

Enter

Stage 3 | Prosthetic procedures

## Step 1

Abutment insertion,  
modification and relining of  
a lower complete denture

# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Overview



## Assessment and treatment planning

-  Step 1 | Patient's expectations, history and examination
-  Step 2 | Treatment planning
-  Step 3 | Consultation and consent
-  Step 4 | Fabrication of the surgical drill template

## Surgical procedures

-  Step 1 | Implant surgery
-  Step 2 | Post-operative review and suture removal

7–10 days

6–8 weeks

## Prosthetic procedures

-  Step 1 | Abutment insertion, modification and relining of a lower complete denture
-  Step 2 | Lab-side relining of a lower complete denture
-  Step 3 | Insertion of the final overdenture and patient instructions

1 week

## Aftercare and maintenance

-  Step 1 | Review visit
-  Step 2 | Maintenance visit

3–6 months  
(or as necessary)

 In clinic with patient     Office / Lab work



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## Introduction



Following the recommended healing phase after implant placement, you must now see the patient to insert the LOCATOR® or Novaloc® Abutments and eventually to reline the mandibular complete denture.

The following situations are possible:

- For an existing, well-fitting and well-functioning lower complete denture, either the LOCATOR® Implant Attachment System or the Novaloc® Retentive System can be used in a chair-side procedure.
- If the lower complete denture's fit is inadequate (poor adaptation to underlying tissue) after surgery and major adjustments are necessary, relining and insertion of auxiliary parts into the lower complete denture should be performed lab-side by the [dental technician](#).

The LOCATOR® Implant Attachment System or the Novaloc® Retentive System can be used for abutment placement in an edentulous mandible.

Below are **the recommended healing phases** after implant placement.

Situation	Healing phase	
	SLActive®	SLA®
<ul style="list-style-type: none"> <li>• Good bone quality and adequate bone quantity</li> <li>• Implants with a diameter of 4.1 mm or 4.8 mm and a Straumann® SLActive®/SLA® surface length of <math>\geq 8</math> mm</li> </ul>	At least 3–4 weeks	At least 6 weeks
<ul style="list-style-type: none"> <li>• Cancellous bone quality</li> <li>• Implants with a diameter of 3.3 mm</li> <li>• Implants with a Straumann® SLActive®/SLA® surface length of 6 mm</li> </ul>	At least 8 weeks	At least 12 weeks



## Learning objectives

-  Be able to decide on the correct abutment, i.e. LOCATOR® or Novaloc®.
-  Be able to choose the correct abutment height.
-  Know how to use the various auxiliaries, e.g. LOCATOR® Block-out Spacers, Novaloc® Mounting Collars, etc.
-  Be familiar with the appropriate mounting tools, i.e. LOCATOR® Core Tool or Novaloc® Mounting and Demounting Tool for Retention Inserts.
-  Know how to insert the LOCATOR® Denture Caps or Novaloc® Matrix Housings chair-side into the existing lower complete denture.
-  Know how to make a relining impression on abutment level for lab-side relining of the lower complete denture.



## 1. Assessment



The following steps should be carried out at this visit:

- Review the healing process after surgery.
- Ensure the patient is free of pain and swelling prior to inserting the abutments and modifying the lower complete denture.

**After the appropriate healing period:**

- Review the healing process after surgery.
- Ensure the patient is free of pain.



## 2. Clinical examination



### Check for:

- Light tapping sound when tapping the implants with a metal instrument
- Implant stability
- Healthy peri-implant soft tissues and absence of swelling
- Well-fitting, well-functioning lower complete denture

Decide whether a chair-side or lab-side procedure is to be used.

What to check during clinical examination.

Decide on whether to perform a chair-side or lab-side procedure.



### 3. Treatment

The following step-by-step procedures are described:

- Insertion of [LOCATOR®](#) or [Novaloc®](#) Abutments.
- Chair-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® or Novaloc® Abutments.

OR

- Lab-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® or Novaloc® Abutments with simultaneous relining.

**⚠ Caution:** Protect all components used against aspiration (e.g., use a throat pack or a thread).



If you are working with the [LOCATOR® Implant Attachment System](#), please [click here](#)



If you are working with the [Novaloc® Retentive System](#), please [click here](#)



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



## 3.1 LOCATOR® abutment insertion, modification and relining of a lower complete denture

Instruments and materials required for [LOCATOR®](#) abutment insertion, modification and **chair-side / lab-side relining** of a lower complete denture.

Example of the instruments and materials required for insertion of LOCATOR® Abutments and relining of a lower complete denture.



1. X-ray holder and film
2. Silicone wash impression materials – 2 tubes with mixing spatula
3. LOCATOR® Denture Caps with black Processing Males and Replacement Males
4. LOCATOR® Block-out Spacers
5. [LOCATOR® Abutments](#)
6. LOCATOR® Screwdrivers (long and short)
7. LOCATOR® Core Tool
8. [Torque Control Device](#)
9. Disposable saliva ejector and control pads
10. [SCS Screwdrivers](#) (long and short)
11. Straight handpiece and acrylic bur
12. Brush for applying PMMA self-curing resin
13. Spatulas for mixing and applying PMMA self-curing resin
14. PMMA self-curing resin (2 bottles)
15. Mixing cup
16. Slow-speed handpiece
17. Cotton dispenser
18. Aspirator and suction device
19. Shimstock (occlusal registration paper) and holder
20. Dental probes and scalers
21. Periodontal probe
22. Dental mirrors
23. Dental tweezers
24. Cotton rolls, gauze and petroleum jelly
25. Scissors
26. Chlorhexidine gel
27. Dental floss
28. Syringe with saline and blunt needle for irrigation
29. Disposable lip and cheek retractor



In addition to the instruments and materials shown above, border mold impression material (i.e. adhesive, thermoplastic material and reline impression material) is required for the lab-side procedure.

The procedure outlined used Ø 3.3 mm Straumann Bone Level Tapered (NC) Implants. However [Straumann® Narrow Neck CrossFit® \(NNC\) Implants](#) or other diameters of [Bone Level Tapered \(BLT\) Implants](#) could also be used with the corresponding LOCATOR® components.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



## 3.1.1 Step-by-step – Insertion of LOCATOR® Abutments into Ø 3.3 mm Bone Level Tapered NC Implants

[Video: Insertion of LOCATOR® Abutments into Bone Level Tapered Implants](#)



Please click [here](#) for a quick reference checklist for this procedure.

Refer to the quick reference checklist.



1. Unscrew the [Healing Abutments](#) in a counterclockwise direction using the [Straumann® SCS Screwdriver](#).

The Healing Abutments should be unscrewed in a counterclockwise direction.



2. Assess the peri-implant mucosa and check for absence of inflammation.

Assess the peri-implant mucosa.

Examine and rinse the internal connection of the [BLT Implants](#) thoroughly to remove any blood, tissue or other debris.

Rinse to remove any blood, tissue or debris from the internal implant connections.



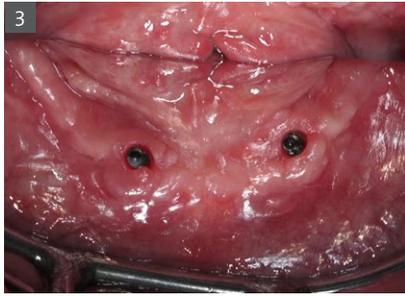
If any inflammation is present, check if it has been caused by the presence of a foreign body, food debris or plaque. Consider taking a radiograph if necessary to check for the cause of inflammation.



## Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



3. Ensure that there is sufficient access to the implant sites in order to avoid pinching the gingival tissue during the abutment insertion.

It is critical that the LOCATOR® Abutments are correctly seated. Ensure removal of all hard and soft tissue from the implant connections.

**⚠ Caution:** Be aware that the sulcus may collapse rapidly once the [Healing Abutments](#) have been removed. It is imperative that all hard and soft tissue is removed from the implant connections to ensure correct seating of the LOCATOR® Abutments.



4. Use the LOCATOR® Plan Abutments for [BLT NC Implants](#) in the patient's mouth to define the correct height(s) of the [LOCATOR® Abutments](#) by counting the marks.

LOCATOR® Plan Abutments should be used to determine the correct abutment height(s).

Alternatively, select the height(s) of the LOCATOR® Abutments by determining the height of the mucosa at its highest point in the patient's mouth. Then choose the corresponding abutment tissue cuff height or the next closest higher size available.

**⚠ Caution:** The border of the LOCATOR® Abutments should be at least 1.0 mm above the mucosa. Prosthesis insertion is easier for the patient if the LOCATOR® Abutments are on the same horizontal level.

The abutments should be on the same horizontal plane and the border at least 1.0 mm above the mucosa.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



5. Clean and dry the internal connection of the implants.

The internal implant connections should be clean and dry before inserting the abutments.



- Use a pair of dental tweezers to carry the [LOCATOR® Abutments](#) to the patient's mouth.



- Insert the abutments into the Ø 3.3 mm [BLT Implants](#) and hand-tighten them, using the LOCATOR® Screwdriver.

Hand-tighten the abutments with the LOCATOR® Screwdriver.



35 Ncm

6. Tighten the abutments to 35 Ncm using the [Ratchet](#) with the [Torque Control Device](#) and the LOCATOR® Screwdriver.

After hand-tightening the abutments, use the Torque Control Device to tighten them to 35 Ncm.



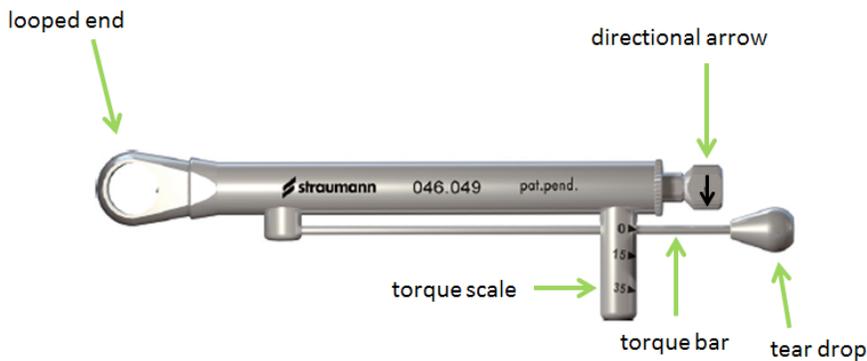
# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



Place the looped end of the assembled Ratchet with the Torque Control Device over the LOCATOR® Screwdriver. The directional arrow must be pointing in the clockwise direction (towards the torque bar with tear drop). If not, pull the arrow out, flip it over, and let it snap in.



You may use your fingertip or insert the pin end of the [Hold-  
ing Key](#) into the coronal hole on the LOCATOR® Screwdriver handle for stabilization.

6a



Use one hand to hold the LOCATOR® Screwdriver and use the other hand to hold the torque bar. Grasp only the tear drop and move the torque bar to the **35 Ncm** mark.

**⚠ Caution:** Only do this in **one continuous movement** to reach a tightening torque of 35 Ncm. There is no need to repeat this action.

Torques greater than 35 Ncm may result in the failure of the implants and/or abutments. Torque values less than 35 Ncm may result in loosening of the [LOCATOR® Abutments](#). Do not remove the abutments once they have been tightened to 35 Ncm.

After reaching the 35 Ncm mark, let loose the tear-drop-lever and remove the [Ratchet](#) with the [Torque Control Device](#) and the LOCATOR® Screwdriver.

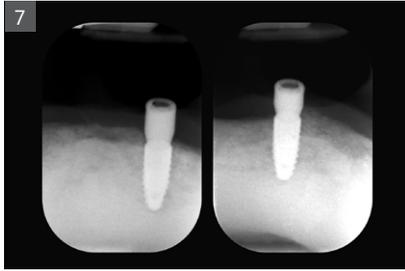
Tighten the abutments with one continuous movement to reach the 35 Ncm torque that is important for success. Once the abutments are tightened, do not remove them.



## Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



7. Take a standard periapical radiograph using the long-cone paralleling technique to check for the LOCATOR® abutment positions and determine bone levels as a baseline for long-term follow-up.

In patients with a high mouth floor standard periapical radiographs are often difficult to take and therefore in exceptional cases an OPG can be taken to confirm the correct seating of the abutments and bone levels.

Take a radiograph using the long-cone paralleling technique to check the abutment positions.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



## 3.1.2 Step-by-step – Chair-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® Abutments

 [Video: Chair-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® Abutments](#)



For an existing **well-fitting** and **well-functioning** lower complete denture, the LOCATOR® Implant Attachment System can be used in a chair-side procedure.

**⚠ Caution:** It is a prerequisite however, that the lower complete denture does not need to be relined by a [dental technician](#).

To perform a chair-side procedure it is important that the patient's existing lower complete denture is well-fitting and well-functioning.



1. Place white [LOCATOR®](#) Block-out Spacers on each abutment. The spacer rings are used to block out the area surrounding the abutments.

Place white LOCATOR® Block-out Spacers on each abutment.

**⚠ Caution:** If the LOCATOR® Block-out Spacers do not completely fill the space between the mucosa and the Denture Caps any remaining undercuts must be blocked out to prevent resin flowing under the Denture Caps. This can be accomplished by stacking two or more LOCATOR® Block-out Spacers or a custom sized and pierced piece of rubber dam or using block-out gel.

Ensure there are no gaps between the mucosa and the Denture Caps.



2. Then place a LOCATOR® Denture Cap with black LOCATOR® Processing Male onto each LOCATOR® Abutment, leaving the white Block-out Spacer beneath it.

Place a Denture Cap onto each abutment.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



3. Prepare the denture base to accommodate the  **LOCATOR®** Denture Caps. Hollow out the existing denture base in the areas of the LOCATOR® Denture Caps with handpiece and resin bur.

Prepare the denture base for the LOCATOR® Denture Caps.

**⚠ Caution:** It is important that there is **NO** contact between the denture and the LOCATOR® Denture Caps prior to the chemical curing process.



4. Reconfirm space with wash impression.

Use wash impression silicone to confirm adequate clearance between the Denture Caps and the denture base.



- Insert the lower complete denture into the patient's mouth and check the clearance. The Denture Caps fixed on the abutments should not touch the denture base. Reconfirm adequate space using wash impression silicone. Adjust the denture base until seated passively in occlusion without touching the Denture Caps.

Adjust the denture base as necessary.



5. Prepare the recess in the denture with monomer. Protect areas where you don't want the resin with a thin layer of petroleum jelly.

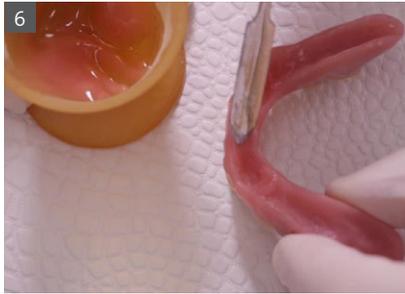
Prepare the recess in the denture with monomer. Petroleum jelly will protect areas where you don't want self-curing PMMA resin.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



6. Fill the hollowed area with self-curing PMMA resin to polymerize the Denture Caps in the denture.

Apply a small amount of acrylic resin to the recess of the denture base and around the Denture Caps. Insert the lower complete denture into the oral cavity.

Use the PMMA resin to polymerize the Denture Caps in the denture.

Add a small amount of PMMA resin to the recess of the denture base and around the Denture Caps.



7. Once the lower complete denture is properly seated, maintain the patient in full occlusion while the acrylic sets.

Insert the denture properly and maintain the patient in full occlusion until the acrylic sets.

**⚠ Caution:** It is important to maintain the lower complete denture in contact with the underlying soft tissue during the set.



8. Once the resin has cured, remove the lower complete denture from the mouth and discard the white LOCATOR® Block-out Spacers.

After curing, remove the lower complete denture, discard the LOCATOR® Block-out Spacers and place the denture in hot, but not boiling water, or a pressure pot.



9. Put the lower complete denture in hot, but not boiling, water. Place it in a pressure pot when available.



10. After final curing, remove any excess acrylic and finish the denture base before changing the black LOCATOR® Processing Males for the final LOCATOR® Replacement Males.

Finish the denture base after removing any excess acrylic.

Change the LOCATOR® Processing Males for the final, appropriate LOCATOR® Replacement Males.

Continue with the [🔗 Insertion of the final overdenture and patient instructions.](#)



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



## 3.1.3 Step-by-step – Lab-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® Abutments

 [Video: Lab-side modification of an existing lower complete denture into an overdenture supported by LOCATOR® Abutments](#)



If the lower complete denture's fit is inadequate (poor adaptation to underlying tissue) after surgery and major adjustments are necessary, indirect relining of the mandibular denture is necessary. This means that relining and insertion of the Denture Caps with

the black LOCATOR® Processing Males are performed by the [dental technician](#) immediately after border mold impression-taking ([Lab-side relining of a lower complete denture](#)). Lab-side relining has to be planned in advance with your dental technician and needs special costs and planning.

**⚠ Caution:** This step takes usually 1 day. Inform the patient that they will not have their lower complete denture during this time.



1. Place the Denture Caps with black Processing Males and the white Block-out Spacers onto the [LOCATOR® Abutments](#).



2. Hollow out the existing denture base in the areas of the LOCATOR® Denture Caps with handpiece and resin bur.



In the case of an existing, inadequately fitting lower complete denture the lab-side procedure should be followed.

This process requires additional planning, costs and time.

Be sure to warn the patient that they may be without their lower complete denture for up to a day.

Onto each LOCATOR® Abutment place a white Block-out Spacer and a Denture Cap.

The existing denture base should be hollowed out in the areas of the LOCATOR® Denture Caps.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



3. Reconfirm space with wash impression.

Use wash impression silicone to confirm adequate clearance between the Denture Caps and the denture base.



Insert the lower complete denture into the patient's mouth and check the clearance. The Denture Caps seated on the abutments should not touch the denture base. Reconfirm space using wash impression silicone. Adjust the denture base to seat passively in occlusion without touching the LOCATOR® Denture Caps.

Adjust the denture base as necessary.



4. Prepare the lower complete denture for **border mold impression technique**.

- Remove any undercuts from the denture base.
- Check for peripheral extensions and if necessary adjust them with thermoplastic materials (border molding).
- Dry the inner surface of the mandibular denture with alcohol and apply the corresponding adhesive.

Instructions for preparing the lower complete denture for border mold impression.



## Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
LOCATOR®  
Abutments



5. Take a **reline impression**.  
Apply polyether impression material to the internal aspect of the lower complete denture and take a reline impression with the patient in occlusion.

Take a reline impression using polyether impression material and with the patient in occlusion.



6. Once the impression material has cured, remove the lower complete denture with the LOCATOR® Denture Caps from the mouth. If the LOCATOR® Denture Caps did not remain inside the impression, carefully reseat them into the reline impression.
7. Send the mandibular denture to the [dental technician](#) to reline it, integrate the Denture Caps and convert it into an overdenture.

Remove the lower complete denture with the Denture Caps after curing.

Carefully reseat the Denture Caps into the impression if necessary.

Send the mandibular denture to the dental technician for conversion to an overdenture.

If relining is required by the dental technician, please read the next step [Lab-side relining of a lower complete denture](#) and arrange for your patient to return the next day for the [Insertion of the final overdenture and patient instructions](#).

Proceed to the next step: [Lab-side relining of a lower complete denture](#).



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



## 3.2 Novaloc® abutment insertion, modification and relining of a lower complete denture

Instruments and materials required for [Novaloc®](#) abutment insertion and **chair-side / lab-side relining** of a lower complete denture.



Example of the instruments and materials required for insertion of Novaloc® Abutments and relining of a lower complete denture.

- |   |   |   |
|---|---|---|
| 1. X-ray holder and film                                | 9. Brush for applying PMMA self-curing resin                | 17. Periodontal probes and scalers                      |
| 2. Silicone wash impression materials – 2 tubes         | 10. Spatulas for mixing and applying PMMA self-curing resin | 18. Dental mirrors                                      |
| 3. Novaloc® Kit (see detailed picture on the next page) | 11. PMMA self-curing resin (2 bottles)                      | 19. Dental tweezers                                     |
| 4. <a href="#">Torque Control Device</a>                | 12. Mixing cup and syringe                                  | 20. Cotton rolls, gauze and petroleum jelly             |
| 5. <a href="#">SCS Screwdrivers</a> (long and short)    | 13. Disposable saliva ejector                               | 21. Scissors  |
| 6. <a href="#">Novaloc® Abutments</a>                   | 14. Handpieces  | 22. Chlorhexidine gel                                   |
| 7. Plan Abutments in different heights                  | 15. Aspirator and suction device                            | 23. Cotton pellets                                      |
| 8. Straight handpiece and acrylic bur                   | 16. Shimstock (occlusal registration paper) and holder      | 24. Dental floss  |
|   |   | 25. Control pads  |
|   |   | 26. Syringe with saline and blunt needle for irrigation |
|   |   | 27. Cheek and lip retractor                             |



In addition to the instruments and materials shown above, border mold impression material (i.e. adhesive, thermoplastic material and reline impression material) is required for the lab-side procedure.

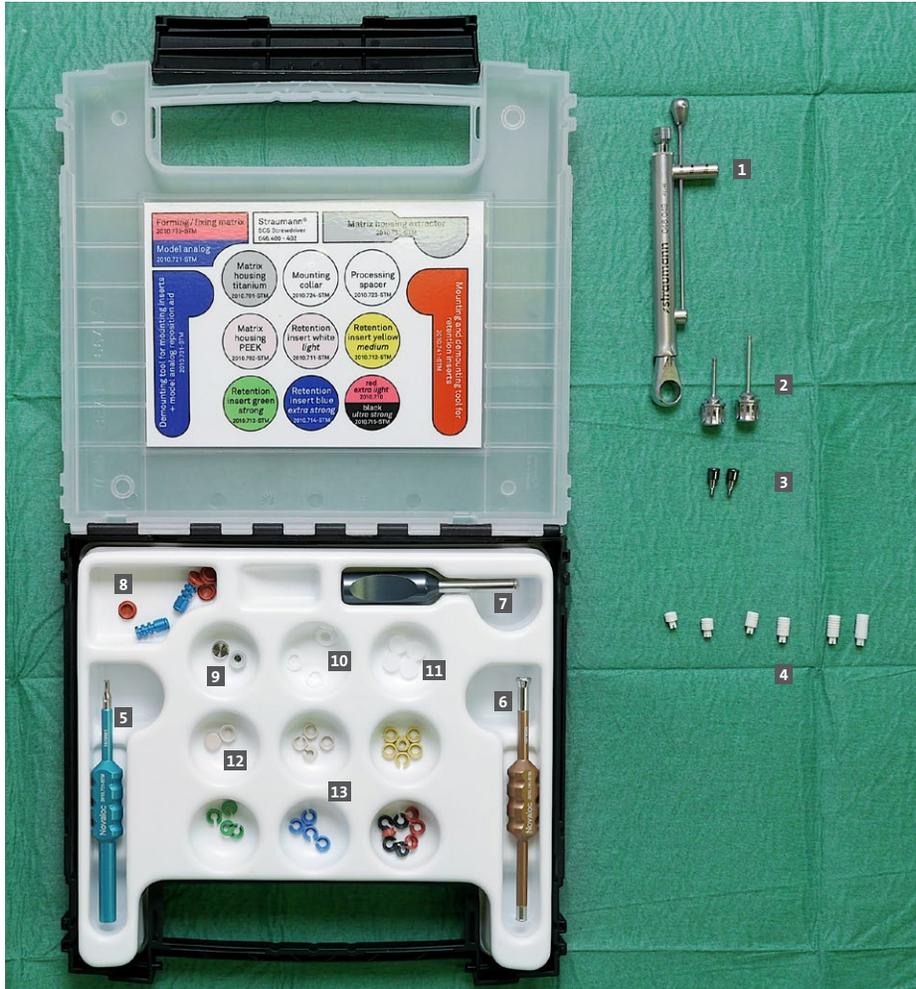
The procedure outlined used  $\varnothing$  3.3 mm [Straumann® Narrow Neck CrossFit® \(NNC\) Implants](#). However, [Straumann® Bone Level Tapered \(BLT\) Implants](#) could also be used with the corresponding Novaloc® components.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



## Novaloc® Kit:

1. [Torque Control Device](#)
2. [SCS Screwdrivers](#)
3. [Novaloc® Abutments](#)
4. Plan Abutments in different heights.
5. Demounting Tool for Mounting Inserts and Model Analog Reposition Aid (blue)
6. Mounting and Demounting Tool for Retention Inserts (brown)
7. Matrix Housing Extractor (grey)
8. Forming/Fixing Matrices, red / Model Analogs Ø 4, blue
9. Matrix Housings, titanium (including Mounting Inserts)
10. Mounting Collars
11. Processing Spacers
12. Matrix Housings, PEEK (including Mounting Inserts)
13. Retention Inserts (with different strengths)



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



## 3.2.1 Step-by-step – Insertion of Novaloc® Abutments into Ø 3.3 mm Narrow Neck CrossFit® (NNC) Implants

 [Video: Insertion of Novaloc® Abutments into Narrow Neck CrossFit® \(NNC\) Implants](#)

Please click  [here](#) for a quick reference checklist for this procedure.



Refer to the quick reference checklist.



1. Unscrew the  [Healing Caps](#) in a counterclockwise direction using the  [SCS Screwdriver](#).

The Healing Caps should be unscrewed in a counterclockwise direction.



2. Assess the peri-implant mucosa and check for absence of inflammation.

Assess the peri-implant mucosa.



- Examine and rinse the internal connection of the  [NNC Implants](#) thoroughly to remove any blood, tissue or other debris.

Rinse to remove any blood, tissue or debris from the internal implant connections.



If any inflammation is present, check if it has been caused by the presence of a foreign body, food debris or plaque. Consider taking a radiograph if necessary to check for the cause of inflammation.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



3. Ensure that there is sufficient access to the implant sites in order to avoid pinching the gingival tissue during the abutment insertion.

Take care to avoid pinching the gingival tissue by ensuring sufficient access to the implant sites.

**⚠ Caution:** Be aware that the sulcus may collapse rapidly once the **🔗 Healing Caps** have been removed. It is imperative that all hard and soft tissue is removed from the implant connections to ensure correct seating of the **🔗 Novaloc® Abutments**.

It is critical that the Novaloc® Abutments are correctly seated. Ensure removal of all hard and soft tissue from the implant connections.



4. Use the Plan Abutments for **🔗 NNC Implants** in the patient's mouth to define the correct height(s) of the NNC Novaloc® Abutments by counting the marks.

Plan Abutments should be used to determine the correct abutment height(s).

Alternatively, select the height(s) of the NNC Novaloc® Abutments by determining the height of the mucosa at its highest point in the patient's mouth. Then choose the corresponding abutment tissue cuff height or the next closest higher size available.

**⚠ Caution:** The border of the Novaloc® Abutments should be at least 1.0 mm above the mucosa. Prosthesis insertion is easier for the patient if the Novaloc® Abutments are on the same horizontal level.

The abutments should be on the same horizontal plane and the border at least 1.0 mm above the mucosa.



For advanced or complex cases where implant divergences are greater than 40°, there are 15° angled Novaloc® Abutments available. However, these should not be required in straightforward Smart Arch cases.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



5. Clean and dry the internal connection of the implants.

The internal implant connections should be clean and dry before inserting the abutments.



6. Insert the NNC [Novaloc® Abutments](#) into the  $\varnothing$  3.3 mm [NNC Implants](#) and hand-tighten them using the [SCS Screwdriver](#).

Hand-tighten the abutments with the SCS Screwdriver.

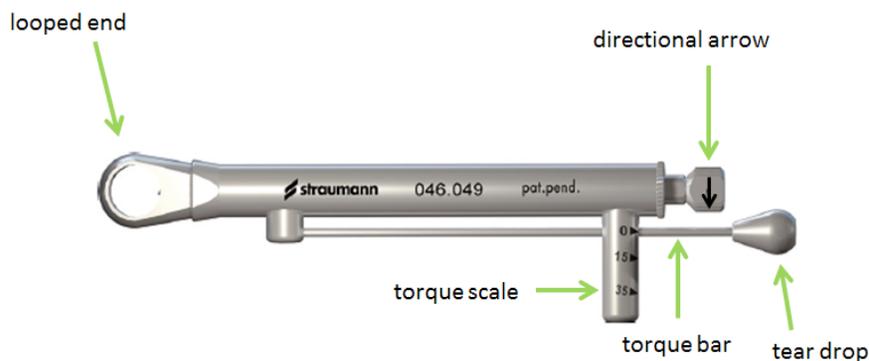


7. Tighten the abutments to 35 Ncm using the [Ratchet](#) with the [Torque Control Device](#) and the SCS Screwdriver.

After hand-tightening the abutments, use the Torque Control Device to tighten them to 35 Ncm.

Place the looped end of the assembled Ratchet with the Torque Control Device over the SCS Screwdriver. The directional arrow must be pointing in the clockwise direction (towards the torque bar with tear drop). If not, pull the arrow out, flip it over, and let it snap in.

Instructions for using the Ratchet with the Torque Control Device and the SCS Screwdriver.



You may use your fingertip or insert the pin end of the [Hold-  
ing Key](#) into the coronal hole on the SCS Screwdriver handle for stabilization.

Stabilize the SCS Screwdriver with your fingertip or the Holding Key.



## Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

Treatment with  
Novaloc®  
Abutments



Use one hand to hold the Holding Key and use the other hand to hold the torque bar. Grasp only the tear drop and move the torque bar to the **35 Ncm** mark.

35 Ncm

**⚠ Caution:** Only do this in **one continuous movement** to reach a tightening torque of 35 Ncm. There is no need to repeat this action.

Torques greater than 35 Ncm may result in the failure of the implants and/or abutments. Torque values less than 35 Ncm may result in loosening of the [Novaloc® Abutments](#). Do not remove the abutments once they have been tightened to 35 Ncm.

- After reaching the 35 Ncm mark, let loose the tear-drop-lever and remove the [Holding Key](#), the [Ratchet](#) with [Torque Control Device](#) and the [SCS Screwdriver](#).



8. Take a standard periapical radiograph using the long-cone paralleling technique to check for the Novaloc® Abutment positions and determine bone levels as a baseline for long-term follow-up.

In patients with a high mouth floor standard periapical radiographs are often difficult to take and therefore in exceptional cases an OPG can be taken to confirm the correct seating of the abutments and bone levels.

Tighten the abutments with one continuous movement to reach the 35 Ncm torque that is important for success. Once the abutments are tightened, do not remove them.

Take a radiograph using the long-cone paralleling technique to check the abutment positions.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

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## 3.2.2 Step-by-step – Chair-side modification of an existing lower complete denture into an overdenture supported by Novaloc® Abutments

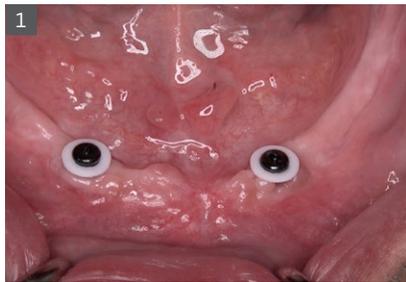
 [Video: Chair-side modification of an existing lower complete denture into an overdenture supported by Novaloc® Abutments](#)



For an existing **well-fitting** and **well-functioning** lower complete denture, the [Novaloc® Retentive System](#) can be used in a chair-side procedure.

**⚠ Caution:** It is a prerequisite however, that the lower complete denture does not need to be relined by a [dental technician](#).

To perform a chair-side procedure it is important that the patient's existing lower complete denture is well-fitting and well-functioning.



1. Place white Mounting Collars on each NNC Novaloc® Abutment. The Mounting Collars are used to block out the area surrounding the abutments.

Place white Mounting Collars on each abutment.

**⚠ Caution:** If the Novaloc® Mounting Collars do not completely fill the space between the mucosa and the Matrix Housings any remaining undercuts must be blocked out to prevent resin flowing under the Matrix Housings. This can be accomplished by stacking two or more Mounting Collars or a custom sized and pierced piece of rubber dam.

Ensure there are no gaps between the mucosa and the Matrix Housings.



2. Then place a Matrix Housing with white Mounting Insert onto each Novaloc® Abutment, leaving the white Mounting Collar beneath it.

Place a Matrix Housing with white Mounting Insert onto each abutment.



The Novaloc® Mounting Insert protects the interior of the Novaloc® Matrix Housing and also prevents any resin or bonding agents from entering into the Novaloc® Matrix Housing during fixation.



# Prosthetic procedures

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3. Prepare the lower complete denture to accommodate the Novaloc® Matrix Housings. Hollow out the existing denture base in the areas of the Novaloc® Matrix Housings with handpiece and resin bur.

Prepare the denture base for the Novaloc® Matrix Housings.



Novaloc® Processing Spacers can be used instead of Matrix Housings to create the space needed in the denture.

**⚠ Caution:** It is important that there is **NO** contact between the denture and the Processing Spacers/Matrix Housings prior to the curing process.



4. Reconfirm space with wash impression.

Use wash impression silicone to confirm adequate clearance between the Matrix Housings and the denture base.



4.1 Insert the lower complete denture into the patient's mouth and check the clearance. The Matrix Housings fixed on the abutments should not touch the denture base. Reconfirm adequate space using wash impression silicone. Adjust the denture base until seated passively in occlusion without touching the Matrix Housings.

Adjust the denture base as necessary.



5. Prepare the recess in the lower complete denture with monomer. Protect areas where you don't want the resin with a thin layer of petroleum jelly.

Prepare the recess in the denture with monomer. Petroleum jelly will protect areas where you don't want self-curing PMMA resin.



## Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

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6. Fill the hollowed area with self-curing PMMA resin to polymerize the Matrix Housings in the denture.

Apply a small amount of acrylic resin to the recess of the denture base and around the Matrix Housings. Insert the lower complete denture into the oral cavity.

Use the PMMA resin to polymerize the Matrix Housings in the denture.

Add a small amount of PMMA resin to the recess of the denture base and around the Matrix Housings.



7. Once the lower complete denture is properly seated, maintain the patient in full occlusion while the acrylic sets.

Insert the denture properly and maintain the patient in full occlusion until the acrylic sets.

**⚠ Caution:** It is important to maintain the lower complete denture in contact with the underlying soft tissue during the set.



8. Once the resin has cured, remove the lower complete denture from the mouth and discard the white Novaloc® Mounting Collars.

Put the lower complete denture in hot, but not boiling, water. Place it in a pressure pot when available.

After curing, remove the lower complete denture, discard the white Novaloc® Mounting Collars and place the denture in hot, but not boiling water, or a pressure pot.



9. After final curing, remove any excess acrylic and finish the denture base before exchanging the Mounting Inserts for the final Novaloc® Retention Inserts.

Finish the denture base after removing any excess acrylic.

Change the Mounting Inserts for the final, appropriate Novaloc® Retention Inserts.

Continue with the [🔗 Insertion of the final overdenture and patient instructions.](#)



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

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## 3.2.3 Step-by-step – Lab-side modification of an existing lower complete denture into an overdenture supported by Novaloc® Abutments

 [Video: Lab-side modification of an existing lower complete denture into an overdenture supported by Novaloc® Abutments](#)



If the lower complete denture's fit is inadequate (poor adaptation to underlying tissue) after surgery and major adjustments are necessary, indirect relining of the mandibular denture is necessary. This means that relining and insertion of

Novaloc® Matrix Housings incl. Mounting Inserts are performed by the [dental technician](#) immediately after border mold impression-taking ([Lab-side relining of a lower complete denture](#)). Lab-side relining has to be planned in advance with your dental technician and needs special costs and planning.

**⚠ Caution:** This step takes usually 1 day. Inform the patient that they will not have their lower complete denture during this time.

In the case of an existing, inadequately fitting lower complete denture, the lab-side procedure should be followed.

This process requires additional planning, costs and time.

Be sure to warn the patient that they may be without their lower complete denture for up to a day.



1. Place a Novaloc® Forming/Fixing Matrix onto each [Novaloc® Abutment](#).

Onto each Novaloc® Abutment place a Novaloc® Forming/Fixing Matrix.



2. Hollow out the existing denture base in the areas of the Novaloc® Forming/Fixing Matrices with handpiece and resin bur.

The existing denture base should be hollowed out in the areas of the Novaloc® Forming/Fixing Matrices.



# Prosthetic procedures

Step 1 | Abutment insertion, modification and relining of a lower complete denture

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3. Reconfirm space with wash impression.

Use wash impression silicone to confirm adequate clearance between the Matrix Housings and the denture base.



3.1 Insert the lower complete denture into the patient's mouth and check the clearance. The Matrix Housings on the abutments should not touch the denture base. Reconfirm space using wash impression silicone. Adjust the denture base to seat passively in occlusion without touching the Matrix Housings.

Adjust the denture base as necessary.



4. Prepare the lower complete denture for **border mold impression technique**.

Instructions for preparing the lower complete denture for border mold impression.

- Remove any undercuts from the denture base.
- Check for peripheral extensions and if necessary adjust them with thermoplastic materials (border molding).
- Dry the inner surface of the mandibular denture with alcohol and apply the corresponding adhesive.



# Prosthetic procedures

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5. Take a **reline impression**.  
Apply polyether impression material to the internal aspect of the lower complete denture, and take a reline impression with the patient in occlusion.

Take a reline impression using polyether impression material and with the patient in occlusion.

6. Once the impression material has cured, remove the lower complete denture with the Novaloc® Forming/Fixing Matrices from the mouth. If the Novaloc® Forming/Fixing Matrices did not remain inside the impression, carefully reseat them into the reline impression.

Remove the lower complete denture with the Novaloc® Forming/Fixing Matrices after curing. Carefully reseat the Novaloc® Forming/Fixing Matrices into the impression if necessary.

7. Send the mandibular denture to the [🔗 dental technician](#) to reline it, integrate the Matrix Housings and convert it into an overdenture.

Send the mandibular denture to the dental technician for conversion to an overdenture.

If relining is required by the dental technician, please read the next step [🔗 Lab-side relining of a lower complete denture](#) and arrange for your patient to return the next day for the [🔗 Insertion of the final overdenture and patient instructions](#).

Proceed to the next step: Lab-side relining of a lower complete denture.



# Prosthetic procedures

## Step 1 | Abutment insertion, modification and relining of a lower complete denture

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