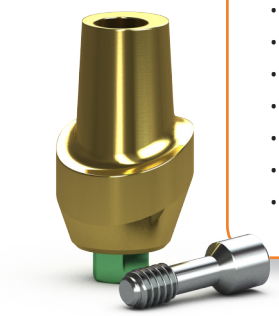
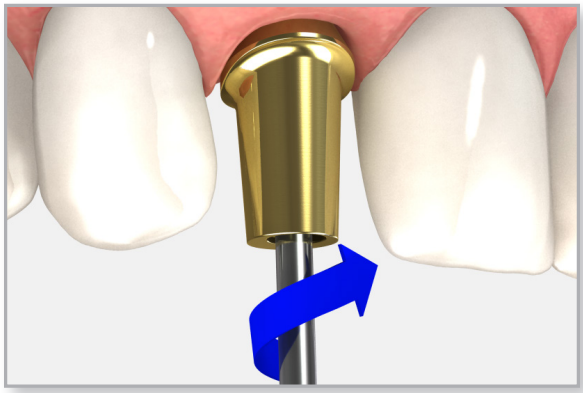
chairside modification of cement-retained abutments

Use this technique for modifying abutments chairside. Chairside modification of cement retained abutments for single or multi unit restorations is used when conventional crown and bridge is preferred. A single unit is depicted below.



component options

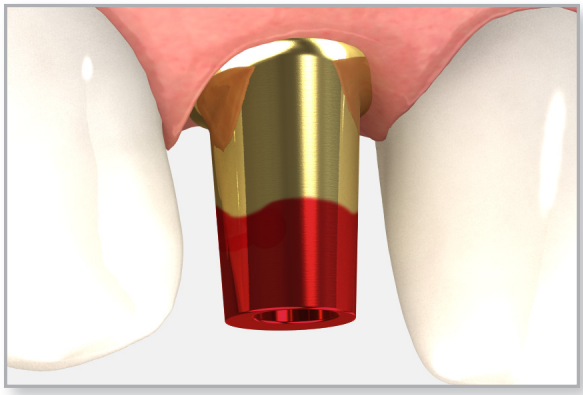
- 3inOne abutments
- angled abutments
- angled esthetic abutments
- narrow emergence abutments
- straight esthetic abutments
- .050" (1.25mm) hex driver
- torque wrench
- abutment prepping handle
- abutment clamp



1 Remove the healing abutment and seat the selected abutment

Remove the healing abutment or temporary prosthesis from the implant with an .050" (1.25mm) hex driver. Make sure the implant prosthetic platform is free of bone and soft tissue.

Place the selected abutment onto the implant and hand tighten the abutment screw with an .050" (1.25mm) hex driver). The emergence of the abutment should match the emergence of the healing abutment.

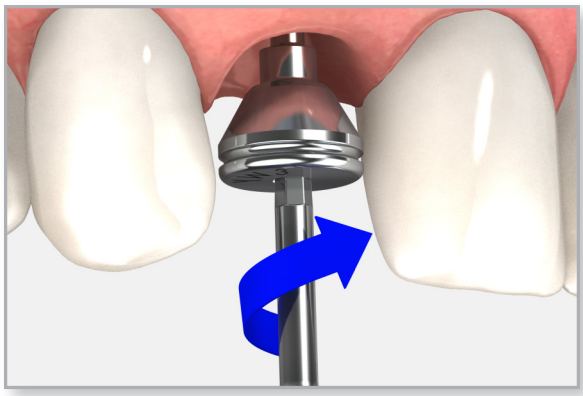


2 Mark the abutment for modification

Check the inter-occlusal dimension and angulations. Mark the required modifications for vertical clearance and gingival contours.

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

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



3 Remove the abutment and replace the healing abutment

Remove the marked abutment and immediately replace the healing abutment or temporary prosthesis onto the implant to prevent soft tissue collapse over the implant.

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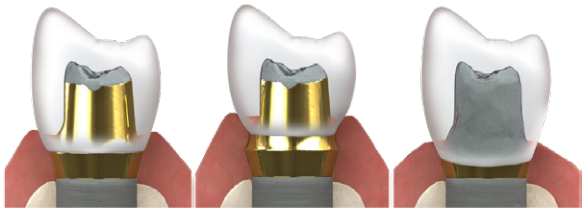
4 Modify the abutment

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

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:
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.

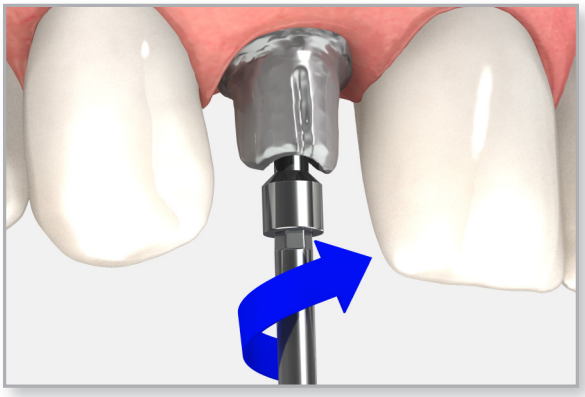


5 Seat the modified abutment

Remove the healing abutment or temporary 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. Seat the modified abutment and hand tighten with an .050" (1.25mm) hex driver.

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



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

Tighten the abutment screw to 30 Ncm. Apply counter-torque by grasping the abutment with an abutment clamp.

Note:
Minor intra-oral adjustments may be necessary. Use copious amounts of irrigation to eliminate excessive heat buildup in the surrounding bone tissue that may compromise the osseointegration of the implant. Use carbide or coarse diamond burs.

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6 Make a full-arch impression

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.

Syringe medium or heavy-bodied impression material around prepared abutment and in the impression tray. Make a conventional crown & bridge impression.

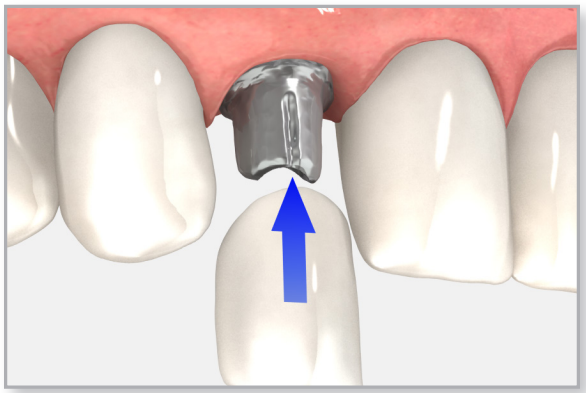
Note:
Retraction cord or injectable retraction medium may be necessary to record the margin prepared on the abutment.

7 Make the temporary

Prepare and cement the provisional crown using the technique and a material of choice.

Try in temporary crown and 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 temporary crown following the crown cementation technique module



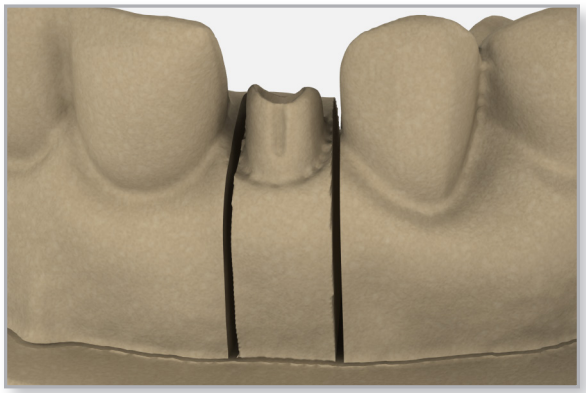
send to lab

- impression
- bite registration
- opposing model or impression
- prescription with lab instructions

8 Lab step - Pour the working model

Pour a working model in minimal expansion, high hardness die stone and articulate according to standard laboratory procedures.

Note:
The remaining dental laboratory procedures utilize conventional crown and bridge techniques.



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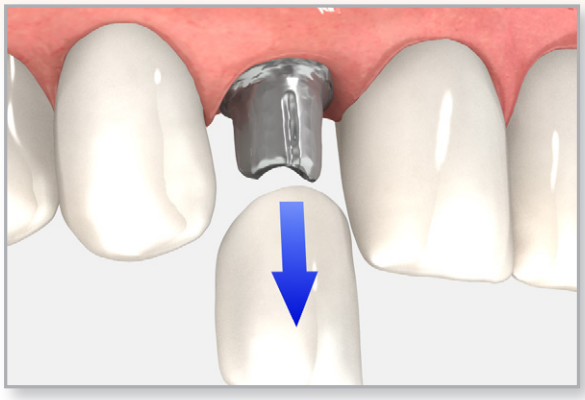
9 Remove the temporary

Sanitize the final crown following a standard clinical protocol. Remove the provisional prosthesis. Make sure the abutment and margins are free of all temporary cement for complete seating of the final crown.



10 Cement the crown

Place the final crown 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 adjustments.

Important:
Cement the final crown following the crown cementation technique module.

Take an x-ray for final prosthesis delivery records.