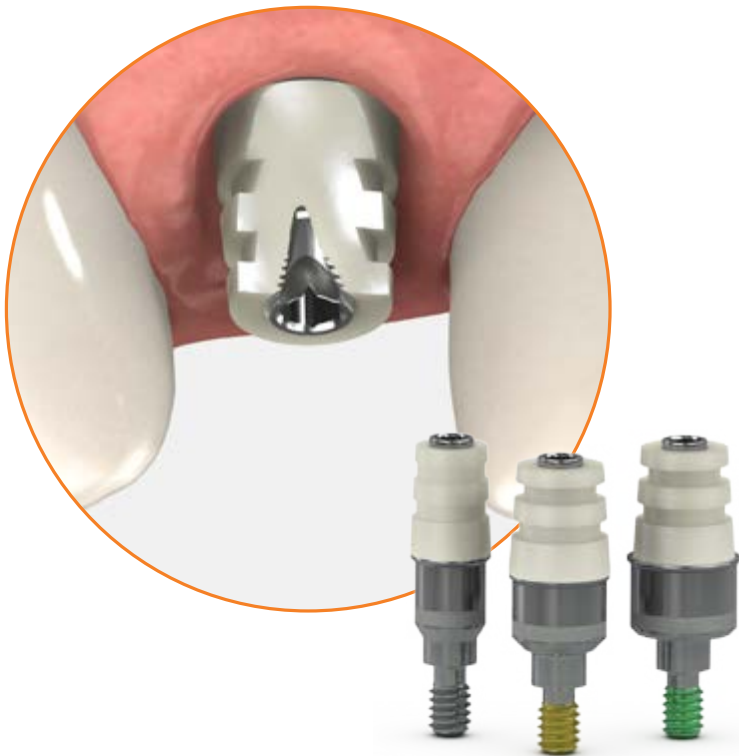


immediate cement-retained
restorations using the
Laser-Lok[®] two-piece
custom temporary
abutment



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immediate cement-retained restorations using the Laser-Lok two-piece custom temporary abutment

Published research has demonstrated that Laser-Lok surface technology on prosthetic abutments establishes a biologic seal of connective tissue fibers that protects and maintains the crestal bone and reduces pocket depth.^{1,2,3,4}

The Laser-Lok two-piece custom temporary abutment is intended for single-unit, cement-retained restorations and consists of an abutment and a PEEK plastic sleeve. The plastic sleeve is designed to be a coping for temporary restorations.



Important:

For ideal results, Laser-Lok components should be used throughout the healing, temporization and final abutment phases. When a Laser-Lok component is temporarily removed for impression making or other restorative procedures, keep the removed Laser-Lok component in sterile saline until reinserting into the site.

The following illustrates the use of the abutment at the time of surgery (single-stage) or at implant uncover (two-stage).



- component options**
- Laser-Lok two-piece custom temporary abutment
 - .050" (1.25mm) hex driver
 - torque wrench
 - abutment prepping handle

1 Place the custom temporary abutment

Make sure the implant prosthetic platform is free of bone and soft tissue. Place the two-piece custom temporary abutment on the implant and hand tighten using an .050" (1.25mm) hex driver.

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

Tighten the abutment to 30 Ncm using a calibrated torque wrench and an .050" (1.25mm) hex driver.



Important:

Tightening the abutment to 30 Ncm is not recommended if the temporary is placed at the time of surgery.





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2 Modify the abutment

If necessary, modify the abutment post and the plastic sleeve for vertical clearance using a carbide or diamond bur.



Important:
To protect the internal hex engagement, the abutment post height should not be reduced more than 2mm. Use the notch on the post as a guideline.



Note:
The plastic sleeve should engage the hex at the base of the post on the abutment when seated completely.



3 Prepare the shell crown

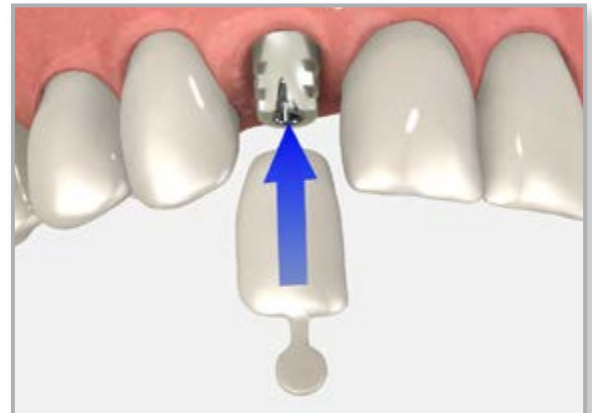
Seat the appropriate polycarbonate/shell crown and modify as needed following conventional procedures.



Helpful Hint:
Block-out any undercuts on the adjacent teeth as necessary to prevent locking the temporary in place.



Important:
Gently placing an appropriate size non-impregnated retraction cord below the slight undercut on the abutment margin will minimize the risk of contaminating the Laser-Lok zone from acrylic and cement during the temporization process.

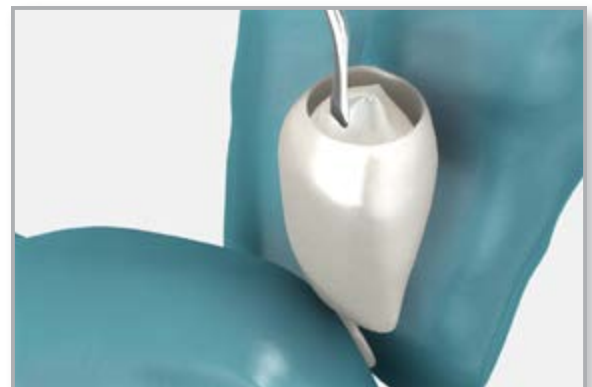


4 Fill the shell crown with acrylic

Mix acrylic or a material of choice and place enough material inside the shell crown to cover the two grooves on the plastic sleeve to ensure the crown will be picked up. Position the shell crown over the abutment post/sleeve assembly.



Note:
Care must be taken to minimize the amount of reline material placed in the shell crown to prevent the acrylic/crown from locking onto the abutment base and to reduce the risk of acrylic contaminating the Laser-Lok zone of the abutment.





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5 Pick up the abutment sleeve

Remove the relined shell crown. The plastic sleeve should be picked up in this procedure. Fill in any voids and add material to establish the desired emergence contour of 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 adjustments.



6 Cement the crown

Place a small amount of cement of choice around the inside margin of the crown.



Important:
See [crown cementation technique](#) module.



7 Deliver the temporary crown

Seat the temporary crown on the abutment post, engaging the hex at the base of the abutment.


Remove all excess cement from the sulcus.

Modify as necessary and polish after making adjustments.






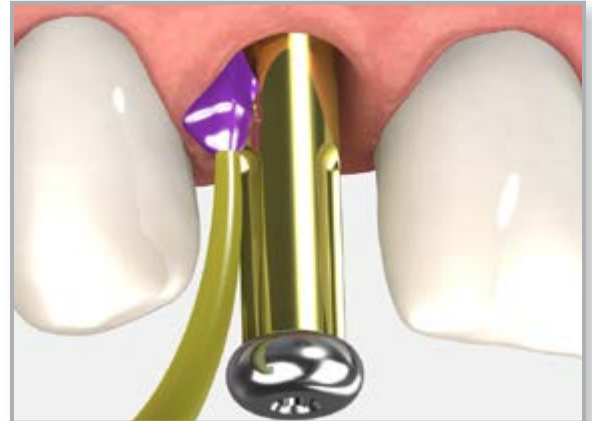
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 The following illustrates the steps necessary when making an impression for the final restoration after a Laser-Lok two-piece temporary abutment has been removed.

8 Second restorative visit - Make an impression

Remove the temporary crown and abutment and place the Laser-Lok abutment into sterile saline during the impression steps. Follow the steps for creating an implant-level stone model using either the **open tray technique using the direct pick-up coping module** or the **closed tray technique using the indirect transfer coping module**.

 **Important:** Care should be taken when removing the temporary crown to minimize any damage. If the temporary crown is damaged during removal and cannot be re-used, a new temporary crown must be fabricated following the previous steps in this technique.



9 Place the temporary abutment base

Verify the implant prosthetic platform is free of bone and soft tissue. Remove the temporary abutment base from the sterile saline and place it on the implant. Hand tighten using an .050" (1.25mm) hex driver.

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


Tighten the abutment base to 30 Ncm using a calibrated torque wrench and an .050" (1.25mm) hex driver.



10 Modify the temporary crown

Relieve the hex from the inside of the removed temporary crown with a carbide or diamond bur.

Try in the 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:** In this technique, the temporary crown will no longer engage the hex on the shaft of the abutment base.





immediate cement-retained restorations using the Laser-Lok two-piece custom temporary abutment

11 Cement the crown

Place a small amount of cement of choice around the inside margin of the crown.



Important:
See [crown cementation technique](#) module.



12 Deliver the temporary crown

Seat the modified temporary crown on the abutment post to the base of the abutment.

Remove all excess cement from the sulcus.

Modify as necessary and polish after making adjustments.



1. Maintaining inter-implant crestal bone height via a combined platform-switched, Laser-Lok® implant/abutment system: A proof-of-principle canine study. M Nevins, ML Nevins, L Gobbato, HJ Lee, CW Wang, DM Kim. Int J Periodontics Restorative Dent, Volume 33, Number 3, 2013. p. 261-267.
2. Connective tissue attachment to laser microgrooved abutments: A human histologic case report. M Nevins, M Camelo, ML Nevins, P Schubach, DM Kim. Int J Periodontics Restorative Dent. Volume 32, Number 4, 2012. p. 384-392.
3. The impact of dis-/reconnection of laser microgrooved and machined implant abutments on soft- and hard-tissue healing. Iglhaut G, Becker K, Golubovic V, Schliephake H, Mihatovic I. Clin Oral Implants Res. 2013 Apr;24(4):391-7.
4. Clinical evaluation of laser microtexturing for soft tissue and bone attachment to dental implants. GE Pecora, R Ceccarelli, M. Bonelli, H. Alexander, JL Ricci. Implant Dentistry. Volume 18(1), February 2009. pp. 57-66.



notes

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