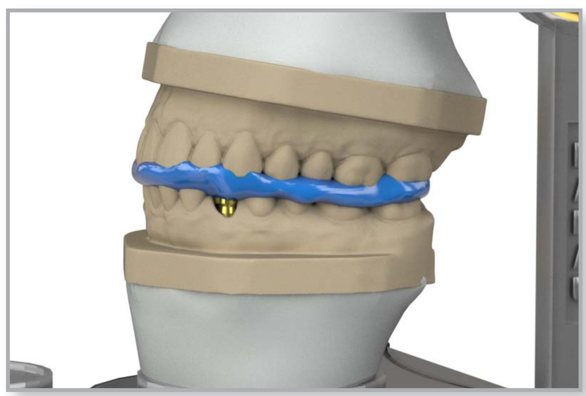
Install the bite registration cap on the impression post. Ensure that the bite registration cap is fully seated on the impression post.

Note:
Correct seating of the bite registration cap on the impression post is indicated by a perceptible locking feel.



3 Perform bite registration

Mount the stone models in an articulator tool and place the bite register. Perform the bite registration using a tabletop scanner.



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Screw-retained crown using the conical temporary abutment

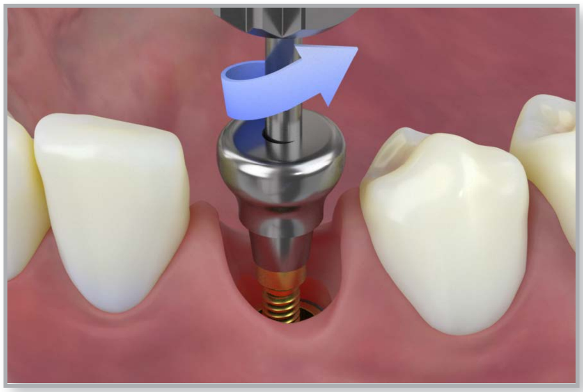
Use this technique for the fabrication of a multiple unit implant-supported, screw-retained hybrid in a partially or fully edentulous patient.

component options

- Conical temporary abutment
- Abutment screw
- .050” (1.25mm) hex driver
- Torque wrench

1 Remove the healing abutment

Remove the healing abutment using an .050” (1.25mm) hex driver. Make sure the prosthetic platform is free of bone and soft tissue.



2 Seat the temporary abutment

Seat the temporary abutment, engaging the conical grooves of the implant. Hand tighten the abutment screw using an .050” (1.25mm) hex driver.

3 Mark the abutment

Evaluate inter-occlusal dimensions, angulation, and tissue contour. Mark the abutment for the required vertical reduction and gingival contour.

Important:
Abutments with a post height less than 4.0 mm are intended for multi-unit restorations only.

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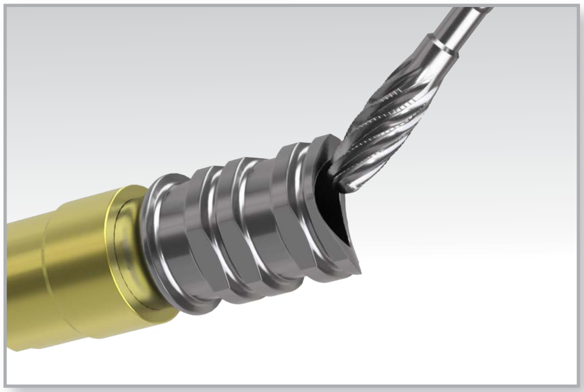
Screw-retained crown using the conical temporary abutment

4 Modify the abutment

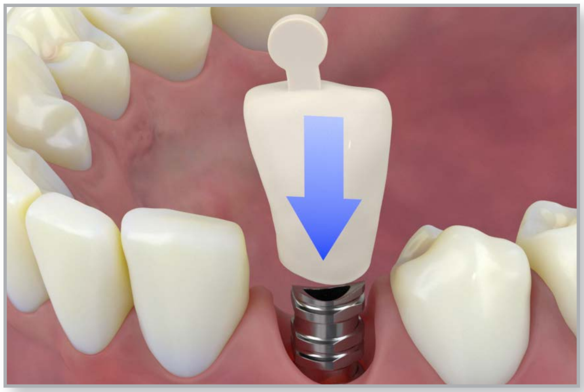
Remove the marked abutment from the site using an .050" (1.25mm) hex driver. Modify the abutment for vertical clearance and gingival margins using a carbide bur. An analog can be used as a handle during abutment modification.



Note:
Replace the healing abutment immediately to prevent soft tissue collapse over the implant.

5 Seat the modified abutment

Verify the implant prosthetic platform is free of bone and soft tissue. Irrigate the internally-threaded connection of the implant and dry. Place the modified temporary abutment onto the implant using the abutment screw and an .050" (1.25mm) hex driver. Hand tighten.



6 Try in the shell crown

Try in the appropriate polycarbonate/shell crown and modify as needed.

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Screw-retained crown using the conical temporary abutment

7 Create an access hole

Remove the abutment screw from the modified abutment and replace it with the block out screw. Create a screw-access hole through the shell crown allowing the block out screw to come through. Hand-tighten.

8 Fill the shell crown

Mix acrylic or another material of choice and place inside the shell crown. Position the shell crown over the block out screw onto the modified temporary abutment.

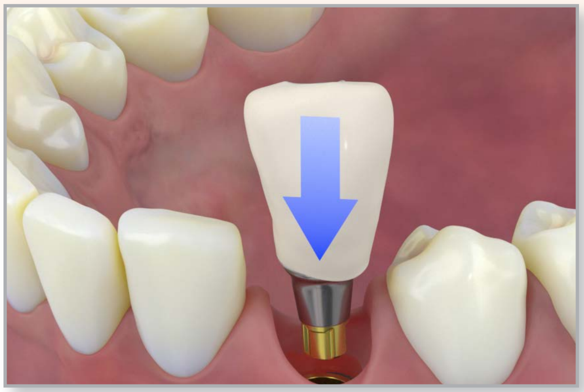
Note:
Undercuts on adjacent teeth should be blocked-out prior to this reline procedure.

9 Remove and polish the crown

Remove the block out screw and the relined shell crown. Place the screw-retained temporary crown onto an analog using the abutment screw. Contour and polish the temporary crown.

screw-retained crown using the Conical temporary abutment

10 Re-seat the crown



Make sure the implant prosthetic platform is free of bone and soft tissue. Irrigate the internal connection of the implant and dry. Try in the prosthesis to confirm fit and contour. Modify as necessary and polish after making necessary adjustments. Re-seat the prosthesis onto the implant and hand tighten the abutment screw using an .050" (1.25mm) hex driver.

Note:
Take a radiograph along the long axis of the implant to ensure the abutment is seated completely onto the implant.

11 Check and modify the temporary

Check the occlusion and contacts. There should only be light contact in centric occlusion and no contact in lateral excursions. Modify as necessary and polish after making necessary adjustments.

12 Tighten the abutment screw

Tighten the abutment screws to 20 Ncm using a calibrated torque wrench and an .050" (1.25) hex driver.

13 Fill the screw access channel

Place a resilient material of choice (gutta-percha, silicone or temporary filling material) into the screw access channel. This allows for easy access to the abutment screw in the future. Fill the remainder of the channel using a composite resin material of choice.

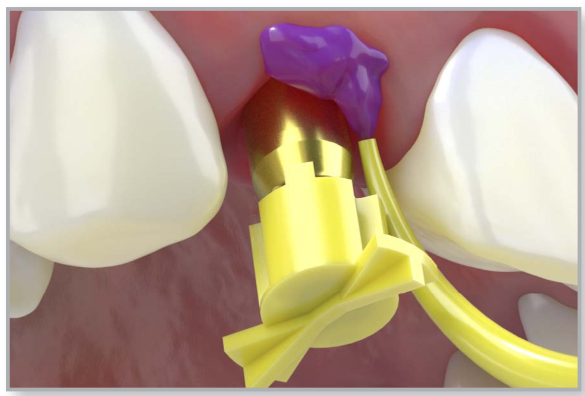
Take an x-ray for temporary prosthesis delivery records.

Cement-retained single crowns using esthetic abutments

Use this technique for a laboratory-modified cementable abutment. The clinician makes an implant-level impression; the lab prepares the abutment and fabricates the restoration.

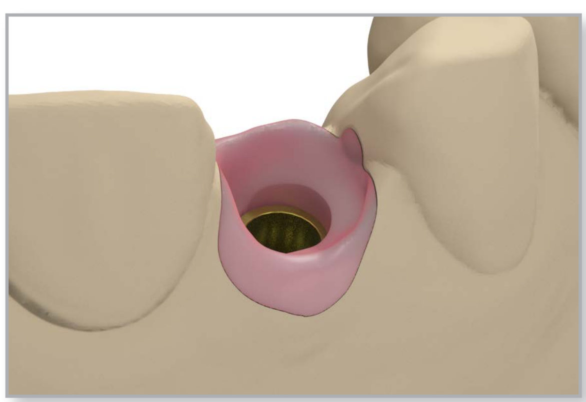
component options

- Conical esthetic abutment
- .050" (1.25mm) hex driver
- torque wrench



1 Make an implant-level impression

Remove the healing abutment and follow the steps for creating an implant-level impression following either the open tray technique or the closed tray technique.

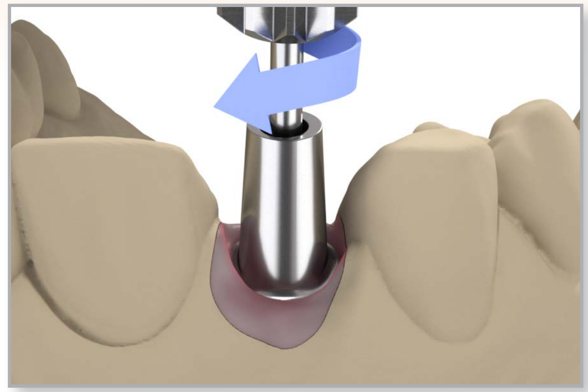


2 Lab step - Pour the working model

Fabricate a working model following conventional laboratory procedures. A soft tissue model is recommended whenever the margins are subgingival.

Cement-retained single crowns using esthetic abutments

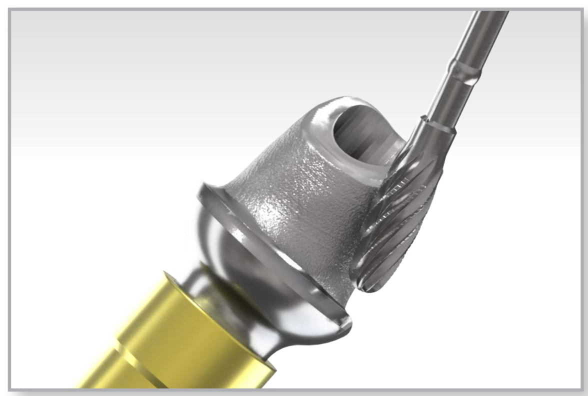
3 Lab step - Select and mark the abutment



Select an abutment based on implant location, tissue depth and doctor preference. Seat the abutment, engaging the conical grooves of the implant analog in the mounted working model. Hand tighten the abutment screw with an .050” (1.25mm) hex driver. Evaluate inter-occlusal dimensions, angulations, and tissue contour. Mark the abutment for the required vertical reduction and gingival contour.

Note:
Allow a minimum of 1.5 – 2.0mm of occlusal clearance for metal and porcelain.

4 Lab step - Modify the abutment

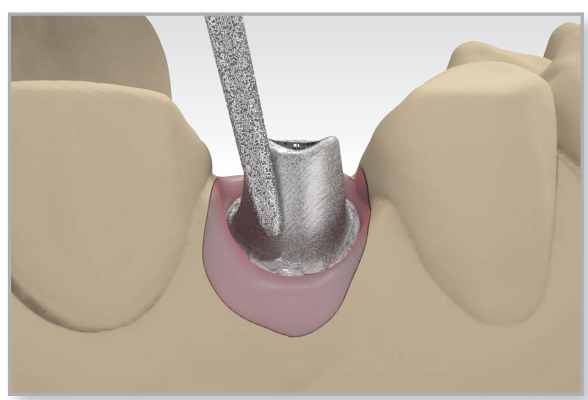


Modify the abutment using carbide burs, cut-off disks, or heatless stone wheels. A diamond bur may be used to define the margins. An analog can be used as a handle during abutment modification.

Note:
Create an axial groove to indicate the buccal surface for re-indexing the abutment in the mouth. If the flat of the abutment is removed during the preparation, a new anti-rotational feature must be established on the abutment.

Important:
For cement-retained restorations, maintain at least 3mm from the abutment platform to avoid damaging the abutment screw.

5 Lab step - Return the abutment to the model



Return the modified abutment to the mounted working model and make final adjustments. A diamond bur may be used to modify and finesse margins.

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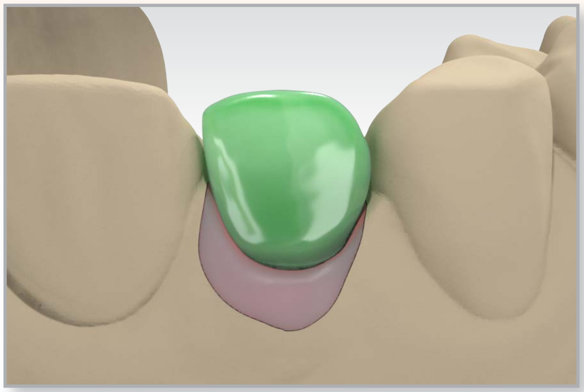
Cement-retained single crowns using esthetic abutments

6 Lab step - Wax the coping, sprue, invest and cast

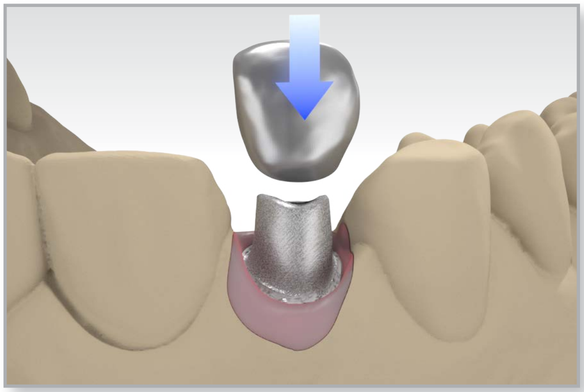


In preparation to wax and cast the coping, block out the screw-access hole of the prepared abutment and apply die spacer.

Create a wax coping for the crown on the modified abutment utilizing routine crown & bridge procedures.

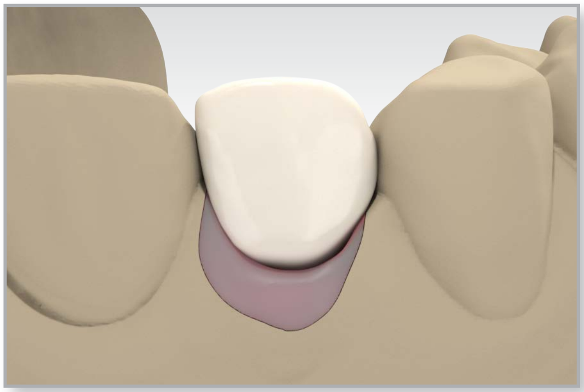
Sprue, invest and cast the coping pattern in noble or high noble alloy according to the manufacturer's instructions.

7 Lab step - Divest and finish the coping



Divest, fit, and finish the cast coping following conventional laboratory techniques in preparation for porcelain application.

8 Lab step - Fabricate the crown



Apply opaque and porcelain to the metal framework and complete the crown according to routine laboratory procedures.

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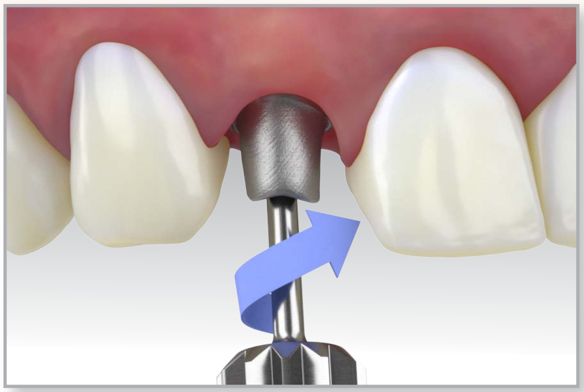
cement-retained single crowns using esthetic abutments

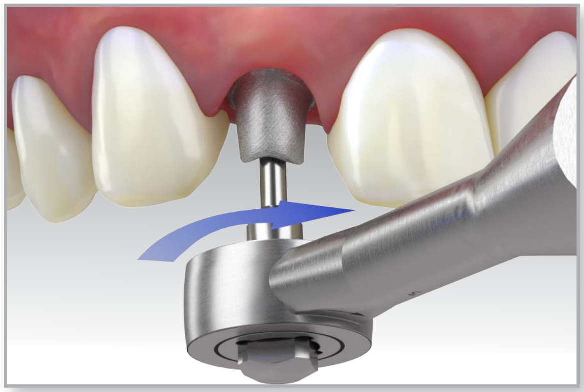


9 Seat the prepared abutment

Sanitize modified abutment and crown per standard clinical procedure. Remove the healing abutment or provisional prosthesis from the implant with an .050" (1.25mm) hex driver. Make sure the implant prosthetic platform is free of bone and soft tissue. Irrigate the internally-threaded connection of the implant and dry. Place the modified abutment and abutment screw onto the implant with an .050" (1.25mm) hex driver and hand tighten to 10-15Ncm.

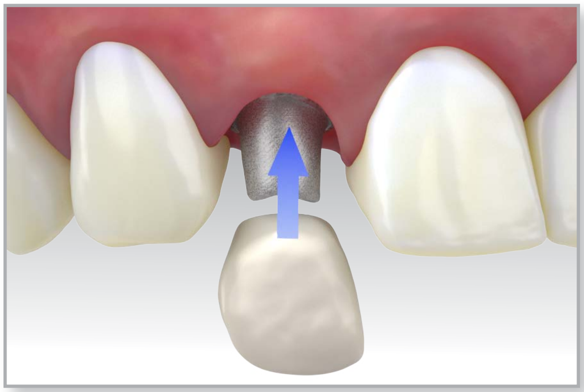
Take a radiograph along the long axis of the implant to ensure the abutment is seated completely in the conical grooves of the implant.

Note:
The X-ray tube must be positioned perpendicular to the implant prosthetic platform.



10 Tighten the abutment screw

Tighten the abutment screw to 20 Ncm using a calibrated torque wrench and an .050" (1.25) hex driver. Apply counter-torque by grasping the abutment with an abutment clamp.



11 Cement the final crown

Place a resilient material of choice (gutta-percha, silicone or temporary filling material) into the screw access hole and fill the remaining channel with composite or another material of choice. This allows for easy access to the abutment screw in the future.

Place the final restoration onto the abutment prior to cementation. Check the occlusion and contacts. There should only be light contact in centric occlusion and no contact in lateral excursions.

Modify as necessary and polish after making necessary adjustments.

Important:
Take an x-ray for final prosthesis delivery records.

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Multi-unit abutment hybrid or fixed-detachable screw-retained restoration

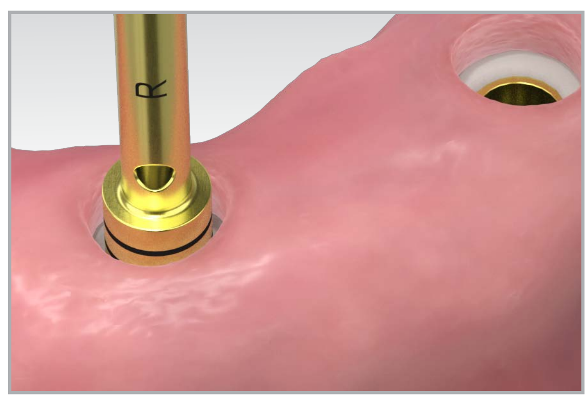
Use this technique for the fabrication of a multiple unit implant-supported, screw-retained hybrid in a partially or fully edentulous patient.

component options

- Conical multi-unit abutment (angled and straight)
- .050" (1.25mm) hex driver
- Torque wrench
- Multi-unit direct pick-up impression copings

1 Select the abutments

Measure the tissue depth from the top of the implant to the top of the tissue at its highest point. Select a conical Multi-unit abutment with a collar height which is 1-2mm taller than what is measured and matches the platform size and angulation needed for proper coping position.



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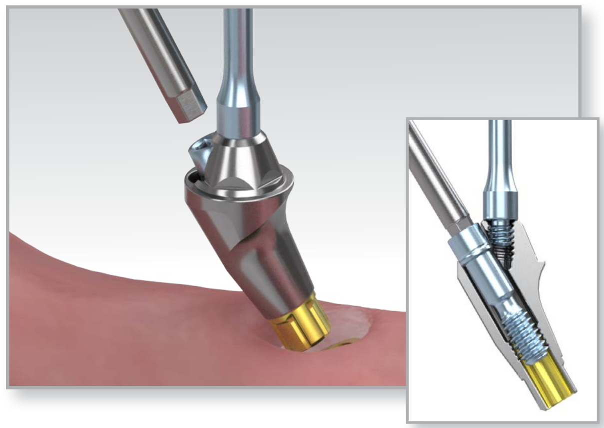
Multi-unit abutment hybrid or fixed-detachable screw-retained restoration

2 Place the abutments

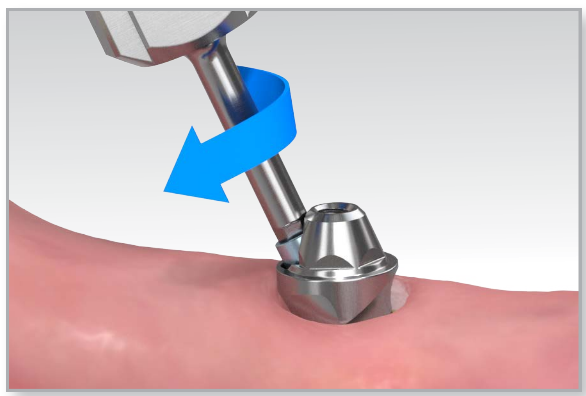
Remove the healing abutments using an .050” (1.25mm) hex driver.
Straight abutments: Seat each straight abutment using the carrier, threading it clockwise onto the implant body. Bend the carrier to release it from the abutment.
Hand tighten the abutment using the manual Multi-unit hex adapter.
Angled abutments: Transfer the MUA to the mouth using the attached delivery handle. The abutment screw may be tightened without removal of the delivery handle. Once the abutment is secured in place, the delivery handle should be removed and discarded.

Important:
When placing an angled Multi-unit abutment, rotate the abutment and choose one of the six positions that best corrects the implant angle.



Take a radiograph along the long axis of the implants to ensure that the Multi-unit abutments are seated completely.

Note:
The X-ray tube must be positioned perpendicular to the implant prosthetic platform.



Straight abutments: Tighten the abutments to 20 Ncm using a calibrated torque wrench and the 4mm square hex adapter. The Multi-unit handpiece hex adapter can be used with a compatible torque wrench.

Angled abutments: Tighten the abutment screw to 20 Ncm using a calibrated torque wrench and an .050” (1.25) hex driver.

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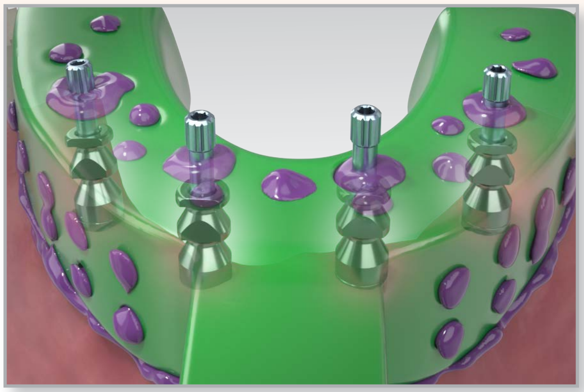
Multi-unit abutment hybrid or fixed-detachable screw-retained restoration

3 Make an abutment-level impression

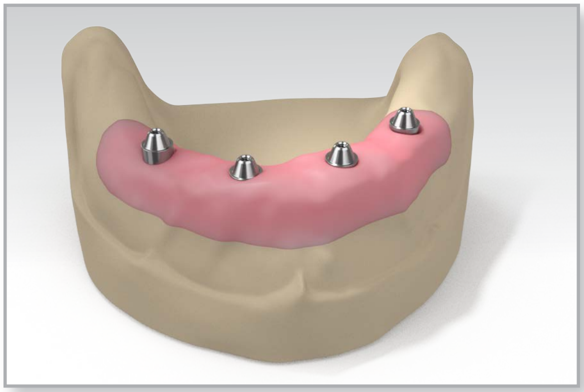
Create an abutment-level impression.

Important:
The fabrication of a verification jig is recommended to ensure the accuracy of the master stone model.



4 Lab step - Fabricate working model

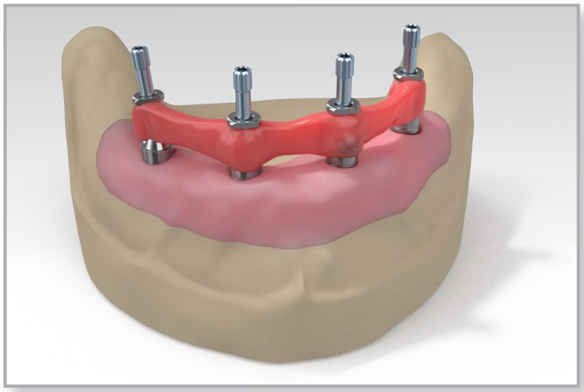
Fabricate a working model following conventional laboratory procedures. A soft tissue model is recommended whenever the margins are subgingival.



5 Lab step - Fabricate verification jig

Using multi-unit direct pick-up copings or titanium copings, fabricate a verification jig to verify the accuracy of the working model.

Send the completed verification jig to the clinician for try-in.



Multi-unit abutment hybrid or fixed-detachable screw-retained restoration

6 Try-in the verification jig

Remove the healing caps from the Multi-unit abutments using an .050" (1.25mm) hex driver. Confirm the prosthetic platform is free of any debris or soft tissue.

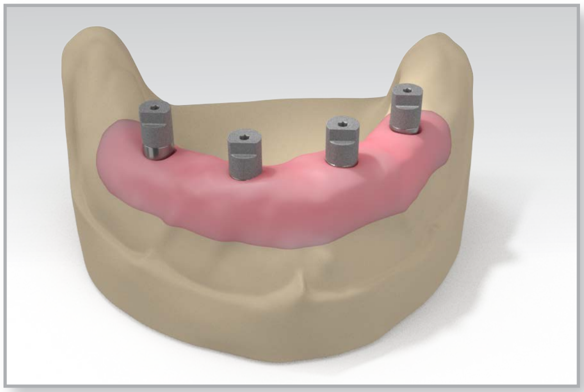
Place the verification jig and confirm that it seats passively. Beginning with the most distal implant, place the first abutment screw. Hand tighten the screw and make sure the prosthetic interface on all the remaining implants are completely seated.

Note: Visually or with a radiograph, always ensure the verification jig is completely seated onto the implants or the abutments.
Continue placing the abutment screws. Verify the fit each time a screw is placed.

7 Lab Step - Digital conversion

Once the accuracy of the working model has been verified, place Multi-unit titanium scan bodies on the analogs using an .050" (1.25mm) hex driver.

Conduct the scan according to the scanner manufacturer's instructions. Then, using the relevant digital library, align the scan body by selecting identifiable reference points.



8 Lab step - Mill restoration

Send the scan files to a BioHorizons validated milling center.

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CUSTOM DENTAL

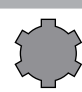
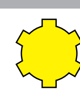
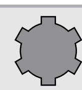
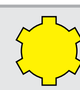
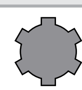
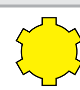
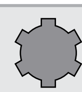
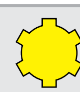
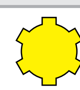
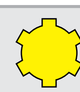
2300 Riverchase Center, Suite 825
Birmingham, AL 35244
Phone: 844-484-2301
Website: www.vulcandental.com
Email: info@vulcandental.com

SmartShape™ Healers digital & closed-tray impression workflows

The BioHorizons SmartShape healing system offers an anatomically designed healing abutment solution that is also integrated within digital restorative workflows. Healers are available in different profiles that are contoured to match natural tooth shapes to provide more esthetic tissue shaping. Once placed, the SmartShape healer can be scanned or impressed to transfer the implant position to a model. Custom abutments can be milled to match the anatomical profile of each healer and maintain the tissue contouring with the final restoration.

Easy identification & selection

SmartShape Healers are available in 6 different anatomical profiles across the two BioHorizons conical connections (narrow and regular). Two height options are available to accommodate varying tissue thicknesses and implant placement protocols.

	Shape	Connections	Heights
A1	Maxillary Centrals (Sites 8, 9)	 	Regular & Tall
A2	Maxillary Laterals & Mandibular Incisors (Sites 7, 10, 23-26)	 	Regular & Tall
M1	Maxillary Canines (Sites 6,11)	 	Regular & Tall
M2	Premolars & Mandibular Canines (Sites 4-5, 12-13, 20-22, 27-29)	 	Regular & Tall
P1	Maxillary Molars (Sites 2-3, 14-15)		Regular & Tall
P2	Mandibular Molars (Sites 18-19, 30-31)		Regular & Tall

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SmartShape™ Healers digital & closed-tray impression workflows

SmartShape Healer selection is determined by the anatomical position in the mouth for the best match between natural dentition and the abutment emergence profile.

A1- Anterior 1

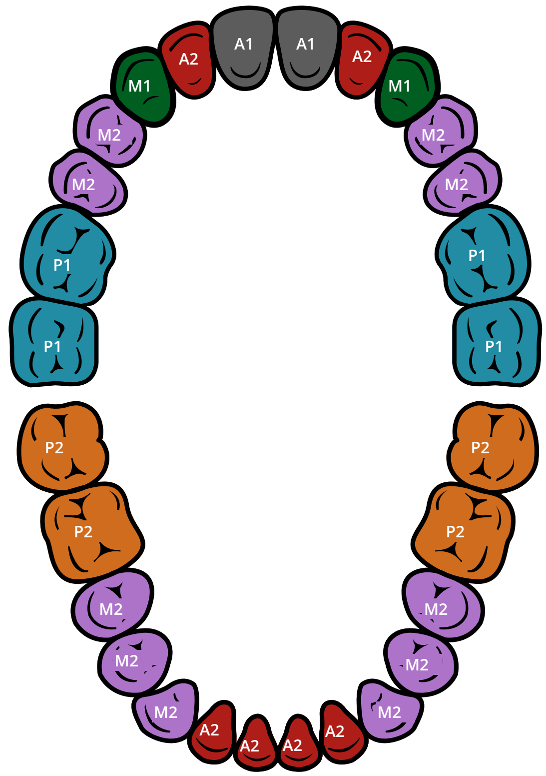
A2- Anterior 2

M1- Mid 1

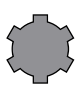
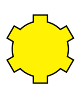
M2- Mid 2

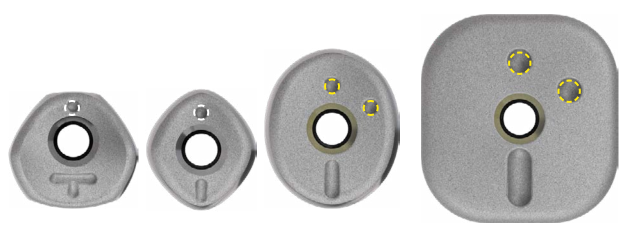
P1- Posterior 1

P2- Posterior 2



The implant platform is indicated by dimples on the occlusal surface.

1 Dimple	**Narrow platform**	
2 Dimples	**Regular platform**	

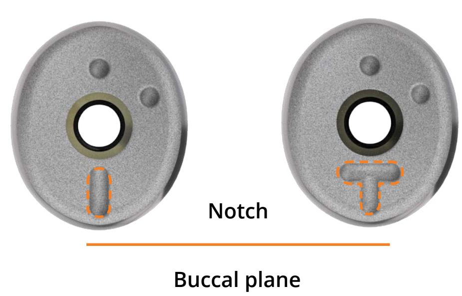


Important:
A notch is marked on the occlusal surface for indexing the healer profile and identifying the healer height.

The healer should be placed so the notch is perpendicular to the buccal plane.

Different tissue heights offer a solution for two implant position/depth options for varying tissue thickness and implant placement protocols.

I	**Regular height**
T	**Tall height**



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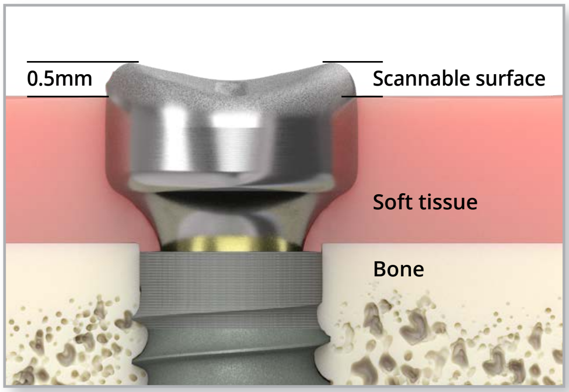
Digital impressions using SmartShape Healers

1 SmartShape Healer placement

Confirm the implant prosthetic platform is free of any bone debris or soft tissue. Place the SmartShape Healer with the occlusal notch perpendicular to the buccal plane. Verify the healer is fully seated, then hand tighten the screw with a .050" (1.25mm) hex driver.

Important:
Make sure the SmartShape Healer is seated properly, leaving the scannable surface a minimum of 0.5mm above the soft tissue.



Helpful hint:
Take a radiograph along the long axis of the implant to ensure that the healer is seated completely into the hex of the implant. Note: The X-ray tube must be positioned perpendicular to the implant prosthetic platform.

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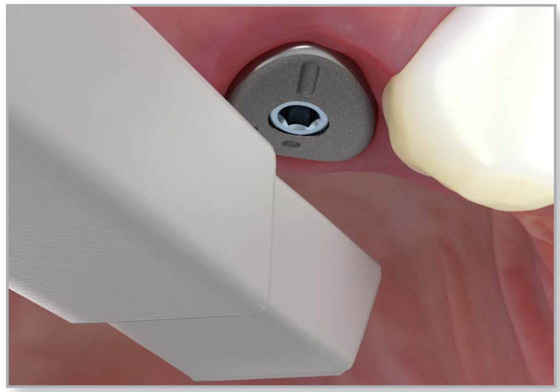
Digital impressions using SmartShape Healers

2 Digitize the impression

Confirm the occlusal surface of the SmartShape Healer is free of any residue or debris. Take an intraoral digital impression of the healer and surrounding dentition using a handheld 3D scanner.

Important:
Ensure the lab has the digital library that is compatible with the scan body. The BioHorizons digital library can be downloaded from vulcandental.com/DigitalLibraries.



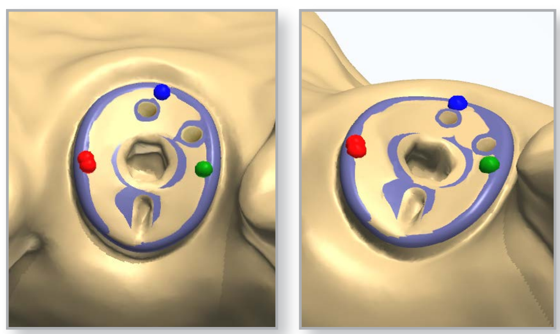
Import into CAD software

- Digital impression of SmartShape Healer
- Opposing intraoral scan or model
- Prescription with lab instructions including SmartShape Healer height, anatomical shape and platform size (or product code)

3 Verify alignment & platform size

Correct alignment

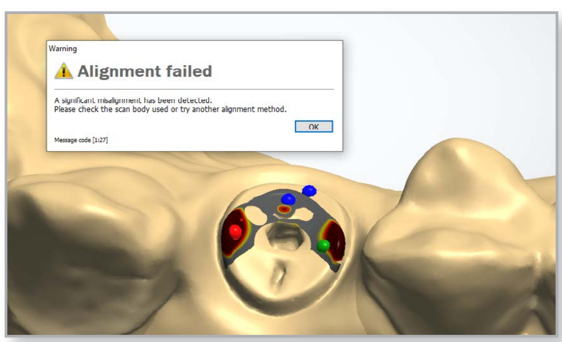
Correct alignment is indicated by a match between the SmartShape Healer and scan throughout all regions. This requires selecting the correct anatomical shape, platform and height, which should be recorded in the prescription. Once the platform, height and alignment have been verified, the lab can continue with the design process.



Helpful hint:
The occlusal dimples and notches are only used for visual identification of the healer. Since these features are not used in the digital alignment process, it is recom-mended to select points along the healer's anatomical profile to initiate alignment.

Misalignment

Misalignment is visible in red when the incorrect shape is selected. Visual confirmation is required to ensure that the correct height (buccal notch) and platform (dimples) have been selected.



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Closed-tray impression using SmartShape Healers

1 SmartShape Healer placement

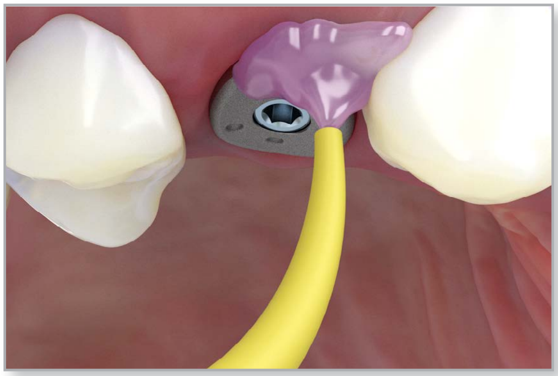
Confirm the implant prosthetic platform is free of any bone debris or soft tissue. Place the SmartShape Healer with the occlusal notch perpendicular to the buccal plane. Verify the healer is fully seated and hand tighten the screw with a .050" (1.25mm) hex driver.

Important:
Make sure the SmartShape Healer is seated properly, leaving 0.5mm of the scannable surface above the soft tissue.

Helpful hint:
Take a radiograph along the long axis of the implant to ensure the abutment is seated completely into the hex of the implant. Note: The X-ray tube must be positioned perpendicular to the implant prosthetic platform.

2 Make a full-arch impression

Syringe a medium-body elastomeric impression material around and over the SmartShape Healer. Load the tray with the same impression material and take the impression.



After the impression material has set, remove the tray from the mouth with the embedded impression of the the SmartShape Healer.

Confirm no distortions are present on the impression and that it captured the entire SmartShape Healer occlusal surface and surrounding tissue.

Send to lab

- Impression of SmartShape Healer
- Opposing model or impression
- Prescription with lab instructions including SmartShape Healer height, anatomical shape and platform size (or reference number)

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Closed-tray impression using SmartShape Healers

3 Lab step — scan the closed-tray impression

There are two primary ways to digitize the traditional impression.

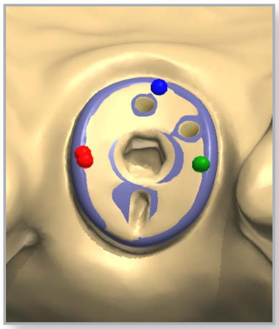
Option A: Pour a stone model from the impression to replicate the abutment. Use a 3D tabletop digital scanner to scan the stone model.

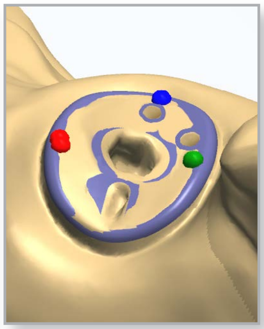
Option B: Use a 3D tabletop digital scanner to directly scan the impression material. *Note that this may require specialized software or scanner settings.*

4 Lab step — Verify alignment & platform size

Correct alignment

Correct alignment is indicated by a match between the SmartShape Healer and scan throughout all regions. This requires selecting the correct anatomical shape, platform and height, which should be recorded in the prescription. Once the platform, height and alignment have been verified, the lab can continue with the design process.

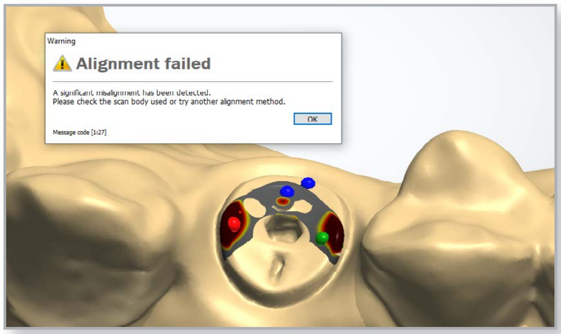




Helpful hint:
The occlusal dimples and notches are only used for visual identification of the healer. Since these features are not used in the digital alignment process, it is recommended to select points along the healer's anatomical profile to initiate alignment.

Misalignment

Misalignment is visible in red when the incorrect shape is selected. Visual confirmation is required to ensure that the correct height (buccal notch) and platform (dimples) have been selected.



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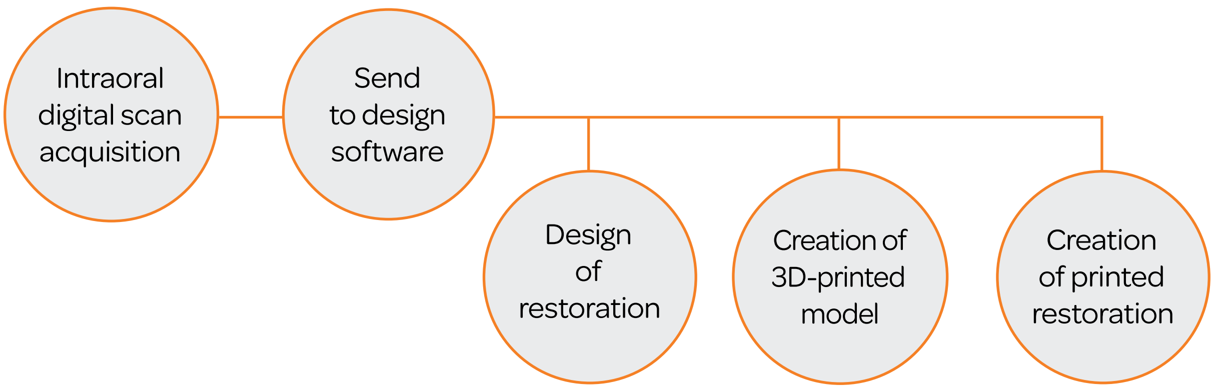
Digital or traditional impression taking using conical titanium scan bodies

The Conical Titanium Implant-Level scan bodies are used for optical three-dimensional localization of Tapered Pro Conical implants in the mouth and of the Conical lab analogs on a working model.

Note:
The use of the sterile scan body is limited to use in the mouth. The scan bodies may be used multiple times on the working model taking the integrity of the scan bodies into account.



component options

- Conical implant-level Ti scan body (including conical abutment screw)
- .050″ (1.25mm) hex driver

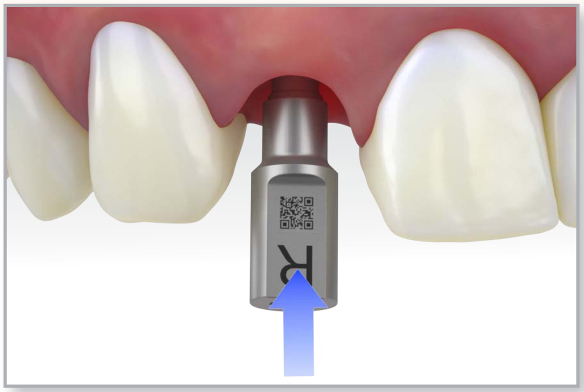
1 Remove the healing abutment

Remove the healing abutment using an .050″ hex driver. Confirm the implant prosthetic platform is free of any bone debris or soft tissue.

Helpful hint:
When placing scan bodies on multiple implants, remove one healing abutment at a time, replacing it immediately with the scan body. This reduces the likelihood of soft tissue collapsing onto the implant. Work from the posterior to the anterior.

Digital or traditional impression taking using conical titanium scan bodies

2 Place the implant-level scan body



Sterilize the scan body prior to use in-mouth. Place the conical scan body on the implant and ensure that the three (3) cams on the base of the scan body to lock into the conical connection supported by the implant's grooves.

Ensure that the scan body is sitting flush with the shoulder of the implant and secure retention using the conical abutment screw using a .050" hex driver.

Take a radiograph along the long axis of the implant to ensure that the scan body is seated completely into the implant.

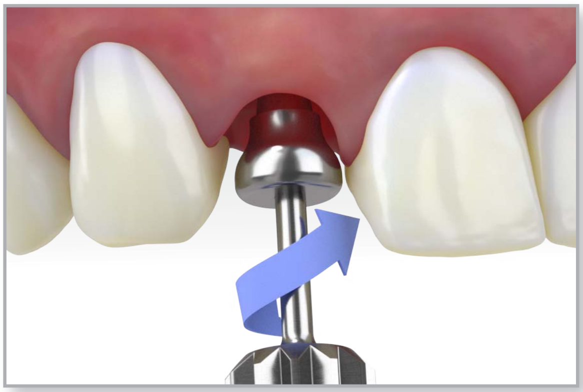
Note:
The X-ray tube must be positioned perpendicular to the implant prosthetic platform.

3 Perform intraoral scan

Scan the scan body and surrounding dentition using handheld 3D scanner. Once the scanning is complete, you may import the digital file created to a design software or share with the lab of your choice.

Important:
Ensure the lab has the digital library that is compatible with the scan body. BioHorizons digital library can be downloaded from vulcandental.com.

4 Replace healing abutment



Replace the healing abutment immediately to prevent soft tissue collapse over the implant.

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Creation of printed 3D model

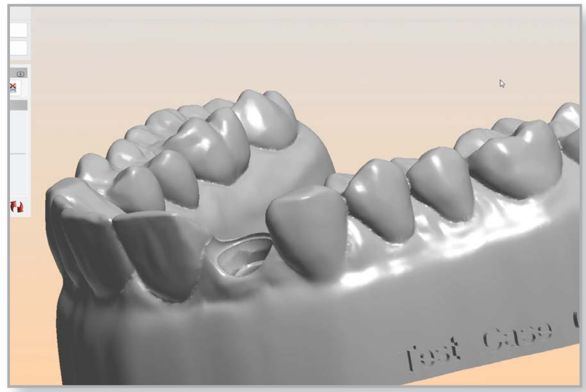
component options

- Conical Implant-Level Ti Scan Body (including conical abutment screw)
- .050” (1.25mm) hex driver
- Lab analog
- Lab analog insertion tool

1 Create 3D model for printing

Using a design software, import the digital file acquired during the intra-oral scanning of the patient.

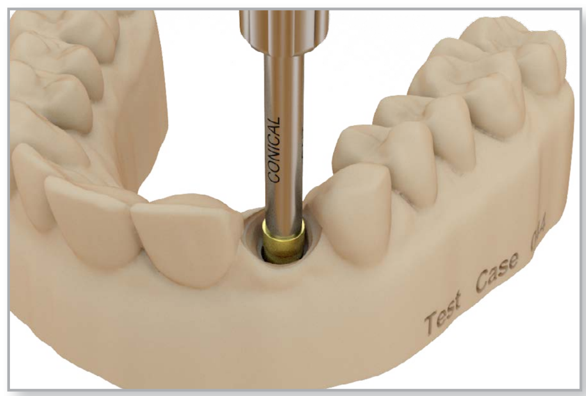
Complete the software steps to develop a 3D model and print the 3D model following the appropriate steps of printing, drying, and curing of the model per the hardware manufacturer's recommendations.



2 Insert lab analog

Once the 3D printed model is ready for manipulation, insert the lab analog insertion tool in the conical lab analog and secure retention by tightening the lab analog insertion tool.

Hold the lab analog insertion tool and insert the lab analog into the 3D printed model by pressing it down.

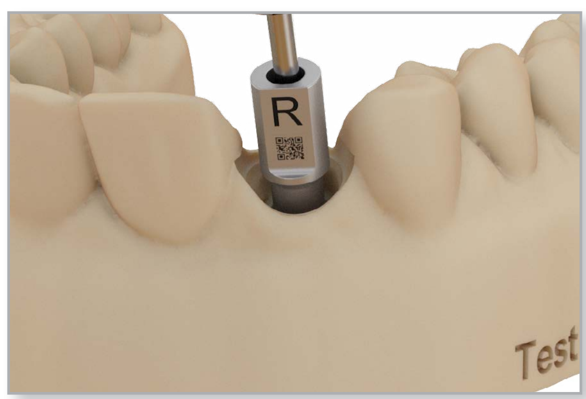


3 Verify model accuracy

To ensure that the 3D printed model is an accurate depiction of the patient’s oral anatomy, conical titanium scan bodies may be placed on the lab analogs using the conical abutment screws and hand-tightened with an .050 hex screwdriver.

A comparison digital scan may be acquired using a table-top scanner or a handheld scanner.

Note:
Conical Titanium Scan Bodies may be used repeatedly on working models.



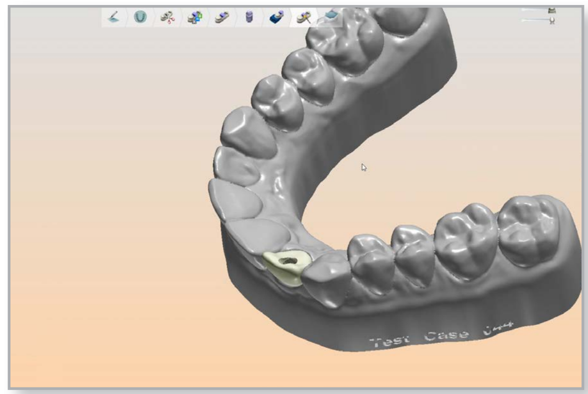
Design & mill of restoration

component options
- Conical Implant-Level Ti Scan Body (including conical abutment screw)
- .050" (1.25mm) hex driver
- Conical block-out screw
- 3D-printed model

1 Create 3D design for restoration

Using a design software, import the digital file acquired during the intra-oral scanning of the patient.

Complete the software steps to develop a 3D model of the restoration and print the model following the appropriate steps of printing, drying, and curing of the restoration per the hardware manufacturer's recommendations.



2 Finalizing the restoration

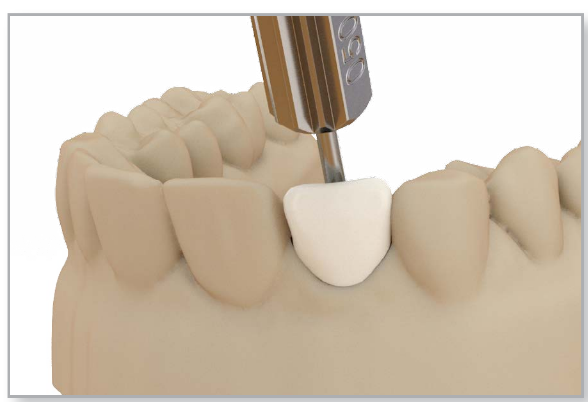
Once the restoration is ready for manipulation, clean the surface of the restoration and bond the restoration to the abutment following the cement manufacturer's indications. The cement or bonding material should be indicated for Zirconium dioxide ceramics or PMMA. The conical block-out screw should be used to prevent cement from entering the screw access channel.

Note:
Depending on the chosen abutment, it may be necessary to modify the abutment prior to placing and bonding the restoration on the abutment.

Important:
For single crowns with angled screw channels, the final unused CAD/CAM Ti base abutment screw must be inserted before bonding the final restoration. The abutment screw is "trapped" by the bond and may not be removed without destroying the superstructure.

3 Verification of restoration

Verify the design and accuracy of the restoration by securing it to the lab analog on the 3D printed model using the conical abutment screw hand-tightened with the .050" hex driver. Check the contacts. Modify as necessary and polish after adjusting.



ordering & warranty information

Product Support Specialist: ______________________________

Cell phone: ______________________________

Fax: ______________________________

Territory Manager: ______________________________

Cell/mobile phone: ______________________________

Email and/or fax: ______________________________

BioHorizons Lifetime Warranty on Implants and Prosthetics for Clinicians: All BioHorizons implants and prosthetic components include a Lifetime Warranty.BioHorizons implant or prosthetic components will be replaced if removal of that product is due to failure (excluding normal wear to overdenture attachments).

Additional Warranties: BioHorizons warranties surgical drills, taps and other surgical and restorative instruments.

(1) Surgical Drills and Taps: Surgical drills and taps include a warranty period of ninety (90) days from the date of initial invoice. Surgical instruments should be replaced when they become worn, dull, corroded or in any way compromised. Surgical drills should be replaced after 12 to 20 osteotomies.[16]

(2) Instruments: The BioHorizons manufactured instrument warranty extends for a period of one (1) year from the date of initial invoice. Instruments include drivers, implant site dilators and BioHorizons tools used in the placement or restoration of BioHorizons implants.

Return Policy: Product returns require a Return Authorization Form, which may be acquired by contacting Customer Care. The completed Return Authorization Form must be included with the returned product. For more information, please see the reverse side of the invoice that was shipped with the product.

Disclaimer of Liability: BioHorizons products may only be used in conjunction with the associated original components and instruments according to the Instructions for Use (IFU). Use of any non-BioHorizons products in conjunction with BioHorizons products will void any warranty or any other obligation, expressed or implied.

Treatment planning and clinical application of BioHorizons products are the responsibility of each individual clinician. BioHorizons strongly recommends completion of postgraduate dental implant education and adherence to the IFU that accompany each product. BioHorizons is not responsible for incidental or consequential damages or liability relating to use of our products alone or in combination with other products other than replacement or repair under our warranties.

Distributed Products: For information on the manufacturer's warranty of distributed products, please refer to their product packaging. Distributed products are subject to price change without notice.

Validity: Upon its release, this literature supersedes all previously published versions.

Availability: Not all products shown or described in this literature are available in all countries. BioHorizons continually strives to improve its products and therefore reserves the right to improve, modify, change specifications or discontinue products at any time.

Any images depicted in this literature are not to scale, nor are all products depicted. Product descriptions have been modified for presentation purposes. For complete product descriptions and additional information, visit store.biohorizons.com.

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L02093 REV B FEB 2025