

Enter

Stage 4 | Aftercare and maintenance

# Step 2

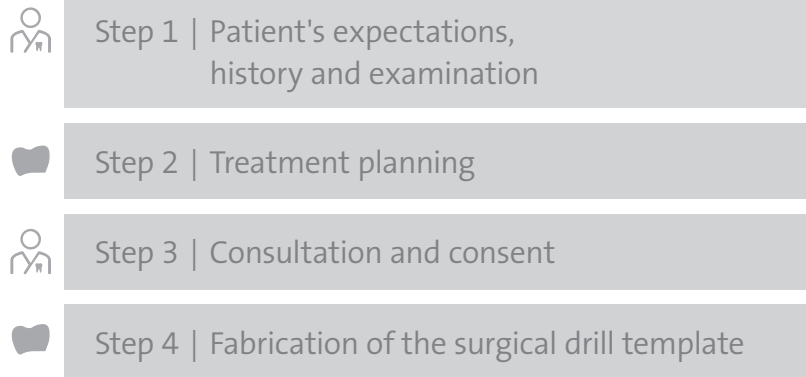
## Maintenance visit

# Aftercare and maintenance

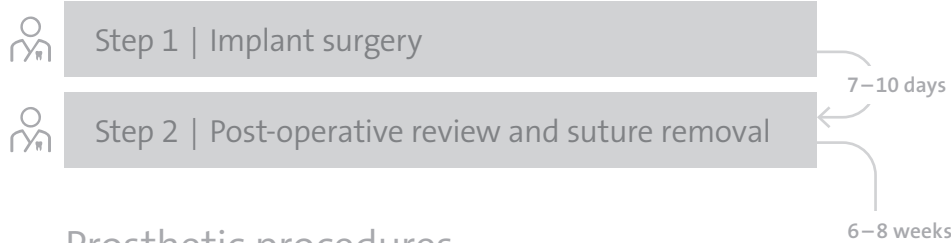
Step 2 | Maintenance visit

Overview

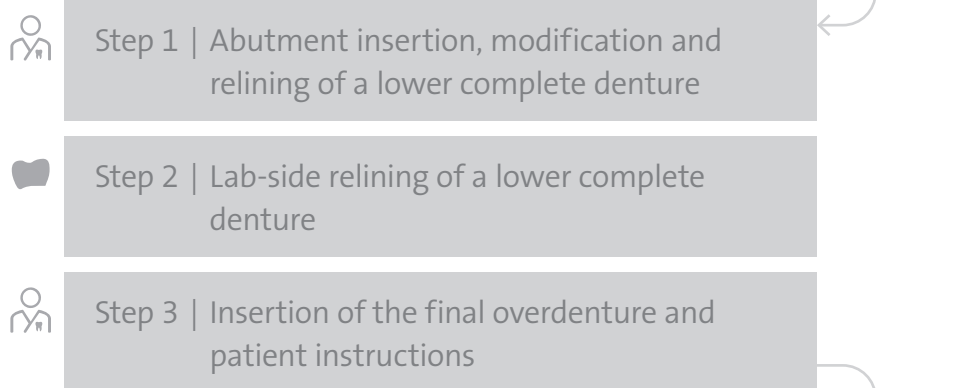
## Assessment and treatment planning



## Surgical procedures



## Prosthetic procedures



## Aftercare and maintenance



 In clinic with patient

 Office / Lab work

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## Introduction



### Each maintenance visit should comprise of:

- Assessment and update of medical/dental history
- Clinical examination of implant-supported overdenture and peri-implant tissues
- Radiographic monitoring (if necessary)
- Evaluation of risk factors
- Reinforcement of oral hygiene

Patients who have undergone successful implant therapy should be evaluated at regular intervals by their dentist. During each maintenance visit, a thorough assessment and update of the patient's medical and dental history must be made and recorded. A clinical examination of the implant-supported overdenture and monitoring of the peri-implant tissues (e.g., presence of plaque, probing pocket depths, bleeding on probing and/or suppuration, etc.) is done.

All these clinical (and radiographic if indicated) findings are recorded and compared with the established baselines after delivery of the final implant-supported prosthesis. The frequency of maintenance visits for long-term monitoring depends on clinical and radiographic findings upon completion of the prosthodontic work, risk factors the patient may have, and the outcome of each maintenance visit.

Oral hygiene is reinforced at every maintenance visit and the next appointment is scheduled according to the patient's needs to ensure good long-term monitoring.

**⚠ Caution:** In cases of poor oral hygiene, the patient should undergo thorough scaling and polishing, as well as reinstruction and motivation to maintain the necessary high level of oral hygiene. If the patient is cooperative, the interval between check-up visits can be increased.



# Aftercare and maintenance

Step 2 | Maintenance visit



Learning  
objectives



## Learning objectives



Be able to routinely assess the condition of the implants, overdenture, soft tissue and bone levels around the implants.



Perform implant-specific clinical evaluation to diagnose healthy peri-implant tissues.



Recognize signs and symptoms of biological and technical complications and know how to manage these complications.



# Aftercare and maintenance

Step 2 | Maintenance visit

Assessment



## 1. Assessment

### 1.1 Medical and dental history

- Review and update the patient's medical and dental history.
- Obtain feedback from the patient about comfort and function.
- Ask about their quality of life.

Thoroughly review and update the patient's medical and dental history and quality of life.

## 2. Clinical examination

### 2.1 General

- Extraoral and intraoral examination
- Dental and periodontal examination

Look out for any signs and symptoms at the implant sites.



You may use this example of a [Clinical Record Form](#) to record your findings.



# Aftercare and maintenance

Step 2 | Maintenance visit

Clinical  
examination



## 2.2 Implant and overdenture

### 2.2.1 At each implant:



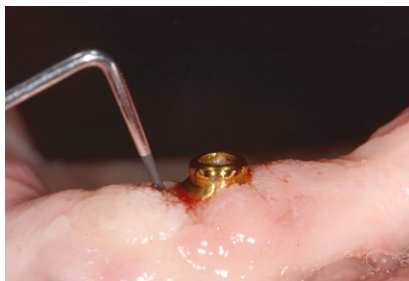
- Check the implant stability: Apply the handle of a dental mirror onto the abutment and try to move the implant by pushing in an oro-facial direction.

#### Check for:

- Implant stability
- Peri-implant soft tissue condition
- Presence of plaque
- Probing depths
- Bleeding on probing
- Suppuration
- Stability and location of gingival margin



If the whole implant is mobile, complete loss of osseointegration has occurred and is a sign of implant failure.<sup>1</sup>



- Assess the peri-implant soft tissue condition. Check for visual signs of inflammation such as redness, swelling, fistulas, alteration in contour or consistency of the peri-implant tissues.
- Check for the presence of plaque.
- Record clinical probing depths with gentle pressure (approximately 0.15 N of force<sup>2</sup>).
- Monitor and record bleeding on probing scores at least once a year to be able to detect any early signs of peri-implant disease.
- Check for any suppuration.
- Check the stability and location of the soft tissue margin, look out for gingival recession.



# Aftercare and maintenance

Step 2 | Maintenance visit

Clinical  
examination



## 2.2.2 At soft tissue level:



- Check for injured tissues (denture sore spots).
- Check for inflammation or candidiasis of the denture-bearing soft tissues.

### Check for:

- Injured tissues
- Inflammation or candidiasis

## 2.2.3 At the retentive components level:



- Check for retention of the overdenture.
- Check the stability of the [LOCATOR®](#) or [Novaloc®](#) Abutments respectively.
- Check for signs of wear.
- Check if there is food debris, soft or hard deposits in the LOCATOR® central groove or Novaloc® stud hole respectively.
- Check for sufficient retention of the insert. If damaged, replace it.

### Check for:

- Retention of the overdenture and inserts
- Abutment stability
- Signs of wear
- Deposits in the abutment's central groove or stud hole



Novaloc® Abutments have a small stud hole to prevent food accumulation.

## 2.2.4 At the overdenture level:



- Check for fractures or fissure cracks.
- Check the occlusion of the overdenture and if necessary adjust it.
- Check the fit and retention of the overdenture to the underlying soft tissues.

### Check:

- for fissures or fractures
- the occlusion
- the fit and retention to underlying soft tissues



Once a LOCATOR® or Novaloc® Abutment is loose, the microgap widens considerably which results in heavier microbial colonization, often resulting in the formation of a fistula.

The presence of a fistula can be an indicator for abutment loosening.





# Aftercare and maintenance



Step 2 | Maintenance visit


Clinical  
examination



## 2.3 Radiographic examination

Standard periapical radiographs using the long-cone paralleling technique can be taken every 2-3 years. However, this interval should be adapted according to the patient's needs. For example, if there are clinical signs or a need to monitor the following:

- peri-implant mucositis or inflammation
- incomplete seating of  **LOCATOR®** or  **Novaloc®** Abutments
- increase in clinical probing depths
- bleeding on probing
- suppuration.

 **Caution:** If there are signs of radiographic bone loss, this could mean peri-implant infection is taking place and additional surgical or non-surgical therapy might be indicated. A consultation or referral to a periodontal specialist is recommended.

Routine periapical radiographic examination can be done every 2-3 years or more frequently if necessary.

Radiographic bone loss can be an indicator for a peri-implant infection.



### 3. Implant-specific diagnosis

- Healthy soft tissue conditions.
- Peri-implant mucositis - presence of inflammation confined to the soft tissues surrounding the dental implant(s) with no signs of loss of supporting bone following initial bone remodeling during healing.
- Peri-implantitis - presence of inflammation around a dental implant, which includes both soft tissue inflammation and progressive loss of supporting bone beyond biological bone remodeling.

#### Know how to differentiate between:

- healthy peri-implant tissues
- peri-implant mucositis
- peri-implantitis

### 4. Standard maintenance treatment

- Review oral hygiene compliance and reinforce oral hygiene instructions.
- Remove plaque from the implants and/or the overdenture.
- Check the occlusion and condition of the overdenture.
- Behavioral modifications
  - Oral hygiene habits
  - Control of risk factors such as smoking
  - Encourage a high fibre healthy diet with five portions of fruit and vegetables per day.
- Plan the maintenance visit frequency.

**⚠ Caution:** Patients with a higher risk for peri-implantitis (e.g. smokers, history of chronic periodontal disease, poor plaque control) should be identified and monitored at least every 3 months.

**⚠ Caution:** Routine instrumentation may scratch exposed implant surfaces, resulting in surface alterations that may enhance plaque accumulation. Studies have shown that titanium and hydroxyapatite-coated surfaces are frequently scratched when metal curettes or ultrasonic devices are used. Therefore, plastic curettes, graphite or nylon-type instruments and rubber cups with fine abrasive paste for polishing are recommended<sup>3</sup>.

In healthy patients without risk factors, initially a 6-month recall interval is recommended. Subsequently, patients who show good oral health over several years can be scheduled for an annual maintenance visit, which is the standard for regular aftercare<sup>4</sup>.

#### Maintenance protocol includes:

- Oral hygiene review
- Removal of plaque
- Check of overdenture condition and occlusion
- Identification of changed risk factors or habits
- Planning of maintenance intervals

Monitor patients who are at higher risk of peri-implant complications more frequently.



# Aftercare and maintenance

Step 2 | Maintenance visit

Checklist



## CHECKLIST FOR MAINTENANCE VISITS

- ☐ Assessment
  - Medical and dental history
- ☐ Clinical examination
  - General extraoral and intraoral examination
  - Implant and overdenture (denture stability and retention, occlusion)
  - Radiographic examination
- ☐ Implant-specific diagnosis
  - Healthy soft tissue conditions
  - Peri-implant mucositis
  - Peri-implantitis
- ☐ Standard maintenance treatment
  - Review oral hygiene compliance and reinforce oral hygiene instructions
  - Remove plaque and calculus from supra- and subgingival areas
  - Clean the overdenture
  - Behavioral modifications
  - Occlusal adjustments if necessary
  - Plan maintenance visit frequency



# Aftercare and maintenance

## Step 2 | Maintenance visit

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# Aftercare and maintenance

## Step 2 | Maintenance visit

### DISCLAIMER

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All clinical Straumann® Smart content – such as texts, medical record forms, pictures and videos – was created in collaboration with Prof. Dr. Christoph Hämmerle, Prof. Dr. Ronald Jung, Dr. Francine Brandenburg-Lustenberger and Dr. Alain Fontoliet from the University of Zürich, Clinic for Fixed and Removable Prosthodontics and Dental Material Science, Switzerland.

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