



cement-retained bridge using cementable abutments

Cement-retained implant restorations are similar to conventional crown and bridge restorations. Bridges are fabricated indirectly in the laboratory and cemented onto implant abutments intraorally.

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

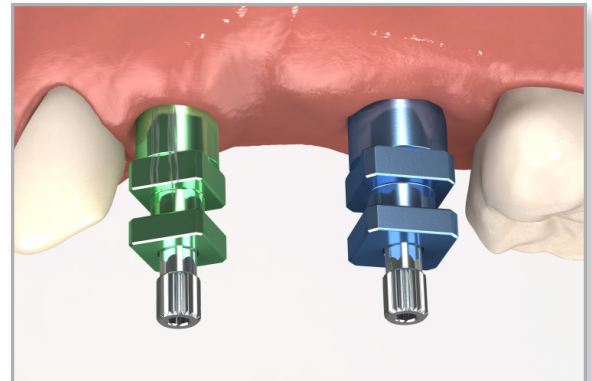


component options

- 3inOne abutments
- angled abutments
- angled esthetic abutments
- narrow emergence abutments
- straight esthetic abutments
- .050" (1.25mm) hex driver
- abutment clamp
- torque wrench
- abutment prepping handle

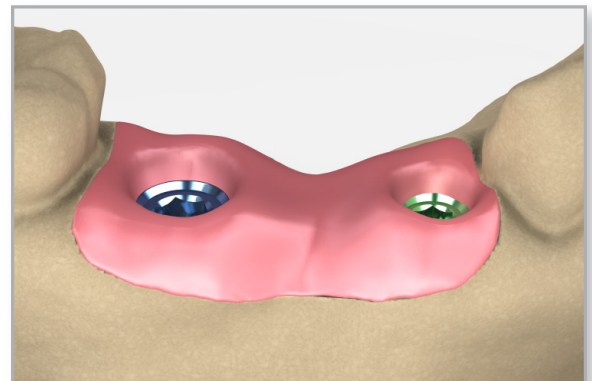
1 Make an implant-level impression

Remove the healing abutments and follow the steps for creating an implant-level impression using either the **open tray technique using the direct pick-up coping module** or the **closed tray technique using the indirect transfer coping module**.



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. Follow the steps for creating an implant-level stone model (hexed) using either the **open tray technique using the direct pick-up coping module** or the **closed tray technique using the indirect transfer coping module**.





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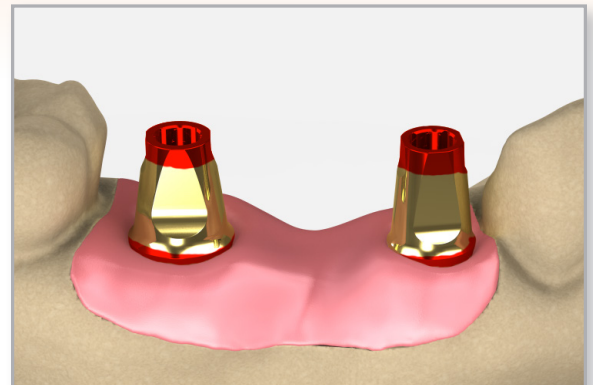
3 Lab step - Select and mark the abutments

Select the abutments based on implant location, tissue depth and doctor preference. Seat the abutments, engaging the hex of the implant analogs in the mounted working model. Hand tighten the abutment screws using an .050" (1.25mm) hex driver. Evaluate inter-occlusal dimensions, angulations, and tissue contour. Mark the abutments for the necessary vertical reduction and gingival contour.



Note:

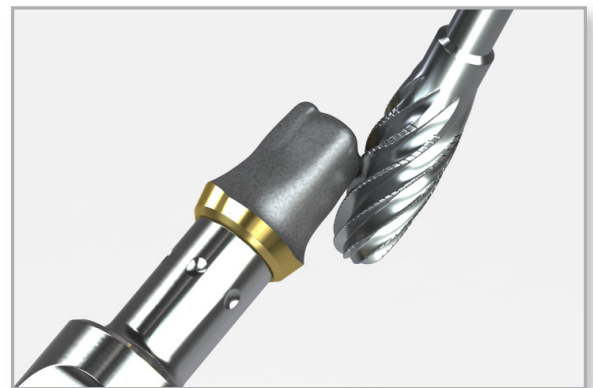
A minimum of 1.5 - 2.0mm of occlusal clearance is required for metal and porcelain.



4 Lab step - Modify the abutments

Place each marked abutment onto the appropriate abutment prepping handle and modify using carbide burs, cut-off disks, or heatless stone wheels. A diamond bur may be used to define the margins.

Add a vertical groove to indicate the buccal surface for re-indexing the abutments in the mouth.



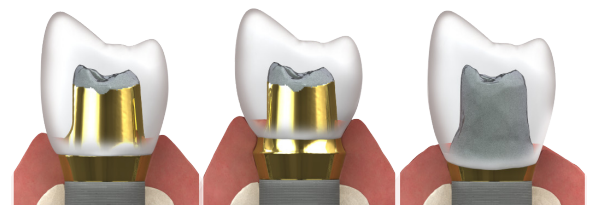
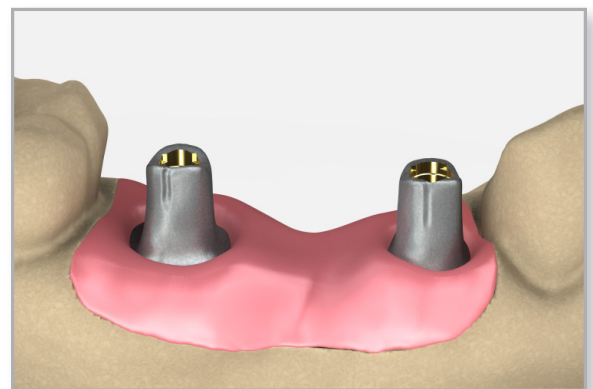
5 Lab step - Return to the model

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



Important:

When preparing a margin on an abutment for cement retention, it is important to respect the soft tissue contours rather than the pre-defined margin of the abutment. The abutment should be modified so the margin is 0.5mm to 1mm subgingival in the esthetic zone and at or above the gingiva in non-esthetic areas. Three examples of margin placement on a 3inOne abutment are shown on the right.





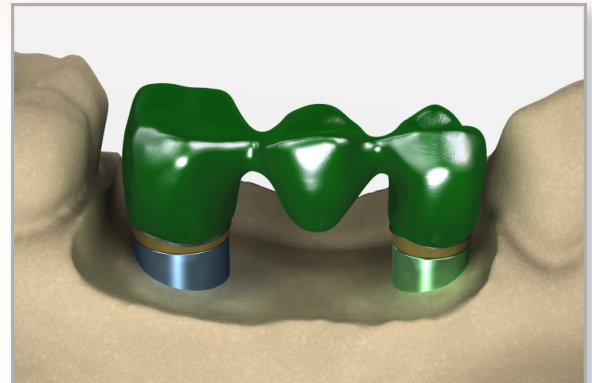
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6 Lab step - Wax the framework, sprue, invest and cast

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

Create a wax framework for the bridge on the modified abutments utilizing routine crown & bridge procedures.

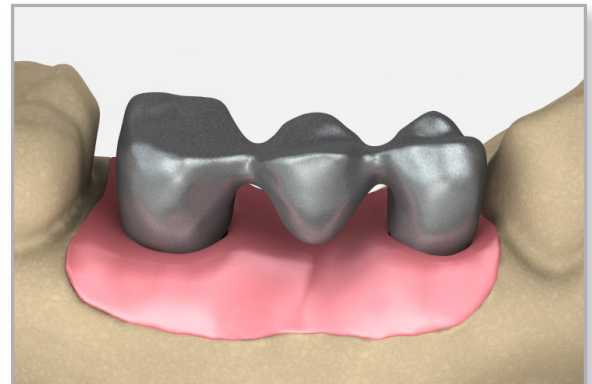
Sprue, invest and cast the wax pattern in noble or high noble alloy according to manufacturer's instructions.



7 Lab step - Divest and finish the cast framework

Divest, fit, and finish the cast framework following conventional laboratory techniques. Confirm the framework fits passively on the modified abutments.

Send to the clinician for framework try-in.



send to clinician

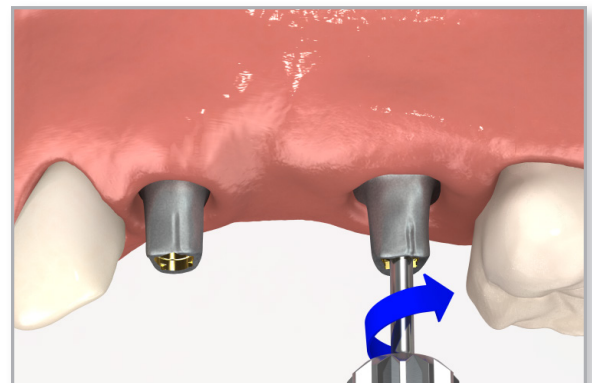
- cast framework
- modified abutments and abutment screws
- working model
- impression copings

8 Seat the abutments

Sanitize the abutments and bridge framework per standard clinical procedures. Remove the healing abutments or provisional restorations from the implants using an .050" (1.25mm) hex driver. Make sure the implant prosthetic platforms are free of bone and soft tissue.

Irrigate the internal connection of the implants and dry. Place the modified abutments and abutment screws onto the implants using an .050" (1.25mm) hex driver and hand tighten.

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



Note:

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



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9 Try in the bridge framework

Try in the bridge framework. Confirm a passive fit and that no additional adjustments are necessary. Remove the bridge framework. Remove the modified abutments, one at a time, replacing them with the healing abutments or temporary prosthesis.

send to lab

- metal framework
- modified abutments and abutment screws
- working model
- prescription with lab instructions

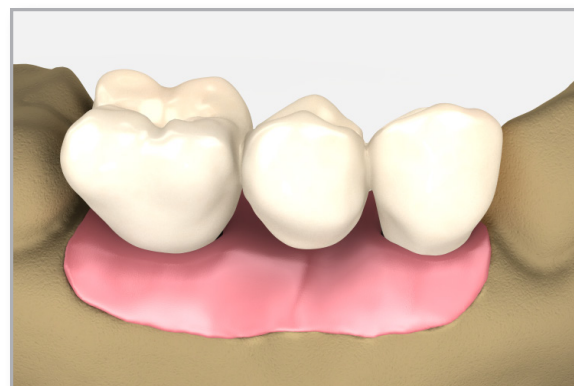


10 Lab step - Fabricate the crown

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

send to clinician

- finished bridge
- modified abutments and abutment screws
- working model
- impression copings



11 Seat the prepared abutments

Sanitize the modified abutments and bridge per standard clinical procedures. Remove the healing abutments or provisional prosthesis from the implants using an .050" (1.25mm) hex driver. Make sure the implant prosthetic platforms are free of bone and soft tissue.

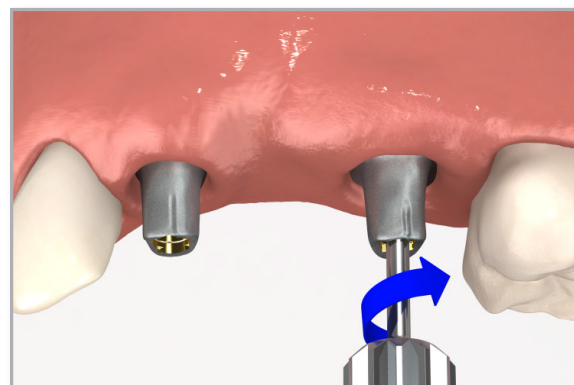
Irrigate the internal connection of the implants and dry. Place the modified abutments and abutment screws onto the implant using an .050" (1.25mm) hex driver and hand tighten.

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



Note:

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

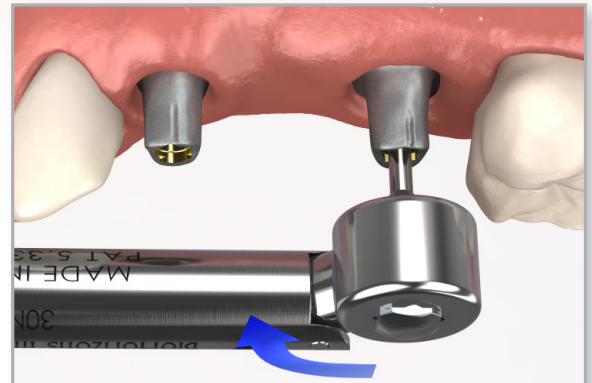




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12 Tighten the abutment screws

Tighten the abutment screws to 30 Ncm using a calibrated torque wrench and an .050" (1.25) hex driver. Apply counter-torque by grasping the abutment using an abutment clamp.



13 Cement the bridge

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

Place the final restoration onto the abutments 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 adjustments.



Important:

Cement the bridge following the [crown cementation technique](#) module.

Take an x-ray for final prosthesis delivery records.