Step-by-Step
Cemented Bridge
Using Esthetic Abutments
Internal Hex. Implant System
Is proud to present this multiple-unit cemented bridge internal hex. implant reconstruction procedure. This manual explains the procedure step by step using MIS components. MIS scientists and engineers are committed to the research and development of new products and technologies. Our commitment extends to passing on procedural and product information through training and instruction.
Using a Cemented Bridge on Multiple Implants

Cementation of an implant-retained bridge is a staged process. There are two ways to secure a bridge: with screws and using cementation. This manual will present the cementation method, specifying the stages of the closed tray impression technique. The impression method and choice of materials should be considered as recommendations only. The cemented bridge method has advantages and disadvantages:

Advantages
A prefabricated abutment (straight or angled) can be used. • A perfect esthetic occlusal surface is achieved - in the case of cemented bridge procedure, the screws are invisible. • The laboratory work is simple for technicians and reduces costs. • A passive fit is achieved between the bridge and the abutments.

Disadvantages
The method is not suitable for limited interocclusal dimensions. • Cement excess must be totally removed. • The bridge is difficult to remove after cementing. • The use of fabricated abutments is not suitable for all clinical cases, particularly those requiring custom-made abutments.

General Information
1. Initial planning is of utmost importance. Along with the surgeon, the dentist performing the prosthetic stage of the treatment should be an active participant in the decisions affecting the choice of implant, the type of prosthesis (cemented or screw retained) and the three dimensional positioning of the implant. It is a prosthetic driven procedure.
2. Bridge reconstruction is considered in cases where a number of teeth are missing. For proper and easy bridge reconstruction, it is essential to pay attention to parallel insertion and accurate spacing between the implant, in accord with the teeth needing replacement.
### Indications for Using MIS Restorative Components

*For recommendation purpose*

<table>
<thead>
<tr>
<th>Location</th>
<th>Anterior Maxilla</th>
<th>Anterior Mandible</th>
<th>Incisors to Premolars</th>
<th>Canine, Premolars &amp; Molars</th>
<th>Premolars and Molars</th>
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<tbody>
<tr>
<td>Gingival Profile</td>
<td>Buccal-low level Palatal-high level</td>
<td>Horizontal gingival level</td>
<td>Buccal-low level Palatal-high level</td>
<td>Buccal-low level Lingual-high level</td>
<td>Buccal-low level Palatal-high level</td>
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<td>Gingival Height</td>
<td>Up to 2mm buccal</td>
<td>Very low gingival height</td>
<td>Up to 4mm buccal</td>
<td>Up to 2 mm buccal</td>
<td>Up to 4mm buccal</td>
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<td>Catalog Number</td>
<td>MD-A1510 MD-A2510</td>
<td>MD-CTP10</td>
<td>MD-AN151 MD-AN251</td>
<td>MD-P1530 MD-P2530</td>
<td>MD-MAC10 MD-P0030</td>
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<td>Abutment Description</td>
<td>Esthetic angulated abutment</td>
<td>Direct conical titanium post</td>
<td>Zircon - Zro2 abutment</td>
<td>Angulated abutment</td>
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<td>Direct cementing transgingival post</td>
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The MIS Esthetic Abutments

MIS offers a wide variety of esthetic abutments for cases of cemented restoration. This variety provides many options, with an emphasis on simplicity and convenience of restoration work. A simple procedure allows the adjustment of abutments as appropriate to the restored tooth.

The series of MIS esthetic abutments includes two types of abutments:
1. Direct abutment, with longitudinal axis aligned to the implant.
2. Angulated abutment, with longitudinal axis placed at an angle to the implant.

The esthetic titanium abutments are designed with a sloping shoulder end, which enables esthetic results in the buccal area by concealing the crown margins under the gingival. The sloping shoulder is contiguous with the abutment body; its purpose is to provide a total fit between the abutment and the metal coping.

On the lingual or palatal side, the crown margins allow for control over the removal of excess cement. The abutment body is eccentric, and therefore the width of the shoulder is greater in the buccal area and will better accept the ceramic thickness. These abutments are available in either standard or wide platforms and are offered in two heights: 1mm (shoulder height) and 3mm (height on the anterior portion of the abutment).

Under proper anatomical conditions, the abutment may be used in six different positions for cemented restorations.

**Esthetic abutment 0°**

**Esthetic angulated abutment 15°**

**Esthetic angulated abutment 25°**
step 1.

A. Implant exposure

Components:
- Implant MF7-13375
- Closed tray impression coping MD-IT200
- Prosthetic Screw MD-S0220
- Prosthetic Instrument MT-HHR13

After the healing period, the restoration phase is started.

B. Using closed tray MD-IT200 impression abutments

Place the closed tray impression coping abutments (MD-IT200) on the implants.

The MD-IT200 is attached by tightening an MD-S0220 screw using the MT-HHR13 hex. driver.
**step 2.**

**Placing impression coping plastic caps**

Insert the impression coping plastic caps MM-MTP53 on the closed tray impression coping abutments MD-IT200.

The impression coping plastic caps MM-MTP53 should be placed on the MD-IT200, assuring that the arrow on the plastic coping corresponds to the flat facet of the abutment.

**Taking the impression**

For optimal impression the plastic coping must be fully seated and completely covered by impression material.

**Recommendation:**

The use of silicone impression material with high shore hardness (the hardness of a wide variety of rubber and soft plastics, as determined by the shore test) is recommended to ensure retention and stability of the impression transfer coping plastic caps in the impression material.
step 3.

A. Removing the closed tray impression coping abutments

It is necessary to remove the closed tray impression abutments (MD-IT200) from the implants, in order to connect the titanium healing caps.

B. Placing standard or anatomic healing caps

Healing caps of appropriate heights and diameters are selected according to tissue thickness and placed on the implants.

The titanium healing caps are available in heights of 3mm to 6mm, in standard diameter (4mm) and anatomic diameter (5.5mm).
### step 4.

#### A. Preparing the closed tray impression

On the inverted closed tray impression, it is very important to confirm the accuracy and stability of the impression plastic caps.

**Components:**
- Closed tray impression coping MD-IT200
- Prosthetic Screw MD-S0220
- Analog MD-RSM10
- Impression coping plastic cap MM-MTP53
- Prosthetic Instrument MT-HHR13

#### B. Connecting implant analogs and impression abutments

The implant analogs (MD-RSM10) are attached with the MD-S0220 screw to the closed tray impression abutments (MD-IT200), using the MT-HHR13 hex. driver.

The whole is now placed in the impression coping plastic caps (MM-MTP53). A proper alignment free of gaps should be verified.
C. **Simulation of gingiva**

At this stage, injecting silicone material around the neck of the analogs and impression abutments simulates the gingiva and facilitates access to the implant analogs for laboratory work.

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D. **Preparing the stone model**

Use the final impression to create a master cast model. After the stone model has hardened, the closed tray is removed, leaving the impression coping plastic caps inside the tray.

The closed tray impression coping abutments (MD-IT200) on the master model should be removed from the implant analogs (MD-RSM10) with the MT-HHR13 hex. driver.

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Note:
Isolating the impression material from the simulated gingiva with special isolation material is recommended in order to avoid connection between the two materials.
step 5.

A. Preparing diagnostic wax-up for silicone index

A wax-up on the stone model

A wax-up of the missing teeth is prepared on the master model, filling the space between adjacent and opposite teeth.

B. Silicone index

Silicone index

A silicone index is prepared, serving as a negative replica of the wax-up.
step 6.

A. Placing the esthetic abutments

Using the silicone index, esthetic abutments with appropriate angulations and gingival highest are selected.

Place the selected abutments on the implant analogs (that are inside the stone model), by tightening an MD-S0220 screw using the MT-HHR13 hex driver. The directions of the abutments slope fit the straight facet of the implants. The sloping shoulder is contiguous with the abutment body in order to provide a perfect fit between the abutments and the metal cast.

B. Adjusting the abutments

Silicone index on the esthetic abutments

The silicone index is used to select and adjust the esthetic abutments.
step 7.

A. Adapting the esthetic abutments

The esthetic abutments are adapted in height according to the silicone index.

The parallelogram is used for the periphery adjustment. The desired margin contour and height are achieved by grinding the abutments.

B. Measuring the grounded abutments

The silicone index is used to measure the grounded abutments.
A. Wax carving

After adjustment and polishing of the abutments, wax carving takes place, leaving approximately 2mm of space for the porcelain, according to the silicone index.

B. Silicone index with wax-up

The silicone index is used to verify that the remaining space is correct for the porcelain.
step 9.

A. Metal Casting

Conventional metal casting techniques are followed. Metal framework is realized.

B. Metal framework on the stone model

The metal framework is verified and adapted on the abutments according to conventional laboratory techniques.

Note:
The laboratory technician must assure that perfect adaptation and passive fit have been achieved in this stage. The cast bridge on the stone model must be checked to ensure that it fits the abutments’ exterior.
C. Metal framework in the patient's mouth

Accuracy of metal framework is verified in the patient's mouth. Special attention must be given to the passive fit of the metal framework on the prosthetic abutments, using an x-ray for confirmation.
step 10.

A. Porcelain on the plaster model

Following the selection of the appropriate shade, the porcelain is fired onto the metal cast and the porcelain bridge is placed on the plaster model. The process is performed according to routine laboratory procedures.

B. Porcelain in mouth

Prior to placing the bridge, the healing caps are removed from the patient’s mouth. The esthetic abutments are connected, and proximal contacts and occlusion of the porcelain bridge in the mouth are checked and adapted as required.

After the laboratory work is completed, the bridge is cemented on the esthetic abutments using the MI6 cement crown set.
## Prosthetic options

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<tr>
<th>Healing caps</th>
<th>Impression coping</th>
<th>Analog</th>
<th>Anatomic transgingival abutments</th>
<th>Angulated abutment</th>
<th>Esthetic angulated abutment</th>
<th>Cementing post</th>
<th>Esthetic abutment</th>
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<td>MD-CTP10 MD-MAC10 MD-WMAC1</td>
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| Seven | Ø 3.75 mm 4.20 mm | | | | | | |
| | | | | | | | |
| Standard | Anatomic | | | | | | |
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- **BioCom**: Ø 3.30 mm 3.75 mm 4.20 mm
- **Seven**: Ø 3.75 mm 4.20 mm

### Screw Options
- MD-S0200 MD-S0220 MD-S0224
- MD-S0200 MD-S0220 MD-S0224
- MD-S0200 MD-S0220 MD-S0224
- MD-S0200 MD-S0220 MD-S0224

### Cementing Screw Options
- MD-G0220 MD-G0220 MD-G0220
- MD-G0220 MD-G0220 MD-G0220
- MD-G0220 MD-G0220 MD-G0220
- MD-G0220 MD-G0220 MD-G0220

### Additional Options
- MM-MTP53 MM-A4C59 (Anti-rotation)
- MM-CPC49 MM-ZP80
- MD-IT200 MD-CP700

### Restorative Procedure

**Standard Platform**

- MT72 MT45 MT51 MT44 MT52 MT44 MT53 MT44 MT54
- MT77 MT72 MT45 MT48 MT54 MT51 MT55 MT53
- MT77 MT72 MT45 MT48 MT53 MT54 MT55 MT53
- MT77 MT72 MT45 MT48 MT52 MT51 MT55 MT53
- MT77 MT72 MT45 MT48 MT51 MT51 MT55 MT53
- MT83 MT101 MT118 MT101 MT110
- MT32 MT52 MT46 MT50 MT48 MT109 MT109
- MT32 MT51 MT46 MT55 MT53 MT109 MT109
- MT32 MT51 MT46 MT55 MT53 MT109 MT109
### Restorative procedure

**Wide Platform**

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<tr>
<th>Healing caps</th>
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<th>Analog</th>
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**Notes:**
- Mastiff-Medical
- Made in Italy
- www.mastiffmedical.com

**Screws:**
- MD-S0200
- MD-S0220
- MD-S0244
- MD-S0224
- MD-G0220
- MD-G0220
- MD-G0220
- MD-G0220
Fin.