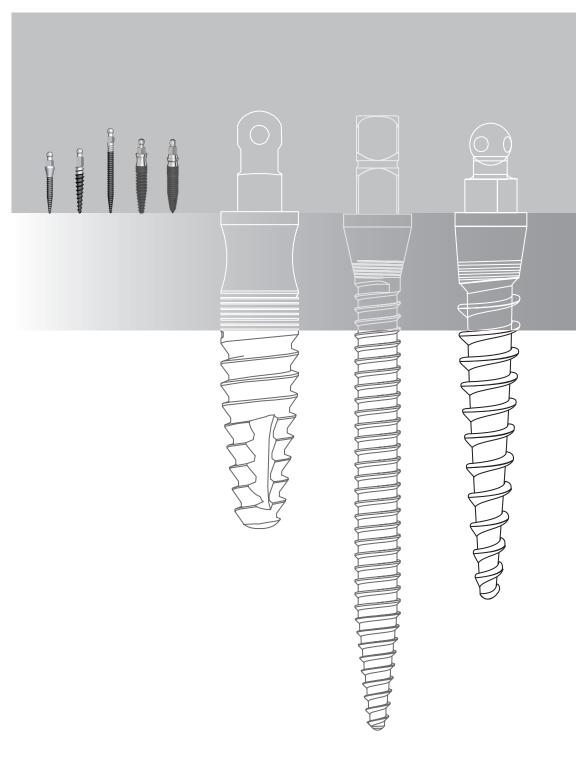
Mini Dental Implants



Product Catalogue

MDI Mini Dental Implants

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MDI Mini Dental Implants

System Benefits & Features

As the demand for dentures continues to boom, there has never been a better time to start offering the MDI treatment plan in your practice.

Introduced in 1999 as the IMTEC Sendax MDI™ System, the MDI Mini Dental Implant System is a global market leading small diameter implant system, and has quickly become one of the hottest dental products on the market. To the thousands of doctors using the system, it's no secret why the MDI system is so popular: results.

Indications:

- Long-Term Full Denture Stabilization
- Long-Term Partial Denture Stabilization
- Long-Term Splinted Fixation of Bridges

In addition for MDI 3.0 mm implant:

• Long-Term Fixation of Single Crowns

Benefits:

- Minimally invasive procedure
- · Often no grafting necessary
- Immediate load in most cases
- Very cost effective for the dental practice
- Very affordable for denture patients

MDI is not the only small diameter implant system available but there are plenty of reasons why it is a global market-leading system and has been for years:

Features:

- Implants are placed through a small pilot hole, not into a full osteotomy
- Implant designs for stability in soft and dense bone (essential for immediate loading)
- Attachment designs for customized retention for each case
- Attachment designs that forgive up to 30° divergence between two implants
- Original retention can be restored by simply changing an O-Ring
- A market leading small diameter implant training program



How to Get Started with the MDI System

MDI offers market-leading small diameter implant continuing education solutions. MDI Certification Courses are affordable one-day seminars or mini-residencies lead by some of the most experienced small diameter implant clinicians in the world. Contact your MDI Mini dental implant representative to learn more about MDI Certification seminars.





MDI Certification Seminars Offer:

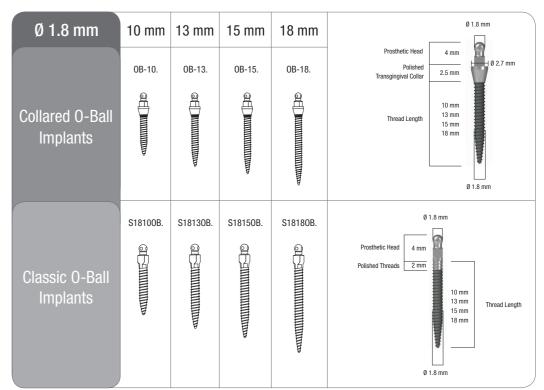
- Expert instructors
- Hands-On Practice with realistic anatomical models (yours to keep)
- Group discussion
- Opportunity to review potential MDI case diagnostics with your instructor

MDI Certification Mini-Residencies Offer:

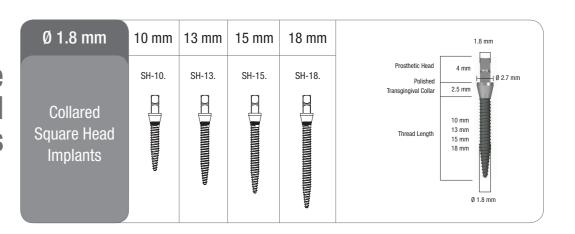
- Expert instructors
- LIVE surgical demonstration by your instructor in their clinic
- Group discussion
- Opportunity to review potential MDI case diagnostics with your instructor

1.8 mm Diameter Implants

0-Ball Implants

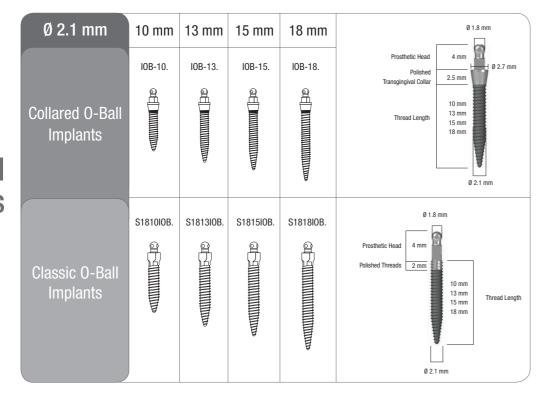


Square Head Implants



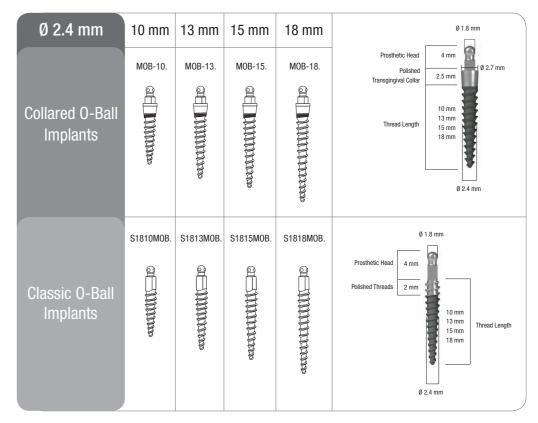
2.1 mm Diameter Implants

0-Ball Implants

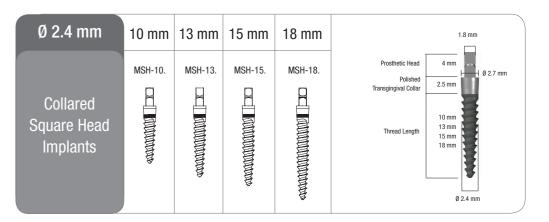


2.4 mm Diameter Implants

0-Ball Implants

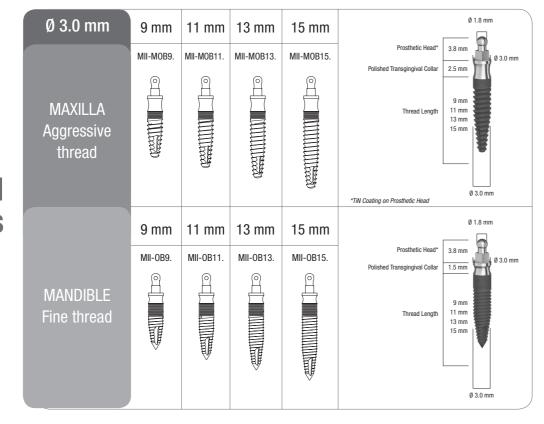


Square Head Implants



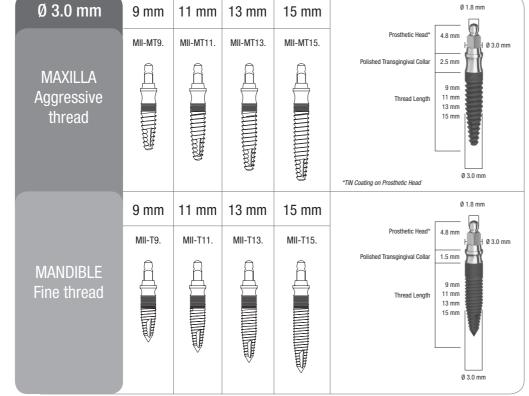
3.0 mm Diameter Implants

0-Ball **Implants**



Tapered Abutment **Implants**

6

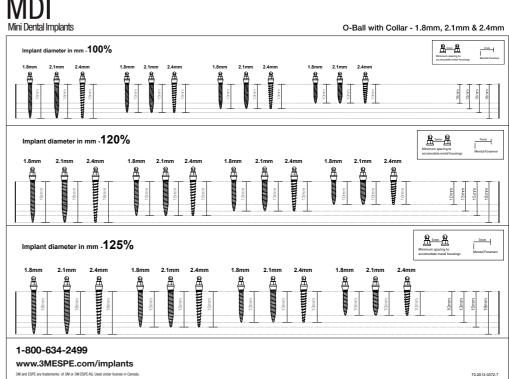


3.0 mm Diameter Implants

MDI Radiographic Transparencies

- · Radiographic Transparency for MDI Implants with Collar
- Radiographic Transparency for MDI Implants without Collar
- Radiographic Transparency for 3.0 mm MDI Implants
- MDI provides radiographic transparencies at no charge Ask your MDI implant representative for details.

MDI



MDI Implant Selection Guide

		Bone D	ensity*		Soft-Tiss	ue Depth		Buccoling	gual Width	
Implant Type	D1	D2	D3	D4	<2 mm	>2 mm	4 mm	>4 mm	>5.5 mm	>6 mm
Ø 1.8 mm with Collar	1	1	NR	NR	NR	1	1	1	1	1
Ø 1.8 mm without Collar	1	1	NR	NR	1	NR	1	1	- /	- 🗸
Ø 2.1 mm with Collar	1	1	NR	NR	NR	1	NR	1	1	1
Ø 2.1 mm without Collar	1	1	NR	NR	1	NR	NR	1	1	1
Ø 2.4 mm with Collar	NR	1	1	NR	NR	1	NR	NR	1	1
Ø 2.4 mm without Collar	NR	1	1	NR	1	NR	NR	NR	1	1
Ø 3.0 mm with Collar for maxilla	NR	1	1	NR	1	1	NR	NR	1	1
Ø 3.0 mm with Collar for mandible	1	1	NR	NR	1	NR	NR	NR	1	1

^{*}D1 = Very Dense Bone * D4 = Very Soft Bone NR = Not Recommended

Prosthetics

Metal Housings

		Height	Ø Diameter
MH-1.	Metal Housing	3.5 mm	4.75 mm
MH-2.	Micro Metal Housing	3.1 mm	4.3 mm
MH-3.	0-Cap	3.1 mm	4.0 mm



0-Rings

Replacement O-Ring - For Metal Housing

0550-01.	Standard MH-1 MDI O-Ring
0550-10.	Standard MH-1 MDI O-Ring (10 pack)
0550-25.	Standard MH-1 MDI O-Ring (25 pack)



Replacement O-Ring - For Micro Metal Housing & O-Cap

0351-01.	Micro MH-2 MDI O-Ring
0351-10.	Micro MH-2 MDI O-Ring (10 pack)
0351-25.	Micro MH-2 MDI O-Ring (25 pack)



Blockout Shims



Lab Analogs & Restorative Copings for 1.8 mm, 2.1 mm & 2.4 mm Implants

Lab Analogs - 0-Ball & Square Head

5118.	MDI O-Ball Prosthetic Head Analog
LAOB.	MDI Collared Standard O-Ball Analog
LASH.	MDI Collared Standard Square Head Analog

Restorative Copings - 0-Ball

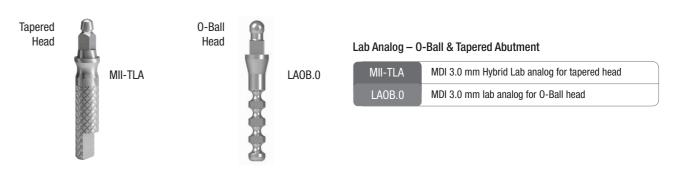
2921.	MDI 3.0 mm O-Ball Impression Coping
2924.	MDI 0-Ball Immediate Temporization Cap
S4118.	MDI Impression & Waxing Coping*

*Compatible with O-Ball & Square Head Implants



Prosthetics

Lab Analogs & Restorative Copings for MDI 3.0 mm One-Piece Implants









Restorative Copings – 0-Ball

2921.	MDI 3.0 mm 0-Ball Impression Coping
2024	, , ,
2924.	MDI O-Ball Immediate Temporization Cap
S4118.	MDI Impression & Waxing Coping*

*Compatible with O-Ball & Square Head Implants.

2920T.

2921.





Restorative Copings – Tapered Abutment

	. •
2920T.	MDI 3.0 mm Tapered Abutment Impression Coping
2923T.	MDI Tapered Abutment Immediate Temporization Cap
2922T.	MDI Tapered Abutment Waxing Coping

Instruments & Drivers

Site Preparation

1325.	Ridge Mapping Caliper
S1011.	1.1 mm MDI Surgical Drill (Sterile)
2000.	15 mm Irrigated Drill Extender

Optional

2020.	Locator Drill
S1013.	1.3 mm MDI Surgical Drill

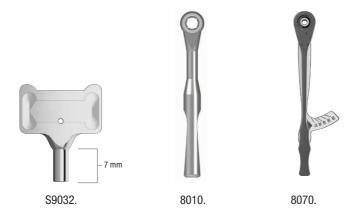
For use with MDI 3.0 mm Implants

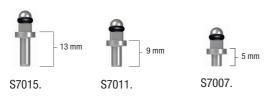
2012-01.	2.0 mm MDI Surgical Drill
S1015.	1.5 mm MDI Surgical Drill
S1026.	2.6 mm MDI Surgical Drill



Drivers, Wrenches, Ratchet Extension & Adapters

S9032.	MDI Winged Thumb Wrench
8010.	Ratchet Wrench
8070.	Graduated Torque Wrench (including 8071.)
S7015.	MDI Ratchet Adapter Long
S7011.	MDI Ratchet Adapter Medium
S7007.	MDI Ratchet Adapter Short
8071.	MDI Torque Wrench Replacement Socket (for 8070.)





Surgical & Restorative Kit & Accessories

Surgical & Prosthetic Kit



S1807.

S1807.	MDI Surgical & Prosthetic Kit	
	Includes:	
	1.1 mm MDI Surgical Drill (3 pcs.)	S1011.
	1.3 mm MDI Surgical Drill	S1013.
	MDI Winged Thumb Wrench	S9032.
	MDI Ratchet Adapter Short	S7007.
	MDI Ratchet Adapter Long	S7015.
	MDI Small Surgical Box	0121.
	Graduated Torque Wrench (including 8071.)	8070.

Patient Demonstration Models





SMDI-001. MDI Model Clear Acrylic Base
SMDI-003. MDI Model Maxilla Base
SMDI-004. MDI Model Pink Acrylic Base

SMDI-001.



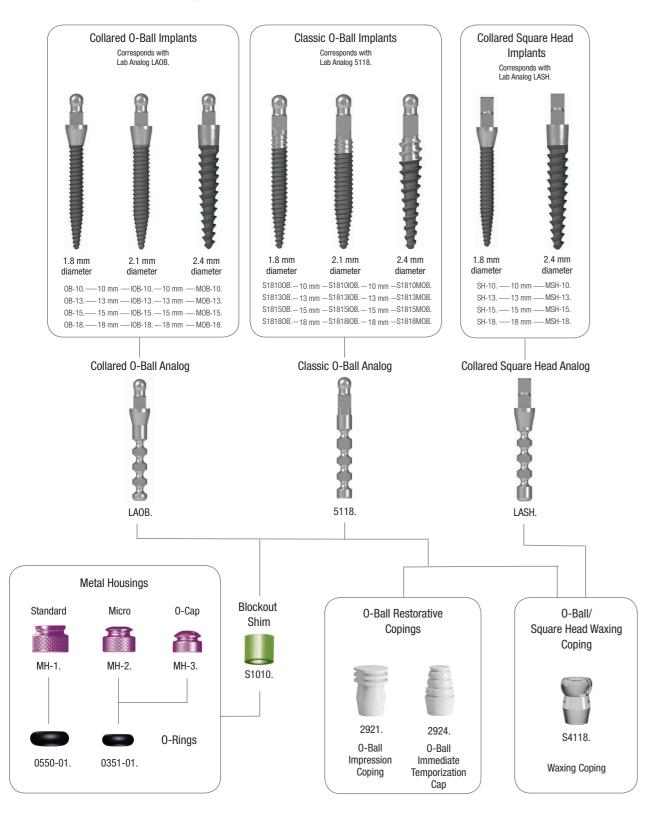
SMDI-004.

10

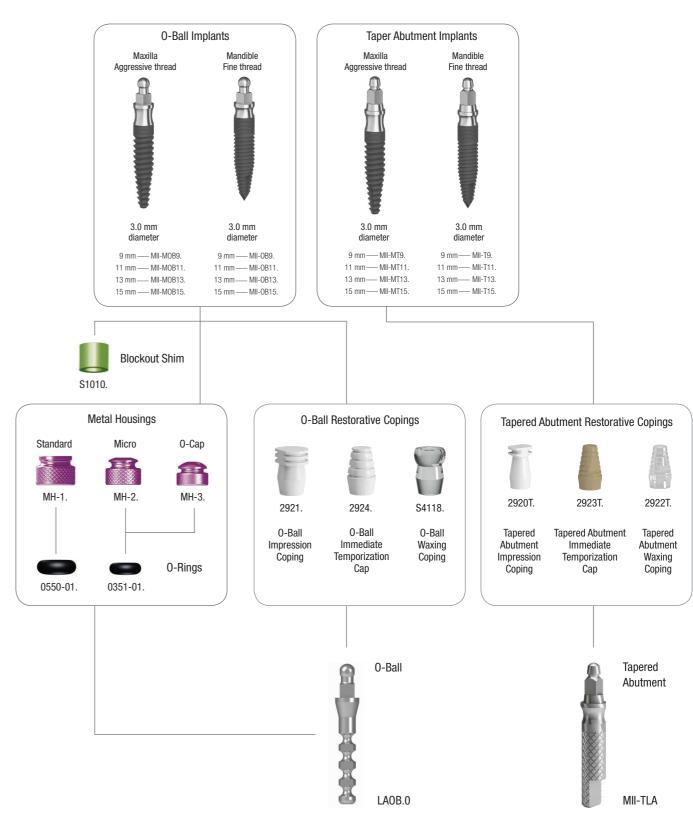
8071.

Prosthetic Flow Chart

1.8 mm, 2.1 mm and 2.4 mm Implants



3.0 mm Implants



Implant Surgical Protocols

Mandibular Denture Stabilization

Preoperative Planning

After patient selection and evaluation protocols have been completed, the number of MDI implants required (minimum of four) is determined and thoroughly discussed with the patient. The patient's lower denture is then fabricated or modified, followed by identification of appropriate implant sites. After site selection, the MDI implants should be placed at least 5 mm apart. For mandibular placement, the implants should be placed beginning at least 7 mm anterior to the mental foramen.



Site Preparation

• Entry points for each MDI implant are marked on the patient's tissue.

1.8 and 2.1 mm diameter implants:

- The 1.1 mm Pilot Drill is delicately placed over the entry point and lightly pumped up and down until the cortical plate is penetrated. No incision is necessary in most cases.
- In extremely dense bone an extended penetration may be required. Optionally, a 1.3 mm MDI drill (S1013.) may be necessary to further widen the drill channel.
- 3.0 mm diameter MDI implants require use of Ø 2.0 mm Surgical drill (2012-01.). Optionally, in dense bone a Ø 2.6 mm Surgical drill (S1026.) may be necessary to widen the drill channel.
- The average depth is one-third to one-half the threaded length of the implant.
- Recommended motor RPM = 900-1200



S1011. S1013. 2012-01. S1026.

2 Use of vial cap Finger Driver

- Open the MDI implant vial.**
- · Carry implant to the site using the vial cap (It can be used as a carrier to the patient's mouth, as well as a beginning surgical driver.)
- After inserting the implant into the pilot opening through the attached gingiva, rotate clockwise while exerting downward pressure.
- This procedure initiates the self-tapping process and is used until noticeable bony resistance is encountered.



Vial cap finger driver is provided with the implant packaging.

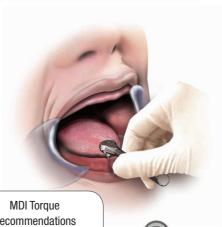
**All MDI Implants are delivered sterile.



Use of the Winged Thumb Wrench

Use the Winged Thumb Wrench to thread the implant into place until the wrench becomes difficult to turn.

IMPORTANT: If no significant resistance is met during this mid-stage of insertion, the prognosis for the implant reaching its full potential is doubtful. The patient's bone at this site possibly lacks the required density for predictable success.



Recommendations

- Do not exceed 45 Ncm during implant placement.
- · A minimum of 35 Ncm of resistance upon final insertion is recommended for immediate load.



S7007





Use of the Ratchet or Graduated Torque Wrench with Ratchet Adapter

- The Ratchet Wrench or Graduated Torque Wrench will then finalize the insertion process.
- Grasp the wrench (with the directional arrow facing clockwise) and engage the square neck of the Ratchet Adapter into the square opening of wrench.
- This final stage of MDI implant placement requires slow, carefully controlled ratchet turns.
- The ideal implant position allows the abutment head to protrude from the gingival soft tissue at its full length but with no neck or thread portions visible.
- Advance the implant with the Torque Wrench to a minimum of 35 Ncm to allow immediate load.
- If a resistance of at least 35 Ncm cannot be reached a temporary soft-loading without metal housings is recommended.

CAUTION IN DENSE BONE: If torque exceeds 45 Ncm unscrew the implant and deepen the drill hole to 2/3 of implant length.



Final Implant Positioning

A minimum of 4 MDI implants is required to stabilize a full lower

IMPORTANT: The removable o-ring attachments inside an over-denture will not loosen an integrated MDI Implant. A loose implant is one that did not fully integrate into the bone. The primary reason for non-integration is over-instrumentation of the bone. The MDI implant utilizes a fully self-tapping protocol. It demands that the implant bite into the bone and advance itself from the initial point to completion. The procedure requires torquing forces that progress from the Finger Driver to the Winged Thumb Wrench to Ratchet or Torque Wrench with the Ratchet Adapter.

Implant Surgical Protocols

Maxillary Denture Stabilization

Site Preparation

Entry points are made with the Pilot Drill (Item S1011.) by perforating the cortical plate.



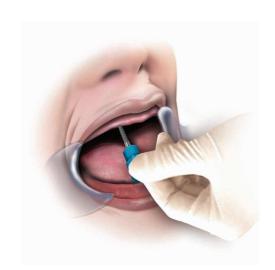
2.4 mm diameter MDI implants require use of the 1.1 mm Pilot Drill (Item S1011.).

3.0 mm diameter MDI implants require use of Ø 1.5 mm Surgical drill (S1015.). Optionally , in dense bone a Ø 2.0 mm Surgical drill (2012-01.) may be necessary to widen the drill channel



Use of the Finger Driver

Insertion of the MDI implant begins with the vial cap and continues with the Finger Driver until more torque is necessary.







Vial cap finger driver is provided with the implant packaging.



S7007.

8070.

Use of the Ratchet or Graduated

Use of the Winged Thumb Wrench

Insertion continues with the Winged Thumb Wrench.

To verify initial stability is sufficient for each implant, connect the Graduated Torque Wrench and confirm at least 35 Ncm of resistance.

Torque Wrench with the Ratchet Adapter

If there is less than 35 Ncm of resistance – which might frequently be the case in maxillar bone – a temporary soft-loading without metal housings is recommended.

IMPORTANT: If no significant resistance is met during this mid-stage of insertion, the prognosis for the implant reaching its full potential is doubtful. The patient's bone at this site possibly lacks the required density for predictable success.

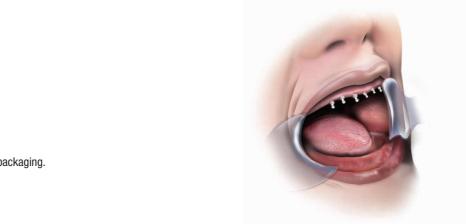
5 Final Implant Positioning

A minimum of 6 MDI implants are required to stabilize a full maxillary denture.

IMPORTANT: The removable 0-ring attachments inside an over-denture will not loosen an integrated MDI implant. A loose implant is one that did not fully integrate into the bone. The primary reason for non-integration is over-instrumentation of the bone. The MDI implant utilizes a fully self-tapping protocol. It demands that the implant bite into the bone and advance itself from the initial point to completion. The procedure requires torquing forces that progress from the Finger Driver to the Winged Thumb Wrench to Ratchet or Torque Wrench with the Ratchet Adapter.

6 Restorative Protocol

For maxillary denture stabilization cases using MDI, a soft reline without metal housing attachments is recommended for the first 4-6 months (see page 20 for Soft Reline Protocol). After osseointegration is complete, the denture can be retrofitted with metal housings (see page 18 for Hard Pick-Up Protocol).



MDI Torque

Recommendations

during implant placement.

• Do not exceed 45 Ncm

• A minimum of 35 Ncm of resistance upon final insertion is recommended

for immediate load.

Direct Restorative Protocols

SECURE Hard Pick-Up Protocol



Relieve denture to accommodate implants and metal housings, creating individual holes or a trough.



Trim Blockout Shims to appropriate length and place one shim on each implant to block out undercuts.



Extrude Hard Pick-Up material directly onto Metal Housings and into the troughed denture.



Seat denture in patient's mouth and have patient apply normal bite pressure in centric occlusion and allow 7–9 minutes for Hard Pick-Up material to set.





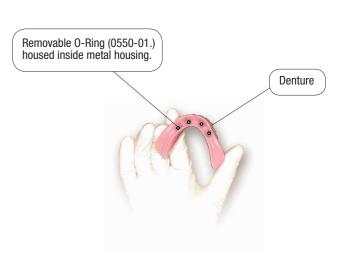
Place Metal Housings on each implant and check for passive fit over shims. Place denture in patient's mouth and check for passive fit over implants and housings.



Apply a thin layer of adhesive to the tissue-contact surface of the denture.



Remove denture and all blockout shims, trim and polish. Seat the final denture and inform the patient to keep the denture in place for the first 48 hours after placement to prevent tissue overgrowth.



Direct Restorative Protocols

SECURE Soft Reline Protocol

Recommended for maxillary cases. May be necessary when implants are placed in softer bone in the mandible.

- Grind down denture base at least 1mm and relieve denture to accommodate the prosthetic heads of each implant.
- Roughen the tissue-contact surface of the denture with an acrylic bur and degrease the surface with isopropyl alcohol.
- Apply a thin coat of adhesive.
- Extrude Soft Reline material onto the tissue-contact surface of the denture.
- Place the denture in the patient's mouth and ask patient to apply normal bite pressure in centric occlusion.
- Allow seven minutes for Soft Reline material to set.
- Remove denture and trim excess material with fine scissors or a surgical blade.



- . Mix equal drops of glazing base and catalyst.
- Use a brush to apply the mixture to the corresponding margins.
- DO NOT remove the palate of a maxillary denture during this stage.
- Ask the patient to keep the denture in place for the first 48 hours after placement to prevent tissue overgrowth.
- Four to six months after soft load, the soft liner can be replaced with a hard pick-up of the MDI Metal Housings to increase the level of retention.

Indirect Restorative Protocol



Seating the Copings

Snap the O-Ball Impression Copings directly onto each O-Ball MDI Implant.

NOTE: Soft tissue may prevent full engagement of the coping on implants seated too deeply into soft tissue. In such a case, it is recommended to take an impression of the 0-Ball head of the implant without impression copings applied.



Standard crown and bridge impression techniques are used to pick up the impression copings, recording each implant's position easily and accurately. Polyether Impression Material is recommended for implant impressions.



Once the impression has fully set, carefully remove the tray from the patient's mouth and confirm all impression copings have been captured accurately in the impression.

Insertion of the Lab Analogs

This step can be observed in the clinic or at the dental laboratory.

Confirm the appropriate MDI Lab Analog will be inserted by reviewing the type of MDI O-Ball Implant used in the case. Use the Collared O-Ball Analog (LAOB.) any time Collared O-Ball MDI Implants are used. When Classic O-Ball MDI Impants are used, coordinate the case using Classic O-Ball Analogs (5118.).

Align the square neck of MDI Analog with the square opening at the base of the Impression Coping. Press the analog into the coping until a snap fit is observed. Insert a lab analog into each coping and prepare the impression to be used to fabricate a stone model.

5 Fabrication of the model

Use standard stone model fabrication techniques to form the model. Once the stone has set completely, carefully remove the impression from the model.







3.0 mm Implant Protocols

Surgical Protocol

3.0 mm MDI implants are not recommended for placement in extremely dense (D1) or extremely soft (D4) bone.







Soft Bone Drilling Protocol (D3 Bone)

Perforate the cortical plate using \emptyset 1.5 mm Surgical drill (S1015.).

Dense Bone Drilling Protocol (D2 Bone)

Entry divots are made with the \emptyset 1.5 mm Surgical drill (S1015.). Pilot holes then made with the \emptyset 1.5 mm Surgical Drill should have a depth equal to approximately ½ the length of the planned implant plus the measurement of soft tissue thickness. Optionally, in dense bone a 2.0 mm MDI drill (2012-01.) may be necessary to widen the drill channel. An endodontic stopper is helpful in marking appropriate depth.

Example: For a 13 mm implant in a site with 2.5 mm soft tissue thickness, a pilot hole of approx. 9 mm is ideal (6.5 mm + 2.5 mm = 9 mm).



S1015. 2012-01.

Implant Placement

2 Use of the Finger Driver

Insertion of the MDI implant begins with the vial cap until more torque is necessary.





Insertion continues with the Winged Thumb Wrench.





Use of the Ratchet or Graduated Torque Wrench with the Ratchet Adapter

Insertion continues with the Ratchet Adapter connected to the Ratchet or Graduated Torque Wrench.

To verify initial stability is sufficient for each implant, connect the Ratchet Adapter to the Graduated Torque Wrench and confirm at least 35 Ncm of resistance.





Final placement is achieved once all blasted surfaces are engaged in bone, and the crown margin is positioned at the appropriate level subgingivally.

 $\ensuremath{\text{NOTE:}}$ For instructions on impressioning and temporization, see the following page.

3.0 mm Implant Protocols

Impression & Temporization Protocol



Taking An Impression

A Pick-Up impression is made using the retentive impression coping.



2 Forming the Temporary Restoration

Once adjacent teeth are lubricated with petroleum jelly, Tapered Abutment (2923T.) or O-Ball (2924T.) Immediate Temporization Caps are seated on the implants. Temporization Material is then extruded in the temporary crown impression or stint and placed in the patient's mouth for 1 minute and 40 seconds to 2 minutes and 50 seconds from the onset of mixing.



3 Finishing the Temporary Restoration

Remove the temporary restoration and cap (now bonded together) from the patient's mouth. Let the material continue to cure in the matrix for a total of 5 minutes from the onset of mixing. Trim excess flash and remove oxygen inhibition layer with alcohol. Press temporary restoration in place directly on implant abutments. Temporary Cement (Eugenol or Non-Eugenol) is optional due to the retentive nature of the Temporization Cap.



MDI IMPLANTOLOGY focuses on dental applications and the development of new technology to simplify dentistry and significantly improve the lives of our customers globally. IMTEC originally created a revolution in implantology with the introduction of the IMTEC MDI Implant system and has grown into the global leader in small diameter implants, now MDI mini dental implant system. As a progressive company, MDI IMPLANTOLOGY continues to provide innovative solutions through our line of implants, dental products and digital dentistry technology that reflect our expertise in minimally invasive implantology.

MDI IMPLANTOLOGY is committed to help redefine the evolving field of dentistry, with the goal of providing products and services that transform the way clinicians practice today.

MDI Mini Dental Implant System

Great care is taken in the selection of materials, production methods, sterilization and packaging of MDI dental implants and associated components. Strict inspection procedures have been established to ensure all MDI dental implant products are in compliance with an array of regulatory standards.

MDI dental implant products are manufactured under a certified ISO 13485 quality system. In addition, they meet the stringent European Medical Device Directive and thus can carry the CE mark.

Quality

MDI dental implant products meet the rigid specifications of the medical device regulations. Many of the products and components are subject to 100% inspection during various stages of production.

Packaging

MDI implants and sterile components utilize packaging configurations that have been validated to provide clean, sterile barriers for a duration of at least five years. Each sterile device includes a removable patient chart label for future referencing and simplified record keeping. Dental instrumentation and components are provided non-sterile unless otherwise noted.

Commitment

Our commitment is to provide the dental profession with state of the art, cost effective dental implants and associated products, coupled with competent, reliable customer service. We stand ready to serve you at all times. Please visit our website at www.mdi-implantology.com to locate your MDI DEALER for more information.

MDI Implant Products – Limited Warranty

MDI's sole obligation and the buyer's sole remedy in the event of any claimed defect shall be, at MDI's option, repair or replacement of the product, or refund of the purchase price. Written notice of claimed defect must be received by MDI within reasonable time after discovery not to exceed one year from the date of delivery. Except where prohibited by law, MDI shall not be liable for any loss or damage arising from its dental implant products, whether direct, indirect, special, consequential, regardless of the theory asserted, including warranty, contract, negligence or strict liability. MDI neither assumes, nor authorizes any other person to assume on its behalf any additional liability or responsibility in connection with its dental implant products. Defects misuse, neglect, accident or failure to follow recommended procedures or instructions for use or by modification by the buyer or user voids any MDI dental implant product warranty.

Technical/Clinical Assistance

Please contact an authorized MDI distributor or the company at www.mdi-implantology.com

- All prices are subject to change without notice
- All graphics are by way of illustration only (Not responsible for typographical errors)
- For more information online please visit www.mdi-implantology.com

