INSTRUCTIONS MANUAL
FOR DENTISTS AND DENTAL TECHNICIANS
OT EQUATOR BIOLOGIC ABUTMENT

ONE BRAND, MULTIPLE SOLUTIONS

OT EQUATOR BIOLOGIC ABUTMENT can be considered as the most advanced and versatile attachment for titanium implants. Created as an evolution of the OT CAP sphere, it maintains the advantages of its size minimization. It is also available for every fixture brand and model. The flexibility of this multi-purpose system ranges from overdenture to OT EQUATOR BIOLOGIC ABUTMENT, single attachment, from multiple types of bar to fixed rehabilitations.

A technique for immediate loading has also been developed that allows you to apply a temporary THREAD-REINFORCED ACRYLIC bridge attached to the implants on the patient in the same session following surgery. To complete the system, it was decided to use the OT EQUATOR attachment for a new series of titanium transmucosal MINI-MEDIO IMPLANT.

Immediate loading in a combined prosthesis can be distributed more evenly on these reduced diameter fixtures thanks to the passive “SEEGER BAR”. The same advantages are obtained in the “SEEGER BRIDGE” fixed prosthesis.

BIOLOGY AND PARALLELISM

This system has solved two problems. By mounting the OT Equator Biologic attachment during surgery instead of the healing screw, the ligament formed between the soft tissue and the titanium abutment remains a defense with the passage of time.

The screwing rotating system between the attachment and the implant (two mechanized and precise planes) creates a perfect closure that allows for hardly any infiltration. In contrast, other systems (such as MUA) with a male and a female hexagonal coupling are inserted in contact with a through screw, which more seldom than not reveal inaccuracies under a microscopic inspection. Furthermore, the screw threading from the outside to the inside of the implant is a potential conductor channel of germs and bacteria that may contaminate the interior of the fixture.

Parallelism: 70/80 degrees of divergence are recovered with the Equator system in a very simple way without any future problems of unscrewing or the breakage of screws.

The revolutionary concept of this type of prosthesis lies in the retention system, no longer entrusted to the screw alone, but assisted by the SEEGER elastic element inserted in the undercut of the OT EQUATOR attachment. The creation of any bridge is a simple operation thanks to the tolerances calculated between the attachment and the prefabricated parts that are used for its construction. The system has the prerogative of simplifying the technique of the fixed prosthesis screwed on implants in all its operating phases, with immediate loading ones as well as deferred loading, and also with divergences over 70 degrees. The system is presented as a universal technique thanks to the versatility of the OT EQUATOR attachment, which can be applied to all types of implants on the market. It also addresses cases (with amazing implant simplicity) where there are already various implant types and intends to transform previously overdentures into fixed prostheses, through the insertion of additional fixtures.
The OT Equator Biologic Abutment attachments for a Seeger Bridge fixed prosthesis are custom made for all types and brands of implants in the world.

The attachments for well-known implant brands are shipped on the same day.
Lesser known implants are shipped within 3-4 days of order.

(H) heights of the abutments:
- For internal hexagon implants (H) from 0.5 to 7 mm
- For external hexagon implants (H) from 2 to 7 mm

Autoclavable Assortment KIT 42 OBA attachments
Customized on demand.

IMPORTANT: THE ONLY SERVICE IN THE WORLD
Our laboratory is able to identify and build to measure the OT Equator Biologic Abutment attachment for unknown implants or for those difficult to identify, even if they are already in the patient's mouth. In such a case, it is necessary to provide one or more of the following information:

- a healing screw
- an abutment with a screw removed from the implant
- an impression made with elastic material taken from the inside of the implant
- an intraoral or panoramic x-ray

To place an order for OT Equator Biologic Abutment attachments
Please, provide the following information:
- types and brands of the implants
- diameter of the implants
- height of the gum (H) from 0.5 to 7 mm

To order, please download the order form from the website:
www.otimplant.com
The OT Equator Biologic Abutment attachment should always be mounted on the head of the implant during surgery instead of the healing screw and should not be removed again. By doing this, you achieve an epithelium-connective biological junction that ensures an effective barrier against bacterial infiltration, significantly reducing the risk of periimplantitis.

To maintain the health of the gingival tissues, the OBA attachment will no longer be removed. All subsequent sessions with the patient (impression taking, prosthesis testing and application) will be carried out on the sphere of the OT Equator Biologic Abutment. As there is no further need to work inside the fixture, all sessions are brief and without anesthesia since they pose neither discomfort nor pain to the patient.
TRANSFERS OF THE IMPRESSION AND FIXED SEEGER BRIDGE PROSTHESIS ANALOGUES

- Titanium transfer with screw for pick-up impression
- Plastic snap transfer for taking impressions
- Plastic snap immediate-loading Mini Transfers

**OT Equator Inox analogues**

- Ø 4 mm
- Ø 5 mm

**OT Equator analogues in aluminium**

- Ø 4 mm
To ensure that the prosthesis fits on divergent implants, we need to build a very solid and rigid acrylic block with embedded Extragrade titanium cylindrical abutments, appropriately positioned with the indented rim in the direction of the undercut. The acrylic block should be tested on both the model and in the patient’s mouth. If these tests are successful, it confirms that the prosthesis fits properly and that the model replicates the patient’s mouth precisely. By inserting and removing the prosthesis from the model, it is possible to see the insertion line that the dentist will repeat in the patient’s mouth.

Since the OT Equator Biologic Abutment attachment is already fixed in the patient's mouth and should no longer be removed, the dentist can perform some tests in a new and simpler way compared to previous techniques. The acrylic plate, with two retentive caps inserted and with the wax wall above, will prove stable on the attachments in the patient’s mouth, allowing the dentist to create an occlusal plane on the wax without having to remove it and return it to the patient’s mouth again and again.

Thanks to the stability of the wax block (once the occlusal plane and the vertical dimension are defined), the patient leaves an impression in the wax with “OPEN-CLOSE-OPEN-CLOSE” movements with the antagonist teeth (the intercuspal in neuromandibolar position). The dentist also confidently obtains the centric relation position.
STABLE TEETH TEST IN THE MOUTH ON THE ATTACHMENTS

With the models mounted in the articulator, the wax is removed from the acrylic plate. The technician blocks the test teeth (also commercial teeth) on the plate with wax and completes the modeling of the prosthetic body by giving it the size and aesthetics corresponding to those of the finished prosthesis.

The acrylic plate with the teeth mounted in wax (stable in the mouth on the OT Equator attachments) allows the patient to try out the phonetics, to judge the aesthetics and possibly make suggestions. The dentist can technically evaluate the work at the same time.

FINISHED PROSTHESIS

Finished prosthesis following the prosthetic protocol. These three tests performed on the patient in just two sessions of about 20 minutes each make it possible to finish the prosthesis with the certainty of delivering an aesthetically and technically perfect functional prosthesis to the patient.
Extragrade cylindrical abutments in titanium with through-screws and castable housing

Extragrade cylindrical abutments in titanium with through-screws are used in all prostheses where the divergence does not create any aesthetic problems through leakage of the dental arch screws.

Extragrade cylindrical abutments in titanium without through-screws and castable housing

The screwless Extragrade titanium cylindrical abutments are used to build the “Seeger Bridge” fixed prosthesis on extremely divergent implants, taking advantage of the undercut as a retentive interlock with a single Seeger and in this way achieving a “snap” retention.

To gain experience using only the “snap” retention, you can begin by using cylindrical abutments with screws. Finish the job by closing the holes for the screws and use only Seegers without screws. If the prosthesis were to have stability problems later on (highly unlikely), you can open the hole and insert the screw.

Bridge built with Extragrade abutments with through hole to be used without the screws and closed for aesthetic reasons

Bridge finished with aesthetic “snap” retention (with only Seegers). If the prosthesis were to present signs of instability over the passage of time, the hole can be opened and a screw inserted.
To overcome the undercut of the implants during the insertion of the prosthesis, the Extragrade titanium cylindrical abutments should always be mounted with the indented rim in the direction of the undercut. The screwless abutments can be externally filed down and adapted to achieve any aesthetic advantages. Check by using the mask to make the most of the space available.

Build a robust structure with plastic bars and complete the shaping of the wax. The shape of the structure should be built and modeled on the basis of personal preference (adhering to the gum or raised or other concepts still). Characteristics: it should be rigid and strong. In applying the coating, take care with the Seeger housing in the castable abutments.

1. Firstly secure the Extragrade incisors cylindrical abutments without through screws with anaerobic cement.
2. Insert a wax pin in the Extragrade cylindrical abutments with through screws, spread the cement on the outside of the abutment and in the casting hole.
3. Insert the casting in position.
4. Remove the wax pin from the abutment, which cleans the hole of excess cement as it comes out.
5. Insert and tighten the screw in the clean hole of the abutment.
Castable Extragrade cylindrical abutments:
Coating for cobalt-chrome castings. The internal coating chamber before casting

Pour the coating in the hole of the cylinder up until it touches the castable model.

With a fine tipped probe, carefully fill the inside of the castable cylindrical abutment (which is the housing of the Seeger) continue and fill to the brim with the coating.

Carefully clean the Seeger housing (molten castable) using the special burr, before inserting the Seeger spring.
In order to obtain the “snap” retention (Seeger only without the screw), it is necessary to take advantage of the undercut between the implants. This choice should be made by the dental technician in the planning stages according to the following objectives: ensuring the stability of the prosthesis, preserving the aesthetics and, if possible, avoiding problems associated with screwing inside the patient’s mouth.

The cylindrical castable abutments are mounted with the indented rim in the direction of the implant’s undercut. The plastic bars can be filed to place them in the best position and to mount the teeth in aesthetic position once the work is finished, despite the divergence between the implants.
Titanium cylindrical abutments with through holes

1.8 mm

3 mm

Semi-finished bridge (designed and built previously) dug out in the gingival area, reduced to an individual print holder.

Before inserting the thread into the through-hole abutments, dull it on the flame.

After surgery, the impression is taken with the semi-finished-bridge using the Mini Transfer, recording all the gnathologic data.

Model cast in quick-setting plaster and silicone mask.

Thread-reinforced structure.

Semi-finished temporary bridge. With the palatal area eliminated and the teeth positioned in the mask, only the external part of the dental arch is used.
The titanium cylindrical abutments can be filed and adapted in relation to the spaces, using the mask with the teeth in position. The reinforcement of the thread reinforced bridge, once adopted, has been masked with matting paint.

Refilled bridge with self-curing acrylic.

The titanium cylindrical abutments with through holes have no extragrade indented rim. The extragrade indented rim should be made with the utmost care with a burr during the work, or with the finished prostheses, in the position corresponding to the divergence of the plants. It is important that the Seegers are loaded with the opening in the direction of the indented rim, which corresponds to the implant undercut.

The thread-reinforced acrylic bridge is finished and delivered to the dentist in about 2 hours. Even with temporary bridges, you should follow the insertion lines by placing them properly on the model and in the patient’s mouth. In this case you should insert the bridge beforehand on the incisor attachments by holding it at an angle in the direction of the implant, then compress it on the molar teeth at the same time and snap it into place.
OT Equator with the TiN coating produced by Rhein ‘83 is a rigid retentive attachment and is used according to the instructions manual. For its size, the OT Equator attachment is applicable to any removable prosthesis. The retentive sphere coated in TiN has a protected surface with a hardness of more than 1600 Vickers. The OT Equator attachment is a rigid attachment without resilience. It is not indicated for use with a prosthesis with a single attachment. By using retentive caps of various colors and retention inserted in the stainless steel container, you can achieve the regulation of the removable prosthesis’ hold according to the prosthetic case.

By respecting the technical recommendations, the OT Equator attachment presents ideal conditions to be used successfully due to its size and retention; it works well in all such projects where a minimum of 3-4 implants form a tripod or a quadrilateral. In these cases, the prosthesis will present a good stability and the caps will last much longer.

The attachment, including the container and the retention cap, results in having a reduced size yet with a rigid retention. In making the OT Equator attachment compact, very retentive yet rigid results were achieved. The choice of the OT Equator attachment should be decided on the basis of these features. Cases of lower prosthesis with only two OT Equator attachments on two implants (close and aligned to each other) may encounter problems when the patient chews on the molars.

When two OT Equator attachments are in an interforaminal region, it is advisable to use a normo OT Cap made by Rhein ‘83 in order to obtain a resilient retention, which offers the same hold yet results in being more resilient.
Use “Mooser” type cutters for boring root canals.

The OT Equator titanium root canal posts are extremely versatile and they are even used in small vertical spaces due to the low size of their attachment.

Two MINIMEDIO-IMPLANTS have been linked with two root posts set on the roots in this prosthesis.

OT Equator Root canal pins:
Upper Toronto Snap on the roots.
It’s quite a controversial project, but we wanted to intentionally bring it back to its originality that could prove useful as a starting point for tackling different problems.
The STUDIO-LABORATORY-STUDIO KITS include 4 MINI MEDIO IMPLANTS, or 4 titanium OT EQUATOR attachments, and contain everything needed to rehabilitate an edentulous patient from surgery to the prosthesis with a “SEEGER BAR” dual-structure combined overdenture prosthesis.

ASSORTED COMPONENTS FOR SEEGER BAR
SPECIAL PRICE ONLY WHEN COMBINED WITH 4 MINI MEDIO IMPLANTS OR 4 OT EQUATOR ATTACHMENTS

ASSORTED COMPONENTS FOR SEEGER BAR
SPECIAL PRICE ONLY WHEN COMBINED WITH 4 MINI MEDIO IMPLANTS OR 4 OT EQUATOR ATTACHMENTS
MINI MEDIO IMPLANT: MONOBLOCK IMPLANTS WITH OT EQUATOR ATTACHMENTS + TIN COATING

These are monoblock implants with a self-tapping screw that goes into the bone smoothly. The design and the wide surface of the screw favor the primary hold. The TiN-coated OT Equator attachment has a surface hardness of more than 1600 Vickers. The retentive caps should always be used by inserting them in the stainless steel container. The center of gravity of the attachment at a low gingival level does not create any leverage play. The assortment of caps with two types of hold allows you to manage the retention of the denture.

Four Mini Medio Implants: despite the divergence of the monoblock implants, the mesostructure is locked onto the implants in a simple, safe and passive way using the “Seeger Bar” system.

In the Mini Medio Implants, the threaded hole on the head of the OT Equator attachment allows you to use these implants for fixed prosthesis cases. Being that the implant is a monoblock, it can also be used for single-tooth replacement or for small bridges.
COMPONENTS AND ACCESSORIES MANUAL

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*Rhein ‘83 product