The OT-Equators are low-profile overdenture and removable denture attachments that offer a variety of retentive solutions suitable for a wide range of clinical scenarios. OT-Equators are the smallest attachment system on the market and therefore ideal in cases of space limitations. OT-Equator attachments feature a Titanium Nitride (TiN) coating for maximum resistance to wear, a small-scale metal housing and replaceable nylon caps suitable for various retention levels. Retention caps can be replaced easily within seconds.

Contact us at: service@mis-implants.com or visit: www.mis-implants.com.
Implant supported removable dentures - the new standard of care

In the past few decades, dental implants have become the preferred solution for multiple clinical conditions. It is now evident that an overdenture, supported by 2-4 dental implants with attachments, is a superior option compared with traditional dentures. This paradigm shift requires simple yet versatile attachments which are easy to use. The OT-Equators offer just that. Their small size, multiple retention options and accessibility for any implant platform, enables OT-Equators to be used in all clinical conditions; for the benefit of the doctor and patient alike.

Availability

OT-Equator attachments are available for all MIS implant types, in 1-5mm cuff heights.

Features

OT-Equator attachments feature a Titanium Nitride (TiN) coating for maximum resistance to wear, a small-scale metal housing and replaceable nylon caps, offering various retention levels. Retention caps can be replaced easily within seconds.

Resilience

OT-Equator retention caps are made of highly resilient and flexible materials allowing for movement of up to 8 degrees from the axis of the abutment without misalignment or retention loss.

Use with non-parallel implants

OT-Equators are not recommended for use with implants of a divergence larger than 30 degrees. Such cases can cause rapid wear of the retentive caps and result in retention loss.
Additional Tools

- OT-Equator blue plastic handpiece
- OT-Equator metal extractor tool
- OT-Equator insertion tool
- OT-Equator impression coping cap
- OT-Equator impression transfer cap
- OT-Equator analog
- OT-Equator blue plastic handpiece

- Short drive 0.05 inch hex.
- OE-IC002
- OE-IC001
- OE-RSM60
- MT-RDS30
- MT-RDL30
OT-Equator Implant Attachment System

Indications
OT-Equator attachments are indicated for use in retaining and stabilizing overdentures and removable partial dentures. The variety of retentive options available with OT-Equators, coupled with their small size, make them the ideal solution in cases where there are space limitations.

Contraindications
- OT-Equator attachments are not appropriate where totally rigid connections are required
- OT-Equator attachments should not be used when implants are placed within a relative divergence larger than 30 degrees.

Cautionary notes
- For sale and use only by or on the order of a licensed dentist.
- Re-use of the nylon caps is strictly prohibited. Upon removal from the metal housing, the nylon caps are damaged and therefore cannot provide adequate retention
- Re-use of the OT-Equator abutments is strictly prohibited. Used abutments may pose a contamination threat, and are therefore unsuitable for re-use under any circumstances.

Sterilization
- OT-Equator abutments, components and instruments are supplied non-sterile
- OT-Equator abutments should undergo standard autoclave sterilization protocols prior to use: At a temperature of 134°C (273°F), for 6 minutes. Temperatures should never exceed 134°C.
- OT-Equator components and instruments should be sterilized prior to use using standard cold/chemical sterilization protocols.
- Do not use agents containing high rates of chlorine or oxalic acid.
## OT-Equator Options

<table>
<thead>
<tr>
<th></th>
<th>Narrow Platform</th>
<th>Standard Platform</th>
<th>Wide Platform</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Implant diameter</strong></td>
<td>Ø3.30mm</td>
<td>Ø3.75mm or Ø4.20mm</td>
<td>Ø5mm or Ø6mm</td>
</tr>
<tr>
<td><strong>Gingival heights</strong></td>
<td>1-5mm</td>
<td>1-5mm</td>
<td>1,3,5mm</td>
</tr>
<tr>
<td><strong>Kit catalog numbers</strong></td>
<td>MK-NOE1, MK-NOE2, MK-NOE3, MK-NOE4, MK-NOE5</td>
<td>MK-SOE1, MK-SOE2, MK-SOE3, MK-SOE4, MK-SOE5</td>
<td>MK-WOE1, MK-WOE2, MK-WOE3, MK-WOE4, MK-WOE5</td>
</tr>
</tbody>
</table>

○ Conical connection
○ Internal hex.
OT-Equator Abutments

- Conical connection
- Internal hex.

OT-Equator attachments can be used in cases where implant divergence is up to 30°.
Laboratory Use:
- Metal housing
- OT-Equator laboratory cap (black)

Clinical Use:
- Extra-soft retention (yellow)
  OT-Equator retention cap (0.6kg)
- Soft retention (pink)
  OT-Equator retention cap (1.2kg)
- Standard retention (white)
  OT-Equator retention cap (1.8kg)
- High retention (violet)
  OT-Equator retention cap (2.7kg)
OPTION 1
CHAIR-SIDE PROCEDURE

OPTION 2
LABORATORY ASSISTED PROCEDURE
OPTION 1

CHAIR-SIDE PROCEDURE

Internal hex. implants are used for demonstration purposes.
Step 1.

A. Implant placement.

Positioning implants for an OT-Equator retained overdenture should be planned based either on an existing good denture or on a complete wax-up for a new denture. For best retention and stability, four implants should be placed. The anterior-posterior spread of implants should be as large as possible.

B. Height measurement.

After the healing period is complete, measure tissue height from the top of implant to the highest level of surrounding gingiva. Attachments should correlate with implant type and diameter, and should extend approximately 1mm above tissue height. OT-Equator abutments should never be positioned under the gingival tissue.
C. **Installation.**

Use a MT-RDL30 driver to install each attachment. Using a slight clockwise movement, engage the abutment screw within the internal thread of the implant. After seating all the way into the implant, use a torque wrench (30Ncm) to secure the seating.

D. **Plastic discs.**

Place the Plastic disc over the active segment of the attachment. Connect the housing with the black laboratory cap to the attachment. This will prevent excess acrylic resin from locking against the attachment. Try-in the denture, asking the patient to bite down, to ensure it seats without any distortion.
Step 2.

A. **Denture preparation.**

- Create cavities within the denture base, above the implant sites. Cavities should be approximately 6mm in diameter, and 4mm deep, leaving a space of 2mm around the attachment housing.

B. **Denture preparation.**

- Ensure adequate space between denture and metal housing.

- Denture cavities should enable seating without distortion.

- Try-in the denture, asking the patient to bite down, to ensure it seats without any distortion.
C. **Denture reline.**

Mix the pink self-curing acrylic resin. Cover housings and fill prepared cavities within the denture base. Fit the denture and ask the patient to bite down all the way. Wait until resin is completely cured.

D. **Inspection and corrections.**

Inspect for voids, and if needed, add small amounts of pink acrylic resin to ensure that housings are completely embedded in resin. When adding acrylic resin, always place denture in the mouth, completely seated under occlusal pressure. Adjust, and remove excess resin if present around the housings.
Step 3.

A. Retentive cap selection.

Remove all Plastic discs from OT-Equators. Remove black laboratory caps from housings, using the extractor tool as demonstrated in step C.

Insert new retention caps to each housing using the insertion tool.

It is recommended to start by using the softest caps, replacing them with firmer caps only in cases where retention levels are insufficient.

Components:

OT-Equator retention caps:

- **Violet** - High retention (2.7kg)
- **White** - Standard retention (1.8kg)
- **Pink** - Soft retention (1.2kg)
- **Yellow** - Extra soft retention (0.6kg)

(Not to scale)
Replacement of caps.

Caps will require periodic replacement, typically once each year. Replacement times are dependent on multiple factors; including number of implants/attachments, relative inclination of implants, hygiene habits of the patient, etc.
OPTION 2
LABORATORY ASSISTED PROCEDURE
Step 1.

**Implant placement.**

Positioning implants for an OT-Equator retained overdenture should be planned based either on an existing good denture or on a complete wax-up for a new denture. For best retention and stability, four implants should be placed. The anterior-posterior spread of implants should be as large as possible.

**Height measurement.**

After the healing period is complete, measure tissue height from the top of implant to the highest level of surrounding gingiva. Attachments should correlate with implant type and diameter, and should extend approximately 1mm above tissue height.

OT-Equator abutments should never be positioned under the gingival tissue.
C. **Installation.**

Use a MT-RDL30 driver to install each attachment. Using a slight clockwise movement, engage the abutment screw within the internal thread of the implant. After seating all the way into the implant, use a torque wrench (30 Ncm) to secure the seating.

D. **Impressions.**

Place impression copings (OE-IC002) and ensure proper seating for each attachment. Take a pick-up impression of all attachments and the ridge, using a combination of medium and light body impression material. Using a custom tray is highly recommended.
Step 2.

A. Analogs.

Attach an analog to each impression coping. Ensure proper fitting of analogs.

B. Master model.

Create a master model.

Components:

- Analog OE-RSM60
- Plastic disc MB-DB235
- Metal housing
- Laboratory Use: OT-Equator retention cap (black)
C. **Add plastic discs.**

![Image of plastic discs rings and metal housings with black caps in place.](image)

Place the plastic disc over the active segment of the attachment. Connect the housing, with the black laboratory cap, to the attachment. This will prevent excess acrylic resin from locking against the attachment. Try-in the denture making sure that it seats without any distortion.
A. **Denture preparation.**

Create cavities within the denture base, above the implant sites. Cavities should be approximately 6mm in diameter, and 4mm deep, leaving a space of 2mm around the attachment housing.

Try-in the denture, asking the patient to bite down, to ensure it seats without any distortion.

B. **Denture reline.**

Mix the pink self-curing acrylic resin. Cover housings and fill prepared cavities within the denture base. Fit the denture and ask the patient to bite down all the way. Wait until resin is completely cured.
C. Inspection and corrections.

Inspect for voids, and if needed, add small amounts of pink acrylic resin to ensure that housings are completely embedded in resin. When adding acrylic resin, always place denture in the mouth, completely seated under occlusal pressure. Adjust, and remove excess resin if present around the housings.

D. Retentive cap selection.

Add pink acrylic resin as needed.

Retention try-in.

Remove all plastic rings from OT-Equators. Remove black laboratory caps from housings, using the extractor tool as demonstrated in step C.

Insert new retention caps to each housing using the insertion tool.
A. Denture assessment.

Excess denture base material is removed to ensure adequate space for the bar and for the titanium riders (MM-TRU10). The rider is cut into segments and attached to the bar on the master model. The riders are connected to the denture base using a self-curing acrylic material.

To prevent acrylic from locking under the bar, the riders and bar must be carefully blocked-out.

B. Try-in and delivery.

It is recommended to start using the softest caps, replacing them with firmer caps only in cases where retention levels are insufficient.
Replacement of caps.

Follow-up

Caps will require periodic replacement, typically once each year. Replacement times are dependent on multiple factors; including number of implants/attachments, relative inclination of implants, hygiene habits of the patient, etc.
FIN. END. FINAL. FINE. SON. КОНЕЦ. 끝.
Step-by-Step Guide
Removable Dentures