NobelGuide® for NobelActive®

Instructions for use

Important: Please read.

Disclaimer of liability:
This product is part of an overall concept and may only be used in conjunction with the associated original products according to the instructions and recommendation of Nobel Biocare. Non-recommended use of products made by third parties in conjunction with Nobel Biocare products will void any warranty or other obligation, express or implied, of Nobel Biocare. The user of Nobel Biocare products has the duty to determine whether or not any product is suitable for the particular patient and circumstances. Nobel Biocare disclaims any liability, express or implied, and shall have no responsibility for any direct, indirect, punitive or other damages, arising out of or in connection with any errors in professional judgment or practice in the use of Nobel Biocare products. The user is also obliged to study the latest developments in regard to this Nobel Biocare product and its applications regularly. In cases of doubt, the user has to contact Nobel Biocare. Since the utilization of this product is under the control of the user, they are his/her responsibility. Nobel Biocare does not assume any liability whatsoever for damage arising thereon. Please note that some products detailed in this Instruction for Use may not be regulatory cleared, released or licensed for sale in all markets.

Description:
The guided surgery system is designed for dental implant treatment of edentulous and partially edentulous jaws including patients missing a single tooth. The system enables a predictable and if indicated minimal invasive endosseous implant installation and partially edentulous jaws including patients missing a single tooth. The system is intended to facilitate implant installation with high predictability and contribute to better restoration of these implants placed in both mandible and maxilla.

Intended use:
The NobelGuide® guided surgery system is intended to transfer a treatment planning done by the clinician into a physical/ clinical reality. The system is intended to facilitate implant installation with high predictability and contribute to better restoration of these implants placed in both mandible and maxilla.

Indications:
The guided surgery concept is indicated for the treatment of edentulous and partially edentulous jaws (including patients missing a single tooth) for placement of implant fixtures, if indicated in combination with immediate function to restore esthetics and functionality (e.g.) masticatory, speech. The following prequisites must be fulfilled:
- Adequate amount jawbone.
- The quality of jawbone must be judged as adequate.
- Adequate mouth opening (minimum 40 mm) to accommodate guided surgery tooling.
- Adequate compliance.

Note:
For Contraindications, Warnings and Caution for NobelActive® implants please refer to applicable NobelActive® implant Instructions for Use.

Contraindications:
It is contraindicated to place NobelActive® implants in patients:
- Who are medically unfit for an oral surgical procedure.
- With inadequate bone volume unless an augmentation procedure can be performed.
- In whom adequate sizes, numbers or desirable position of implants are not achieved to provide safe support of functional or eventually parafunctional loads.
- Allergic or hypersensitivity to pure titanium grade 4, stainless steel or surgical template material acrylate-based photopolymer.

Warnings:
- Failure to recognize actual lengths of drills relative to radiographic measurements can result in permanent injury to nerves or other vital structures. Drilling beyond the depth intended from lower jaw surgery may potentially result in permanent numbness to the lower lip and chin or lead to a hemorrhage in the floor of the mouth.
- Besides the mandatory precautions for any surgery such as asepsis, during drilling in the jaw bone, one must avoid damage the nerves and vessels by referring to anatomical knowledge and preoperative radiographs.

Cautions:
General:
One hundred percent implant success cannot be guaranteed. Especially, nonobservance of the indicated limitations of use and working steps may result in failure.

Treatment by means of implants may lead to loss of bone, biologic or mechanical failures including fatigue fracture of implants.

Close cooperation between surgeon, restorative dentist and dental laboratory technician is essential for a successful implant treatment. It is strongly recommended that NobelActive® implants are used only with Nobel Biocare surgical instruments and prosthetic components, as combining components that are not dimensioned for correct mating can lead to mechanical and/or instrumental failure, damage to tissue or unsatisfactory esthetic results.

It is strongly recommended that clinicians, new as well as experienced implant users, always go through special training before undertaking a new treatment method. Nobel Biocare offers a wide range of courses for various levels of knowledge and experience. For more information please visit www.nobelbiocare.com.

Working the first time with a colleague, experienced with the new device/treatment method, avoids eventual complications. Nobel Biocare has a global network of mentors available for this purpose.

Before surgery:
Careful clinical and radiological examination of the patient has to be performed prior to surgery to determine the psychological and physical status of the patient.

Pre-operative hard tissue or soft tissue deficits may yield a compromised esthetic result or unfavorable implant angulations.

Before performing guided surgery, the delivered surgical template must be carefully inspected and cleared by the clinician performing the surgery. Optimal fit on stone model and in patient’s mouth needs to be verified. If in doubt, please contact Nobel Biocare technical support.

At surgery:
Particular caution should be used when placing narrow platform implants in the posterior region due to risk of prosthetic overload.

All instruments and tooling used in surgery must be maintained in good condition and care must be taken that instrumentation does not damage implants or other components.

Because of the small size of the devices, care must be taken that they are not swallowed or aspirated by the patient.

After implant installation, the surgeon’s evaluation of bone quality and initial stability will determine when implants may be loaded. Lack of adequate quantity and/or quality of remaining bone, infection and generalized diseases may be potential causes for failure of osseointegration both immediately after surgery, or after osseointegration is initially achieved.

After surgery:
To secure the long-term treatment outcome it is advised to provide comprehensive regular patient follow up after implant treatment and to inform about appropriate oral hygiene.

Surgical procedure:
If applicable, anchor the surgical template using an adequate number of anchor pins placed with strategic positioning and orientation to secure the surgical template in the correct position. During surgery maximum attention must be paid to secure the surgical template in the correct position in the patient’s mouth and that it does not move in any direction from the correct position when being manipulated with instruments (e.g. lateral shift through inadequate handling of twist drills in “knife-edge ridge” situations or shift/defomation of surgical template due to excessive vertical force application during implant installation). In situations where two or more neighboring implants are placed, regardless if it is a free-end situation or a situation with one or more distal teeth for support of the surgical template, it is recommended to use at least one anchor pin in this area. If necessary, place implants in a staggered approach.
1. If a flawless procedure is chosen, it is recommended to use the Guided Soft Tissue Punch. Ensure that any other instruments are used to generate a clean cut. The surgical template can be temporarily detached after punching to carefully remove the punched soft tissue. The surgical template is carefully repositioned and the anchor pins are placed back into the existing anchorage holes in the bone.

If a mini-flap procedure is chosen, it is recommended that the surgical template is first repositioned and the anchor pins placed prior to any manipulations of the flap. Remove the anchor pins and surgical template, perform the incision, respecting the position of the implants and elevate the flap. If required, carefully modify the surgical template by relieving as much material as required to accommodate the flap, rinsing with sterile saline solution prior to carefully repositioning.

2. During drilling procedures bone quality should be considered. (See Table 1 for recommended drill sequences based on bone quality to ensure optimal primary stability when applying Immediate Function). Use the Guided Start Drill prior to the Guided Twist Drill (with appropriate Guided Drill Guide) to create a start point for the following drill. Then select the appropriate Guided Drill Guide based on the size of the implant and the Guided Twist/Step Drill. This is mandatory to use the Guided Screw Tap.

3. Prepare implant site.

4. Following preparation of the osteotomy using the Guided Twist/Step Drills, it is mandatory to use the Guided Screw Tap.

Table 1

<table>
<thead>
<tr>
<th>Implant Diameter</th>
<th>Soft bone</th>
<th>Medium bone</th>
<th>Dense bone</th>
</tr>
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<tr>
<td>5.5</td>
<td>Ø2.0</td>
<td>Ø2.0</td>
<td>Ø2.0</td>
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<td>Ø2.4/2.8</td>
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<td>Ø2.8/3.2</td>
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<tr>
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<td>Ø2.8/3.2</td>
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<td>Ø2.0</td>
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<tr>
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<td>Ø4.2/4.6</td>
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<td>Caution: Guided Twist/Step Drills are identified by the (10+) designation on the shaft. This indicates the drills are 10mm longer than the &quot;freehand&quot; Twist/Step Drills to compensate for the height of the surgical template and the Guided Drill Guide. The depth marks on the Guided Twist/Step Drills correspond to 7, 10, 13, and 18mm implants for 7-13mm drills and 7, 10, 13, 15, and 18mm for 7-18mm drills (A). The level should be measured with the Guided Drill Guide in place. Drills extend 1mm longer than the implant when seated (B). Allow for this additional length when drilling near vital anatomical structures.</td>
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6. Remove the surgical adaptor and continue with implant insertion using the Connection to Handpiece and drilling unit. NobelActive® implants are ideally installed with low speed, maximum 25 rpm using the drilling unit. Final implant insertion can be done manually using the Manual Torque Wrench Surgical. The maximum insertion torque for the implant is 70 Ncm for NobelActive® Ø3.5, Ø4.3, Ø5.0 and Ø5.5 implants (for all others 45 Ncm) and may be measured with the NobelActive® Manual Torque Wrench Surgical. Stop tightening the implant when the Guided Implant Mount touches the surgical template.

Caution: Never exceed insertion torque of 70 Ncm for NobelActive® Ø3.5, Ø4.3, Ø5.0 and Ø5.5 implants (for all others 45 Ncm). Over tightening an implant may lead to damage of the implant, fracture or necrosis of the bone site.

Note: The Guided Implant Mount NobelActive® includes a vertical stop. The implant mount body has the same outer diameter as the implant platform and therefore is smaller than that of the guided sleeve in the template sleeve see Table 2 and (G). This makes it possible to plan and place the implants sub-crestally without the removal of additional bone on the neighboring crest only to allow for the implant mount diameter to pass. Additionally this allows for measuring real clinical torque values between implant and bone.

Table 2: Diameter and diameter references

<table>
<thead>
<tr>
<th>NP</th>
<th>RP 4.3</th>
<th>RP 5.0</th>
<th>WP 5.5</th>
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<td>Ø3.90</td>
<td>Ø3.90</td>
<td>Ø5.08</td>
</tr>
</tbody>
</table>

Diameter and diameter difference in mm

7. If the implant gets stuck during implant installation or 70 Ncm for NobelActive® Ø3.5, Ø4.3, Ø5.0 and Ø5.5 implants (for all others 45 Ncm) is achieved before fully seated, rotate the implant counter clockwise approximately ⅛ turn enabling use of self-tapping capacity of implant or back out implant, replace in inner casing before proceeding further and widening the site. Without removing the surgical template, continue with implant installation until desired position is achieved. For Immediate Function, the implant should be able to withstand a final torque of 35–70 Ncm.

8. In partially edentulous and edentulous situations the Guided Implant Mount can be replaced by the Guided Template Abutment on the first 1–2 implants. Release the Guided Implant Mount using the UniGrip™ Screwdriver and remove the implant mount. Anchor the surgical template using the Guided Template Abutment, tightening manually using the UniGrip™ Screwdriver. Ensure the surgical template maintains its initial correct position for the next implant site preparation.

9. Prepare and install the remaining implant sites.

10. Once all implants are installed, remove Guided Implant Mounts and Guided Template Abutments using the UniGrip™ Screwdriver. Remove anchor pins, if applicable and remove the surgical template.

11. Depending on the surgical protocol of choice, place a cover screw or abutment and suture.

For additional information on surgical procedures please consult the "Procedures & products" treatment guidelines for NobelGuide® available at www.nobelbiocare.com or request the latest printed version from a Nobel Biocare representative.

For additional information on the NobelGuide® surgical templates and related surgical procedures, please refer to the Instructions for Use NobelGuide® Surgical Template.

For additional information on the NobelActive® implant please refer to the NobelActive® Instructions for Use.

For additional information on the NobelClinician® Software please refer to the NobelClinician® Instructions for Use.

Materials:
All components contained in the NobelActive® Guided Surgery Kits, as listed in the “Description” section, are made from stainless steel.

Cleaning and sterilization instructions:
The device is delivered non-sterile and intended for re-use. This device must be cleaned and sterilized prior to use.

For USA: Seal single device in a pouch and steam sterilize at 720°F (132°C) for 3 minutes.

For outside USA: Seal single device in a pouch and steam sterilize at 122°C–135°C (270°F–275°F) for 3 minutes.

Alternative UK: Seal single device in a pouch and steam sterilize at 134°C–135°C (270°F–275°F) for 3 minutes.

Caution: Use of non-sterile device may lead to infection of tissues or infectious diseases.

Full set of recommended parameters are provided in "Cleaning & Sterilization Guidelines including MRI Information of Nobel Biocare Products" available at www.nobelbiocare.com/sterilization or request latest printed version from a Nobel Biocare representative.

MR safety information:
Note: For Implant MR safety information please refer to applicable Implant IFU.
Please note that the product has not been evaluated for safety and compatibility in the MR environment. The product has not been tested for heating or migration in the MR environment. For additional information on Magnetic Resonance Imaging, please consult the “Cleaning & Sterilization Guidelines including MRI Information of Nobel Biocare Products” available at www.nobelbiocare.com/sterilization or request latest printed version from a Nobel Biocare representative.

Storage and handling:
The product must be stored in a dry place in the original packaging at room temperature and not exposed to direct sunlight. Incorrect storage may influence device characteristics leading to failure.

After sterilization, place the devices in a dry and dark place such as a closed cupboard or drawer. Follow the instructions of the manufacturer of the sterilization pouch regarding storage conditions and expiration date of sterilized goods.

Disposal:
Disposal of the device shall follow local regulations and environmental requirements, taking different contamination levels into account.

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Prescription device: Rx only
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