

SLH Dental Implant System Instructions for Use

Definitions

SLH Dental implants are medical devices that intended to be surgically placed in the bone of maxillary and/or mandibular arches to support prosthetic restorations for restoration of the patients' chewing function.

The implants are manufactured from ISO 5832-2 pure titanium Grade 4 to fulfill the requirements of 93/42/EEC medical devices directive.

SLH Dental Implant is recommended for delayed loading after 12 weeks.

SLH Implants are non-pyrogenic. Implants are provided as sterile in a hermetic tube with a blister package and are for single use. Do not sterilize again.

Surface Specification

SLH Dental Implants have Maxicell® surface. The surface is sand blasted and processed in acid baths. Following its special cleaning steps, the surface gains its hydrophilicity.

Patient Information

Surgery site must be clean before and after operation. The patient must be well informed about cleaning of the surgical area. The implant site should not be exposed with pressure due to chewing function. For a more detailed explanation please refer to Patient Information Brochure

Packaging

SLH Dental Implants are protected with double barrier system as primary packaging (tube) and secondary packaging (blister). Implants are placed in hermetically sealed tubes. Tubes are placed in blister package and are sterilized; and delivered to final packaging process as sterilized.

Labeling

SLH Dental Implants are provided with tube label, tyvek label and box label. These labels enables to control the lot number in three different stage. The diameter label that is present on the tube states the diameter and length of the implant. Diameter labels are color coded for different diameters.

Sterilization

SLH Dental Implants are provided as sterile. Implants are sterile washed under Class 10.000 and packed under Class 100 clean room technology. Implants are placed in hermetically sealed tubes and sterilized by 25-40 kGy of gamma irradiation. Gamma sterilization is protected until the best before if the packaging is not harmed. The proper storage conditions that is present on the package are 18-28° and %40-%60 moisture must taken seriously to protect sterilization.

Cautions

-SLH Dental Implant System products are produced by NucleOSS Europe GmbH. Brand usage and sale of the products can be conducted only by Nucleoss Europe GmbH and partner firms.

-SLH Dental Implant system models should apply accordingly with SLH Surgical and Prosthesis Surgical Protocols. It is advised to wait at least 3 months (12 weeks) for osseointegration after surgery.

-Implants are in sterile packaging.

-Do not open the tube cover before use under any circumstances. Do not use the implant tubes that is opened or became deformed.

-Keep it away from the child reach.

-If the impression and transfer part is present inside the implant package, this part might broken in case of using it as tightening part. Tightening must be actualized with tightening part.

-It is important to decide on the implant that is suitable as diameter and length for implementation site. Advised implementation sites are present in the relevant product catalogs.

-Apply adequate number of implants with suitable diameters in an axis with compatible with the dentition.

-Use the proper drill compatible with diameter and length.

-Inform the patient before and after surgery.

-Adequate general state of health of the patient is necessary.

-Implant tube must removed from the blister to sterile laboratory cloth by wearing handgloves.

-Implants with broken protection ring or harmed package must not be used.

-To avoid the risk of contamination, the implant must insert to the bed in the moment of taking it out of the sterile tube without touching it or contacting anywhere.

-Bone development of the patient must be considered for the implant treatment.

Caution!

Previously used implants cannot be used again. Use only the SLH and NucleOSS Dental System components and surgical kits. Manufacturer will not take responsibility in case of using the parts of other systems.

Caution!

If tube consists of cover which is also colored accordingly with its platform diameters, must transfer on implant by hex driver and handtight to cover the implant. Otherwise, the tissue might fill the implant and create risk factor.

Traceability

A Lot number is written in each package. Also, each package contains three Lot number sticker. In order to trace back the product, this Lot number stickers must be attached to the patient's file and panoramic x-ray.

Indications

SLH Dental Implants are medical devices that intended to be surgically placed in the bone of maxillary and/or mandibular arches to support prosthetic restorations for restoration of the patients' chewing function.

Contraindications

Hypertension, cardiovascular diseases, diabetes, bone metabolism disturbances, uncontrolled bleeding disorders, inadequate wound healing capacity, inadequate oral hygiene, serious internal medical problems, maxillary and mandibular growth not completed, poor general state of health, uncooperative and unmotivated patient, drug/alcohol/tobacco abuse, psychoses, long term treatment resistant functional disorders, xerostomia, granulocytopenia, Ehlers Danlos syndrome, radiation therapy, osteoradionecrosis, weak immune system, kidney failure, organ transplantation, fibrous dysplasia, crohn disease, use of steroids, corticosteroids or anticonvulsant usage, prophylactic antibiotics, creatinin, serum calcium, titanium allergy, uncontrolled endocrine disorders, anticoagulation medicines, hemorrhagic diathesis, bruxism, parafuncional habits, unfavorable anatomic bone conditions, uncontrolled periodontitis, temporomandibular joint disorders, treatable pathologic of jaw, changes in the oral mucosa, pregnancy, breastfeeding, osteoporotic crush fracture, respiratory disease, thyroid or parathyroid diseases. Active osteolytic patients, inflammatory, diagnosed malignancy, modular enlargements, tenderness, the patients with unexplained lump in the neck or head, infectious process in the implanting site, unrealistic patient expectations, unattainable prosthodontics reconstruction, lack of adequate training of physician.

Risks

The risks may include inadvertent perforation of the nasal and maxillary sinus, local and systemic infections, perforation the soft tissue, nerve damage, temporary bumps and pain due to implantation, speech problems and gingivitis.

Nerve, local or systemic bacterial infections and inactive endocarditis in susceptible individuals are included as the long term problems. Inaccurate implantation might risk the present dental axis.

Surgical Guide

Do not insert the implant in high torque or speed (15 rpm). If it feels any difficulty, the practician must step back, extract the implant and check for the implant bed and drills.

MRI Safety Information

Non-clinical testings demonstrated that the SLH Dental Implant System is MR Conditional.

A patient with this device can be scanned safely, immediately after placement in an MR system meeting the following conditions:

-Static magnetic field of 1.5 T and 3.0 T

-Maximum spatial field gradient of 4,000 gauss/cm(40 T/m)

-Maximum MR system reported, whole body averaged specific absorption rate (SAR) 2 W/kg (Normal Operating Mode)

Under the scan conditions defined above, the SLH Dental Implant System is expected to produce a maximum temperature rise of less than 1.7° after 15 minutes of continuous scanning.

In non-clinical testing, the image artifact caused by the device extends approximately 5 mm from the implant when imaged with a gradient echo pulse sequence and a 3.0 MRI system.

Superstructures

SLH Dental Implant System offers dentists a rich abutment options that can be used for all bodies with different purposes. These are defined as cemented solutions, screw-in solutions, custom solutions, overdenture solutions, cad-cam solutions and scanning bodies, auxiliary prothetic parts, temporary parts. The product compatibility according to platform diameter and length of abutments can be seen in relevant catalogs of the products.

Abutments are only suitable for the bodies of SLH Dental Implant System. The failure that is caused by using with other systems might hurt the patient.

All abutments belong to SLH Dental Implant System are produced out ISO 5832-3 Grade-5 Titanium and nonsterile and presented for sale. They must sterilize by the last user.

Sterilization

Titanium superstructures recommended sterilization condition as follows;

Method	Moist heat sterilization according to ISO 17665
Cycle	Pre-vacuum
Temperature	132° C / 270° F
Exposure Time	4 minutes
Pressure	2.2 bar
Pre-vacuum	3 times < 60 mbar
Minimum drying time	30 minutes in chamber

-Do not storage the products after sterilization.

-Minimum validated sterilization time and temprature required to achieve a -10 sterility assurance level.

Note: Sterilization parameters and methods shown are validated by SLH Dental implants.

According to EN ISO 17665, the final responsibility for validation of sterilization techniques and equipment lies directly with the practitioner. All autoclaves/sterilizers should be validated and maintained in accordance with EN ISO 17665-1.

Indications

SLH abutments and prosthetic parts are intended for use with SLH Dental Implant in the maxillar and mandibular arches to provide and support for crowns, bridges or overdentures for edentulous or partially edentulous cases.

Contraindications

Allergy may be developed to submaterials of the superstructures. Titanium, Gr-5 titanium alloy (titaniumaluminiumvanadium), PEEK(Polietheretherketone), POM(Polyoxymethylen) allergies must be considered.

Cautions

In case of not considering the cautions below, complications may occur as parts slipping into trachea or getting swallowed.

For dental technicians:

Make sure to protect the parts of abutments that goes inside the implant or this process must complete while abutment is connected to analog.

Abutment must be placed on the model by controlling if its in the right direction and must make sure that it fits perfectly. Abutment must be stabilized by abutment screw and handtight only (max. 10 Ncm). After this point, the accurate prosthesis for the treatment must be formed and extracted from the model by proper hex driver.

For dental professionals:

Clinician takes the abutments comes from the laboratory, and takes the temporary restorations, cover screws or gingiva formers out of the patient's mouth. After cleaning, disinfecting and sterilizing the prosthesis parts coming from the laboratory, the application must be followed as the given appropriate torque values.

-In case of tightening abutments more or less than the advised torque values, abutment or implant might fail.

See below for recomended torque values;

Torque Values for SLH Part

All Covers and Gingiva Formers	Hand/Ratched (10Ncm)
All Cemented Abutment Srews Max.	30 Ncm
Temporary (PEEK) Parts and Screws	10 Ncm
Multi Unit Abutments	Max. 30 Ncm
Abutment Occlusional Screw	20 Ncm
All Cap Screws	10 Ncm
All Universal Casting Abutment Screws	Max. 30 Ncm
Ball Abutments	Max. 30 Ncm
Equator® Abutments	Max. 30 Ncm
CAD-CAM Ti-Base Abutment Screws	Max. 30 Ncm

Caution: Products must be used right after sterilization. Sterilization conditions are given above.

Covering the Screw Channel:

Before inserting the crown on abutment, abutment screw channel must be covered with sealing component(teflon). This process enables to take the abutment out if that is needed afterwards.

Adjustment to the Patient's Anatomy:

PEEK, Titanium or Titanium Alloy abutments may shortened until the top level of the connection screw, if needed to adjust to the patient's anatomy.

Caution!

Temporary abutments should not stay in patients' mouth more than exposure time. Exposure time for temporary abutment (Ti, PEEK) is 180 days.


Warning Signs


 Catalog Number


 Lot number

 For single use only


 Sterile by gama irradiation

 Do not use if package is damaged

 Consult operating instructions

 Use before expiry date

 Manufacturer

 MRI Safety Information

 Cautions

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