Basic information on the surgical procedures for the Straumann® Bone Level Tapered Implant
About this guide

The Basic Information on the Surgical Procedures for the Straumann® Bone Level Tapered Implant provides dental practitioners and related specialists with the essential steps regarding surgical treatment and procedures for the Straumann® Bone Level Tapered Implant.

Not all detailed information will be found in this guide. For further information, please see the Basic Information on the Surgical Procedures – Straumann® Dental Implant System, NAMLIT 1017.

It is assumed that the user is familiar with placing dental implants. Not all detailed information will be found in this guide. Reference to existing Straumann procedure manuals will be made throughout this document.
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1 The Straumann® Bone Level Tapered Implant

The Straumann® Dental Implant System offers two different implant lines, the Soft Tissue Level Implants and the Bone Level Implants.

The Bone Level Implants are suitable for bone level treatments in combination with transgingival or subgingival healing. The rough implant surface extends to the top of the implant and the connection is shifted inwards.

The Straumann® Bone Level Tapered Implant features the established and clinically proven Straumann® Bone Control Design® and the CrossFit® connection together with its corresponding prosthetic CrossFit® components from the Bone Level Implant product portfolio. It has a tapered apex with three cutting notches, which makes this implant particularly suitable for situations involving soft bone or fresh extraction sockets where primary stability is key.

The Straumann® Bone Level Tapered Implant is available in the material and surface combinations of Roxolid® SLActive® and Titanium SLA.

A unified color code simplifies identification of instruments and implants for the three available endosteal diameters of Ø 3.3 mm, Ø 4.1 mm, and Ø 4.8 mm.

<table>
<thead>
<tr>
<th>Color coding</th>
<th>Endosteal implant diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>yellow</td>
<td>3.3 mm</td>
</tr>
<tr>
<td>red</td>
<td>4.1 mm</td>
</tr>
<tr>
<td>green</td>
<td>4.8 mm</td>
</tr>
</tbody>
</table>
2 Implant features and benefits

2.1 DESIGN FEATURES

The Straumann® Bone Level Tapered Implant comes with a number of excellent features designed for convenient handling as well as outstanding clinical performance.

- **Consistent Emergence Profile®** simplifies soft tissue management process
- **CrossFit® connection** provides simplified assembly and confidence for component positioning
- **Roxolid®** is a material with excellent mechanical properties
- **Bone Control Design®** allows maximized crestal bone preservation and microgap control
- **SLActive® surface** allows faster osseointegration* and increased predictability
- **Apically tapered implant body design** allows under-preparation and is designed to support primary stability in soft bone

*Compared to SLA.
2.2 MATERIAL

Roxolid® is a groundbreaking material specifically designed for the use in dental implantology. This titanium-zirconium alloy is stronger than pure titanium\(^1,2\) and has excellent osseointegration properties\(^3,4\). This combination of properties is unique in the market, there is no other metallic alloy which unifies high mechanical strength and osteoconductivity.

Thanks to their outstanding biological and mechanical properties, Roxolid® Implants offer more treatment options than conventional titanium implants.

2.3 SURFACE

SLActive® significantly accelerates the osseointegration process and delivers everything you expect from a successful and patient-friendly implant treatment.
• Faster osseointegration to enhance confidence in all treatments
• Reduced healing time from 6 – 8 weeks down to 3 – 4 weeks\(^*\)
• Increased predictability in stability critical treatment protocols\(^5\)

Most implant failures occur in the critical early period between weeks 2 and 4.\(^6\) Although similar healing patterns were observed for both SLA® and SLActive® Implants, bone-to-implant contact (BIC) was greater after 2 weeks and significantly greater after 4 weeks for SLActive® \(p < 0.05\).\(^7\)

2.4 TRANSFER PIECE

The Straumann® Bone Level Tapered Implants are delivered with the Loxim™ Transfer Piece, which is connected to the implant with a snap-in mounting.

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*Compared to SLA.
2.5 PROSTHETIC CONNECTION

The CrossFit® connection of Bone Level Implants applies the know-how and benefits from the Straumann® synOcta® Morse taper connection to the connection requirements at bone level. The mechanically locking friction fit of the 15° conical-cylindrical CrossFit® connection with four internal grooves has excellent long-term stability under loading conditions and minimizes screw loosening. Bone Level Ø 4.1 mm and Ø 4.8 mm Implants have the same connection, the Regular CrossFit® connection (RC), and they share the same secondary components. Bone Level Ø 3.3 mm Implants feature the Narrow CrossFit® connection (NC).

For the CrossFit® connection, Straumann offers a broad range of standard and CAD/CAM abutments in leading materials and a full application range – designed to create the optimal restorative results. For ease of use, you need only one restorative kit for all Bone Level Implants. This single kit is easy to master, simple to handle and allows for convenient component management.

<table>
<thead>
<tr>
<th>Single and multi-unit replacement</th>
<th>Edentulous treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screwed</td>
<td>Cemented</td>
</tr>
<tr>
<td>Premium</td>
<td></td>
</tr>
<tr>
<td>Gold Abutment</td>
<td>Gold Abutment</td>
</tr>
<tr>
<td>CARES® Abutment, ZrO₂</td>
<td>CARES® Abutment, ZrO₂</td>
</tr>
<tr>
<td>Advanced</td>
<td></td>
</tr>
<tr>
<td>CARES® Abutment, TAN¹</td>
<td>Screw-retained Bridge</td>
</tr>
<tr>
<td>CARES® Basic Fixed Bar</td>
<td></td>
</tr>
<tr>
<td>Advanced</td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td></td>
</tr>
<tr>
<td>Variobase™ Abutment, with screw</td>
<td>Cementable Abutment</td>
</tr>
</tbody>
</table>

Premium: Solution for cases requiring an enhanced degree of individualization combined with zirconia for high esthetics, or high noble gold alloys
Advanced: Technically advanced solution for cases requiring an enhanced degree of individualization
Standard: Cost-effective solution with standard components and techniques for straightforward cases

¹ Base abutment providing flexible solutions ranging from cost effective to high esthetics
² For both fixed and removable edentulous solutions
3 Indications

To obtain more information about indications and contraindications related to each implant, please refer to the corresponding instructions for use. Instructions for use can be found on ifu.straumann.com

The Straumann® Bone Level Tapered Implants (BLT) are offered in three different diameters with distinctive features for each diameter:

<table>
<thead>
<tr>
<th>Implant type</th>
<th>Distinctive features</th>
<th>Minimal ridge width*</th>
<th>Minimal gap width**</th>
<th>Available lengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>BLT Ø 3.3 mm NC Roxolid®/Titanium SLaActive®/SLA®</td>
<td>• Small-diameter implant for narrow interdental spaces and bone ridges • Small-diameter implants are not recommended for the molar region</td>
<td>5.5 mm</td>
<td>5.5 mm</td>
<td>8–16 mm</td>
</tr>
<tr>
<td>BLT Ø 4.1 mm RC Roxolid®/Titanium SLaActive®/SLA®</td>
<td>• For oral endosteal implant indications in the maxilla and mandible, for functional and esthetic rehabilitation of edentulous and partially edentulous patients</td>
<td>6 mm</td>
<td>6 mm</td>
<td>8–16 mm</td>
</tr>
<tr>
<td>BLT Ø 4.8 mm RC Roxolid®/Titanium SLaActive®/SLA®</td>
<td>• For oral endosteal implant indications in the maxilla and mandible, for functional and esthetic rehabilitation of edentulous and partially edentulous patients • BLT Ø 4.8 mm Implants are especially suited for wider interdental spaces and ridges</td>
<td>7 mm</td>
<td>7 mm</td>
<td>8–16 mm</td>
</tr>
</tbody>
</table>

** Minimal ridge width: Minimal orofacial ridge width, rounded off to 0.5 mm
** Minimal gap width: Minimal mesial-distal gap width for a single-tooth restoration, between adjacent teeth, rounded off to 0.5 mm

4 Planning

4.1 PREOPERATIVE PLANNING

The implant is the focal point of the dental restoration. It provides the basis for planning the surgical procedure. Close communication between the patient, dentist, surgeon and dental technician is imperative for achieving the desired esthetic result.

To establish the topographical situation, the axial orientation, and the choice of implants, we recommend the following:

- Make a wax-up/set-up on the previously prepared study cast or use an implant planning software like coDiagnostiX® in conjunction with the patient’s medical image data.
- Define the type of superstructure.
The wax-up/set-up can later be used as the basis for a custom-made X-ray jig or drill template and for a temporary restoration.

The implant diameter, implant type, position and number of implants should be selected individually, taking the anatomy and spatial circumstances (e.g. malpositioned or inclined teeth) into account. The measurements given here should be regarded as minimum guidelines. Only when the minimum distances are observed it is possible to design the restoration so that the necessary oral hygiene measures can be carried out.

The final hard and soft tissue response is influenced by the position between the implant and the proposed restoration. Therefore, it should be based on the position of the implant-abutment connection. The implant position can be viewed in three dimensions:

- Mesiodistal
- Orofacial
- Coronoapical

Note: The abutments should always be loaded axially. Ideally, the long axis of the implant is aligned with the cusps of the opposing tooth. Extreme cusp formation should be avoided as it can lead to unphysiological loading.

**Mesiodistal implant position**

The mesiodistal bone availability is an important factor for choosing the implant type and diameter as well as the inter-implant distances where multiple implants are placed. The point of reference on the implant for measuring mesiodistal distances is always the shoulder being the most voluminous part of the implant. Note that all distances given in this chapter are rounded off to 0.5 mm. The following basic rules must be applied:

<table>
<thead>
<tr>
<th>Rule 1</th>
<th>Rule 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
</tr>
</tbody>
</table>

**Rule 1**: Distance to adjacent tooth at bone level:
A minimal distance of **1.5 mm from the implant shoulder to the adjacent tooth** at bone level (mesial and distal) is required.

**Rule 2**: Distance to adjacent implants at bone level:
A minimal distance of **3 mm between two adjacent implant shoulders** (mesiodistal) is required.
The following examples show how the rules 1 and 2 are implemented in multiple tooth gaps. The measurement is made at bone level from the adjacent tooth to the center of the implant and between implant centers. The minimal distance of 3 mm between two adjacent implant shoulders (rule 2) is important to facilitate flap adaptation, to avoid proximity of secondary components and to provide adequate space for maintenance and hygiene practices at home.
**Orofacial implant position**

The facial and palatal bone layer must be at least 1 mm thick in order to ensure stable hard and soft tissue conditions. The minimal orofacial ridge widths for individual implant types are given in the indication in chapter 3. Within this limitation, a restoration-driven orofacial implant position and axis should be chosen such that screw-retained restorations are possible.

**Caution:** An augmentation procedure is indicated where the orofacial bone wall is less than 1 mm or a layer of bone is missing on one or more sides. This technique should be employed only by dentists who have adequate experience in the use of augmentation procedures.
**Coronoapical implant position**

Straumann dental implants allow for flexible coronoapical implant positioning, depending on individual anatomy, implant site, the type of restoration planned, and preference.

The Straumann® Bone Level Tapered Implant is best set with the outer rim of the small 45° sloping edge (chamfer) at bone level.

Ideally, in the esthetic region, the implant shoulder should be positioned about 3–4 mm subgingival of the prospective gingival margin. The round markings in the Loxim™ Transfer Piece indicate the distance to the implant shoulder in 1 mm steps.
4.2 PLANNING AIDS

The vertical bone availability determines the maximum allowable length of the implant that can be placed. For easier determination of the vertical bone availability, we recommend the use of an X-ray Template (Art No. 025.0003) with X-ray Reference Spheres (Art. No. 049.076V4).

4.2.1 Straumann® X-ray Templates

The Straumann® X-ray Templates are used for measurement and comparison. They also assist the user in selecting the suitable implant type, diameter and length. Similar to the distortions that occur in X-rays, the implant dimensions are shown on the individual templates with the corresponding distortion factors (1:1 to 1.7:1).

Determining each magnification factor or scale is facilitated by showing the X-ray Reference Sphere on the template. First, compare the size of the X-ray Reference Sphere on the patient’s X-ray with the size of the Reference Sphere on the template. Superimpose the two pictures to find the correct scale. Then, determine the spatial relations around the implant position, and establish the implant length and insertion depth.

4.2.2 coDiagnostiX®

There is also the possibility of digital planning using coDiagnostiX®. This 3D diagnostics and implant planning software is designed for the image-guided surgical planning of dental implants, including Straumann® Bone Level Tapered Implants, which are included in the digital library of the system. Working with the software is based on a patient’s medical image data such as a CT (Computed Tomography) and DVT (Digital Volume Tomography) that is processed by coDiagnostiX®.

Planning includes the calculation of several views (such as virtual OPG or a 3-dimensional reconstruction of the image dataset) and the analysis of the image data and the placement of implants, abutments and drilling sleeves.

coDiagnostiX® software is designed for use by professionals with appropriate knowledge in implantology and surgical dentistry. For further information, please refer to the coDiagnostiX® Manual.

Warning: For Straumann® Bone Level Tapered Implants use only the X-ray Template specific to the Straumann® Bone Level Tapered Implant.
4.2.3 Straumann® Implant Distance Indicator

The Straumann® Implant Distance Indicator is available for Straumann® Bone Level Implants (Art. No. 026.0901) and can be used for the Straumann® Bone Level Tapered Implants as well.

The four discs of the Implant Distance Indicator display the shoulder diameters of the Bone Level Implants. The Implant Distance Indicator can be used to check the available space before the start of treatment or intraoperatively to mark the desired implant site.

<table>
<thead>
<tr>
<th>Leg label</th>
<th>Disk diameter</th>
<th>Corresponding implants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leg 1</td>
<td>BL ∅ 4.1</td>
<td>∅ 4.1 mm</td>
</tr>
<tr>
<td>Leg 2</td>
<td>BL ∅ 4.1</td>
<td>∅ 4.1 mm</td>
</tr>
<tr>
<td>Leg 3</td>
<td>BL ∅ 3.3</td>
<td>∅ 3.3 mm</td>
</tr>
<tr>
<td>Leg 4</td>
<td>BL ∅ 4.8</td>
<td>∅ 4.8 mm</td>
</tr>
</tbody>
</table>

4.2.4 Straumann® Pro Arch Guide

For intraoperative visual and three-dimensional orientation of the implant angulation (mesial/distal) and oral parallelization, use the Straumann® Pro Arch Guide.

The Pro Arch Guide is used in edentulous jaws for surgical implant placement. The Pro Arch Guide can be easily bent to adapt to the dental arch. It is secured by drilling into the symphysis with a ∅ 2.2 mm Pilot Drill and a pin in the jaw. The drilling depth for the bone cavity of the pin is 10 mm. The drilling depth can be checked optically using the depth markings on the drills. For adjustment and disassembly use the TS Hexagonal Screwdriver (046.420).

For further information about treatment of edentulous patients and angulated placement of Bone Level Tapered Implants, please refer to the Basic information on fixed edentulous solutions treatment guide – Straumann® Pro Arch, NAMLIT 1060.
5 Surgical procedure

For preparing the implant bed the Straumann® Surgical Cassette is used for all implant lines. The specific instruments to be used for the Bone Level Tapered Implants are marked with two colored rings (see chapter 6.1 Depth marks on Straumann instruments).

Depending on the bone density (type 1 = very hard bone, type 4 = very soft bone) different drill protocols should be applied for the Bone Level Tapered Implant. This provides the flexibility to adjust the implant bed preparation to the individual bone quality and anatomical situation.

5.1 WORKFLOW

5.1.1 Straumann® Bone Level Tapered 3.3 mm NC

<table>
<thead>
<tr>
<th>Type</th>
<th>Very hard bone</th>
<th>Hard bone</th>
<th>Soft bone</th>
<th>Very soft bone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pilot</td>
<td>Ø 2.2 mm</td>
<td>Ø 2.8 mm</td>
<td>Ø 3.3 mm</td>
<td>Ø 3.3 mm</td>
</tr>
<tr>
<td>rpm max</td>
<td>800</td>
<td>600</td>
<td>300</td>
<td>15</td>
</tr>
</tbody>
</table>

Note: In soft bone and very soft bone situations with a dense cortex, it is recommended to use the Profile Drill to prepare the cortical aspect of the osteotomy.
5.1.2 Straumann® Bone Level Tapered 4.1 mm RC

**Recommended steps**

**Dense cortex only**

- **Type 1** Very hard bone
- **Type 2** Hard bone
- **Type 3** Soft bone
- **Type 4** Very soft bone

<table>
<thead>
<tr>
<th>Step</th>
<th>Pilot Ø 2.2 mm</th>
<th>BLT Drill Ø 2.8 mm</th>
<th>BLT Drill Ø 3.5 mm</th>
<th>Profile Drill Ø 4.1 mm</th>
<th>BLT Tap Ø 4.1 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>rpm max</td>
<td>800</td>
<td>600</td>
<td>500</td>
<td>300</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subgingival healing</td>
<td>Transgingival healing</td>
<td></td>
</tr>
<tr>
<td>Delayed function</td>
<td>Delayed function</td>
<td>Immediate function</td>
</tr>
</tbody>
</table>

**Note:** In soft bone and very soft bone situations with a dense cortex, it is recommended to use the Profile Drill to prepare the cortical aspect of the osteotomy.
5.1.3 Straumann® Bone Level Tapered 4.8 mm RC

**Note:** In soft bone and very soft bone situations with a dense cortex, it is recommended to use the Profile Drill to prepare the cortical aspect of the osteotomy.
5.2 IMPLANT BED PREPARATION

Implant bed preparation is described using a Straumann® Bone Level Tapered Implant Ø 4.1 mm/10 mm RC in very hard bone (type 1) as an example.

Step 1 – Prepare alveolar ridge and mark implant position
Carefully reduce and smooth a narrow tapering ridge with a large Round Bur. This will provide a flat bone surface and a sufficiently wide area of bone. Mark the implantation site determined during the implant position planning with the Ø 1.4 mm Round Bur.

Note: This step might be not applicable or different depending on the clinical situation (e.g. fresh extraction socket).

Step 2 – Implant axis and depth
With the Ø 2.2 mm BLT Pilot Drill, mark the implant axis by drilling to a depth of about 6 mm. Insert the Ø 2.2 mm Alignment Pin to check for correct implant axis orientation.
Use the Ø 2.2 mm BLT Pilot Drill to prepare the implant bed to the final preparation depth. If necessary, correct any unsatisfactory implant axis orientation.
Use the Ø 2.2 mm Alignment Pin again to check the implant axis and preparation depth.

Caution: At this point take an X-ray, particularly with vertically reduced bone availability. The Alignment Pin is inserted into the drilled area, which allows a comparative visualization of the drill hole in relation to the anatomical structures.

Step 3 – Widen implant bed to Ø 2.8 mm
Widen the implant bed with the Ø 2.8 mm BLT Drill. If necessary, correct the implant bed position. Use the Ø 2.8 mm Depth Gauge to check the preparation depth.
Step 4 – Widen implant bed to Ø 3.5 mm
Widen the implant bed with the Ø 3.5 mm BLT Drill. If necessary, correct the implant bed position.

Use the Ø 3.5 mm Depth Gauge to check the preparation depth.

Step 5 – Profile drilling
Shape the coronal part of the implant bed with the Ø 4.1 mm Profile Drill by using the orientation features as guidelines for vertical positioning.

Step 6 – Tap drilling
Precut the threads with the Ø 4.1 Tap Drill over the full depth of the implant bed preparation.

Caution: Profile Drills and Taps marked with two color rings must only be used for the Bone Level Tapered Implant system.
5.3 IMPLANT PLACEMENT

A Straumann implant can be placed with the Handpiece or manually with the Ratchet. If using a Handpiece, a maximum speed of 15 rpm is recommended.

Note: Straumann® Bone Level Tapered Implants must be rotationally oriented for both, Handpiece and Ratchet insertion (see Step 4).

The following step-by-step instructions show how a Bone Level Tapered Implant is placed with the Ratchet.

Step 1 – Attach Adapter
Hold the enclosed part of the implant carrier. Attach the Ratchet Adapter to the Loxim™. You hear a click when the Adapter is attached correctly.

Step 2 – Remove implant from the carrier
Pull down the implant carrier and simultaneously lift the implant out of the implant carrier (keep your arms steady).

Step 3 – Place implant
Place the implant with the Ratchet adapter into the implant bed. Use the Ratchet to move the implant into its final position turning it clockwise.
Step 4 – Correct implant orientation
While approaching the final implant position, make sure that the height markings on the blue transfer part are oriented exactly orofacially. This positions the four protrusions of the internal connection for ideal prosthetic abutment orientation. A turn to the next marking corresponds to a vertical displacement of 0.2 mm.

Step 5 – Remove instruments with Loxim™
The Loxim™ can easily be re-inserted to finish an uncompleted implant placement until the implant is fully inserted. If the implant needs to be removed during implantation surgery, the Loxim™ allows for counterclockwise turns. After insertion, detach the Loxim™ with the Adapter.

If an Insertion torque of over 35 Ncm is achieved before the implant has assumed its final position, check that the implant bed preparation is correct to avoid bone overcompression.

In the event the Loxim™ breaks, the remaining part of the Loxim™ in the implant must be removed and the implant, if not fitted correctly, has to be unscrewed with a 48h Explantation Device. After that the implant bed is to be re-prepared and a new implant has to be inserted. For further details, please consult the brochure Guidance for Implant Removal, USLIT 426 for USA and 152.806 (English) and 153.866 (French) for Canada.
5.4 SOFT TISSUE MANAGEMENT

After implantation, close the implant – hand-tightened – with a Closure Screw or a Healing Abutment to protect the implant. The surgeon can choose between subgingival and transgingival healing and has all options available for soft tissue management made possible through a set of secondary healing components.

Subgingival healing
For subgingival healing (healing under closed mucoperiosteal flap) the use of a Closure Screw is recommended. Submucosal healing is suggested in esthetic indications and for implantations with simultaneous guided bone restoration (GBR) or membrane technique. A second surgical procedure is required for uncovering the implant and insertion of the desired secondary component.

Transgingival healing – Delayed function
Straumann implants come with a versatile portfolio of Healing Abutments enabling soft-tissue sculpting during transgingival healing. They are recommended for intermediate use. After the soft-tissue healing phase they are replaced with the appropriate temporary or final restoration.

Transgingival healing – Immediate function
Straumann implants are suitable, within the scope of indications, for immediate and early restoration in single-tooth gaps and of edentulous or partially edentulous jaws. Good primary stability and an appropriate occlusal load are essential. For immediate provisional restoration, the Bone Level prosthetic portfolio offers a wide range of temporary and final abutments.

For further information please see the Basic Information on the Prosthetic Procedures – Straumann® Bone Level System, USLIT 232 for USA and CALIT 232 for Canada.
6 Instruments

6.1 DEPTH MARKS ON STRAUMANN INSTRUMENTS

Straumann instruments have depth marks in 2 mm intervals that correspond to the available implant lengths. The bold mark on the drills represents 10 mm and 12 mm, whereas the lower edge of the mark corresponds to 10 mm and the upper edge to 12 mm.

Warning: Due to the function and design of the drills, the drill tip is 0.4 mm longer than the insertion depth of the implant.

The specific Straumann® Bone Level Tapered implant instruments are marked with two colored rings for easy identification.

With the Straumann® Bone Level Tapered Implants a set of Alignment Pins and Depth Gauges are introduced that mimics the tapered shape of the implant. They replace the former instruments. The pins and depth gauges are compatible with all implant lines of the Straumann® Dental Implant System.

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Alignment Pins and Depth Gauges</th>
</tr>
</thead>
<tbody>
<tr>
<td>046.703</td>
<td>Alignment Pin, Ø 2.2, L 27 mm, Ti</td>
</tr>
<tr>
<td>046.704</td>
<td>Depth Gauge with Distance Indicator Ø 2.2 / 2.8 mm, L 27 mm, Ti</td>
</tr>
<tr>
<td>046.705</td>
<td>Depth Gauge, Ø 2.8, L 27 mm, Ti</td>
</tr>
<tr>
<td>046.706</td>
<td>Depth Gauge, Ø 3.5, L 27 mm, Ti</td>
</tr>
<tr>
<td>046.707</td>
<td>Depth Gauge, Ø 4.2, L 27 mm, Ti</td>
</tr>
</tbody>
</table>

Caution: Do not use the former Alignment Pins and Depth Gauges with the Bone Level Tapered Implant since they will indicate a wrong depth.
6.2 CLEANING AND CARE OF INSTRUMENTS

Careful treatment of all instruments is of the utmost importance. Even slight damage, for instance to the drill tips (e.g., when the drills are “thrown” into a bowl of water), impairs cutting performance and thus the clinical result. With correct and careful care, the high quality of the material and excellent workmanship ensure that the rotating instruments can be used repeatedly (up to a maximum of ten times is recommended). The Surgery Tracking Sheet for Straumann® Cutting Instruments, NAMLIT 1051, helps to give an overview of how often the individual instruments have already been used.

Straumann instruments with high cutting performance are a basic requirement for successful implantation. The following should therefore be remembered:

- Never allow instruments to land on their tips.
- Use each instrument only for its intended purpose.
- Never let surgical residues (blood, secretion, tissue residues) dry on an instrument; clean immediately after surgery.
- Thoroughly clean off incrustations with soft brushes only. Disassemble instruments, clean cavities especially well.
- Never disinfect, clean (also ultrasound) or sterilize instruments made of different materials together.
- Use only cleaning agents and disinfectants intended for the material and follow the instructions for use of the manufacturer.
- Rinse disinfectants and cleaning agents very thoroughly with water.
- Never leave or store instruments moist or wet.

For more detailed information please see the brochure Care and Maintenance of Surgical and Prosthetic Instruments, NAMLIT 1055.
6.3 STRAUMANN® SURGICAL CASSETTE

The Surgical Cassette is used for the secure storage and sterilization of the surgical instruments and auxiliary instruments of the Straumann® Dental Implant System. The Surgical Cassette is made of a highly shock-proof thermoplastic, which has been proven for years in the medical area and is suitable for frequent sterilization in the autoclave.

The unified color code represents the workflow you need to follow. For information on how to equip the Surgical Cassette, please see the brochure Instrument List for Straumann® Surgical Cassette, NAMILIT 1041.

- Endosteal implant diameter 3.3 mm
- Endosteal implant diameter 4.1 mm
- Endosteal implant diameter 4.8 mm

For guidelines for the sterilization of the Straumann® Surgical Cassette, please see the brochure Care and Maintenance of Surgical and Prosthetic Instruments, NAMILIT 1055.
# 7 Instrument reference list

## 7.1 INSTRUMENTS

<table>
<thead>
<tr>
<th>Art. No.</th>
<th>Article</th>
<th>Dimensions</th>
<th>Material</th>
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<td>026.0001</td>
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<td>Length 33 mm, Ø 2.2 mm</td>
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<td>026.0002</td>
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<td><strong>Alignment Pin and Depth Gauges</strong></td>
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<td>046.703</td>
<td>Alignment Pin</td>
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<td>Titanium</td>
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<tr>
<td>046.704</td>
<td>Depth Gauge, with Distance Indicator</td>
<td>Length 27 mm, Ø 2.2/2.8 mm</td>
<td>Titanium</td>
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<tr>
<td>046.705</td>
<td>Depth Gauge</td>
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<td>Depth Gauge</td>
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<td>046.707</td>
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### 7.2 Auxiliary Parts

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<th>Art. No.</th>
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<td>046.119</td>
<td>Ratchet includes service instrument</td>
<td>Length 84 mm</td>
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<tr>
<td>045.111V4</td>
<td>Cleaning Brush for Ratchet</td>
<td>Length 100 mm, Ø 4.5 mm</td>
<td>Stainless steel/Nylon</td>
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<td>046.049</td>
<td>Torque Control Device for Ratchet</td>
<td>Length 82 mm</td>
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<td>046.064</td>
<td>Holding Key</td>
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<tr>
<td>026.2558</td>
<td>Release Aid N for Loxim™</td>
<td>Length 90 mm</td>
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<td>026.4558</td>
<td>Release Aid R/W for Loxim™</td>
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<td>Length 28 mm</td>
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<td>046.470</td>
<td>Adapter for Handpiece, extra short</td>
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<td>046.471</td>
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<td>046.472</td>
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<td>046.411</td>
<td>SCS Screwdriver for Handpiece, short</td>
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<td>046.421</td>
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<td>026.0016</td>
<td>Straumann® Pro Arch Guide</td>
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</table>
8 Important guidelines

Please note
Practitioners must have appropriate knowledge and instruction in the handling of the Straumann products or other Straumann products ("Straumann Products") for using the Straumann Products safely and properly in accordance with the instructions for use.

The Straumann Product must be used in accordance with the instructions for use provided by the manufacturer. It is the practitioner’s responsibility to use the device in accordance with these instructions for use and to determine, if the device fits to the individual patient situation.

The Straumann Products are part of an overall concept and must be used only in conjunction with the corresponding original components and instruments distributed by Institut Straumann AG, its ultimate parent company and all affiliates or subsidiaries of such parent company ("Straumann"), except if stated otherwise in this document or in the instructions for use for the respective Straumann Product. If use of products made by third parties is not recommended by Straumann in this document or in the respective instructions for use, any such use will void any warranty or other obligation, express or implied, of Straumann.

Availability
Some of the Straumann Products listed in this document may not be available in all countries.

Caution
In addition to the caution notes in this document, our products must be secured against aspiration when used intraorally.

Validity
Upon publication of this document, all previous versions are superseded.

Documentation
For detailed instructions on the Straumann Products contact your Straumann representative.

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Explanation of the symbols on labels and instruction leaflets

- **LOT** Batch code
- **REF** Catalogue number
- **STERILE R** Sterilized using irradiation
- Lower limit of temperature
- Upper limit of temperature
- Temperature limitation
- **Rx only** Caution: Federal law restricts this device to sale by or on the order of a dental professional.
- Number of use less one
- **Non-sterile** Non-sterile
- Caution, consult accompanying documents
- **Use by**
- Keep away from sunlight
- Straumann Products with the CE mark fulfill the requirements of the Medical Devices Directive 93/42 EEC
- Consult instructions for use
- Do not use if packaging is damaged
1 Norm ASTM F67 (states min. tensile strength of annealed titanium). Data on file for Straumann cold-worked titanium and Roxolid (R) Implants.
2 Fatigue strength according to ISO 14801 internal tests.
5 Nicolau, P., Korostoff, J., Ganeles, J., Jackowski, J., Krafft, T., Neves, M., Divi, J., Rasse, M., Guerra, F., Fischer, K. Immediate and early loading of chemically
7 Lang, NP, Salvi, GE, Huynh-Ba, G., Ivanovski, S., Donos, N., Bosshardt, DD. Early osseointegration to hydrophilic and hydrophobic implant surfaces in humans.
Notes
<table>
<thead>
<tr>
<th><strong>International Headquarters</strong></th>
<th><strong>Straumann North American Headquarters</strong></th>
</tr>
</thead>
<tbody>
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<td>Institut Straumann AG</td>
<td>60 Minuteman Road</td>
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<td>Peter Merian-Weg 12</td>
<td>Andover, MA 01810</td>
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<td>Fax 978/747 2490</td>
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<td><a href="http://www.straumann.us">www.straumann.us</a> • <a href="http://www.straumann.ca">www.straumann.ca</a></td>
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