MONORAIL

TRANSITIONAL IMPLANT SYSTEM

from

Dentatus
Patient’s Expectations:

At day of surgery:
- Functional dentate
- Esthetics + Comfort
- No post-op complications
- Affordable Cost
MTI-MONORAIL

Dentist’s Expectations:
• Restoration is completed in a one day surgery
• Protect transmucosal surgical site
• Protect augmented bone areas
• Prevent premature Implant loading
• Predictable results
• Option, to be used for Emergency Repairs
• Affordable Costs
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1. Study models
2. Diagnosis and Wax-Up
3. Treatment Plan
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1. Check MTI Position and Alignment
2. Check possible depth of Osteotomy (MTI Length)

Tipped, sharp Profile-Drill (laser-marked):
- For Osteotomy
- Osteotomy through tissue
- Startpoint for Implants
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1. Screw in MTI Implants
2. Check Vertical Height
3. Check Parallelism
4. Align Slots
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Apply Gingival Protective Spacers (to avoid locking of Restoration)

Spacers are also valuable as Stops for Laser marked Profile-Drills
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1. Check Vertical Alignment of Implants and Bar

2. Decide for Use of Singular or Modular Copings

3. Adapt and form Titanium Connective Bar for Modular Coping
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1. Apply Copings

NEW MONORAIL
Modular Coping

2. Check for Parallelism
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1. Apply Singular Copings for Implants “not in line”
2. Shorten Singular Copings if necessary
3. “Bypass” Singular Copings with Titanium-Bar

No Spacers are used
Choose vacuum-formed Splint-Form first

Allows immediate Splinting by Surgeon or Implantologist

Use Clear Resin for easier Placement

Integrated occlusal bar allows correction of OVD*

* occlusal vertical dimension
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1. Use Vacuum-form of Wax-Up for Temporary
2. Establish OVD at distal teeth first
3. Immediate, fast + easy processed Temporary
   ¬ Immediate Function + Esthetics
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Protect augmented Bone Areas
Prevent premature Implant Loading
MTI-MONORAIL

Protect augmented Bone Areas

Prevent premature Implant Loading
MTI-MONORAIL
Indirect (Lab-)Procedures

Decide for Procedure:
1. Direct (Chairside) Temp.
2. Indirect (Lab-processed) Temp.

Indirect Temp may replace Chairside-Temp. after healing-phase
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Indirect (Lab-) Procedures

1. Apply Impression Copings
2. Take Single-Phase Impression
3. Insert Lab-Posts
MTI-MONORAIL
Indirect (Lab-)Procedures

1. Fabricate Model
2. Process Temp as previously shown
3. Use Modular- and/or Singular Copings with Splint Form
MTI-MONORAIL
Indirect (Lab-)Procedures

1. Finish Temp. on Model
2. Occlusal and interproximal Corrections

Indirect Temp may replace Chairside-Temp. after healing-phase
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Training Kit

1. Training of Clinician and Staff
2. Training of Technicians

Includes all necessary Parts:
- Predrilled lower Jaw
- Drills, Lab Analogs (as Implants and Analogs)
- Modular-Copings + Bar
- Singular Copings
- Winged Key
- Impression Copings
- Vacuum formed Splint / Vacuum formed Anatomical Lower
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System Parts

1. Profile Drills, Laser-marked
2. Winged Key
3. Paralleling-(Bending-) Tool
4. Engine Driver
5. Gingival Spacer
6. Modular Coping
7. Singular Coping
8. Comfort Cap
9. Impression Coping
10. Lab Analog
11. Implants, Ø 1,8mm, 3 Lengths
12. Titanium Connective Bar
MTI-MONORAIL Research

Tarnow, D. NYU
Histological study from human specimen:
Good osseointegration immediately loaded of MTI
The provisional separation of the edentulous ridge in the absence of natural abutments has been a continuing challenge for clinicians in contemporary implant therapy. Although the immediate loading of implants has long been advocated by pioneers in this field, modern implant system protocols had previously avoided this concept and advocated the submerging of fixtures for an initial healing period in order to enable safe and predictable cementation.

In recent years, however, the discomfort to patients between stage I and stage II implant surgery has necessitated attempts to develop a solution that avoids the use of unstable removable dentures that might interfere with soft-tissue healing. These investigations resulted in two concepts: 1) the immediate loading of the definitive implants in selected cases, and 2) the loading of additional modular implants to be removed in stage II. The modular transitional implants (MTI, Dentsply, New York, NY) can be inserted simultaneously with the definitive implants to support an immediate fixed interim restoration. In the past 3 years, this treatment modality has been selected and successfully utilized to provide function and comfort for patients.

Clinical Protocol
A 52-year-old female patient was referred to the authors for a full-mouth rehabilitation. Due to the hopeless prognosis of all the teeth (Figure 1A), an implant-supported restoration was the treatment alternative selected by the patient (Figure 1B). In the initial treatment plan, a staged extraction and implant placement protocol were used, utilizing the remaining mandibular teeth to be extracted and immediately restored with a complete removable lower denture. This procedure would subsequently be replaced in the maxilla.

The third stage of the treatment plan required the placement of the implants in the maxilla and then in the mandible. Following extraction of the mandibular teeth, the patient complained of extreme discomfort during function with the removable dentures and requested a more stable restoration. In order to accommodate the patient’s request, the initial treatment plan was altered and the mandibular implant fixtures were interposed primarily, in conjunction with modular transitional implants, to support a fixed provisional restoration prior to the placement of maxillary implants.

Figure 1A. A preoperative radiograph indicates that all teeth are severely periodontally involved with hopeless prognosis.

Figure 1B. A survey postoperative radiograph demonstrates the integration of implants-supported restorations in both jaws.
Use of transitional implants for fixed interim prosthesis

The ability to protect freshly augmented sinus graft—a case report

Z. Mazor, I. Brosh, M.D.T.

Fabricating an interim prosthesis after stages one implant surgery in cases where minimal abutment abutment results in designing a removable denture either full or partial. Therefore, the removable prosthesis might cause premature loading of the implants, easily implant failure and lack of integration leading to implants loss.

Use of modular transitional implants (MTIs) (DP Durrnagl USA New York N.Y.) has given the possibility of fabricating a fixed interim prosthesis at the day of implant surgery eliminating the need of a removable appliance before protecting the implants sites with maximal protection leading to no-excess sinus without inconvenience.

These transitional implants (1.0 mm in diameter) made of commercially pure titanium are placed in the existing bone between the implants. The thin diameter of these MTIs enables the surgeon to place them even in narrow boney alveoli for augmentation thus protecting the freshly augmented site without the possibility of premature loading of the graft.

Case Presentation

A sixty-six-year-old patient presented for the restoration of edentulous area in the maxillary left quadrant teeth No. 24-27.

Due to insufficient alveolar ridge height between the alveolar ridge and maxillary sinus floor the site was planned to undergo a sinus—lift procedure done simultaneously with 3 implants. In order to avoid the use of a unilateral removable denture two mini-transitional implants served as abutment for a fixed interim acrylic bridge from teeth No. 16-25. The MTIs were implanted six months post-op after uncovering of the implants in the maxillary augmented sinus. No adverse reactions or complications were noted.

About the author

Z. Mazor, M.D.T. is a leading periodontist. He graduated from the Department of Periodontology at Hadassah School of Dental Medicine, Jerusalem, Israel. Dr. Mazor is engaged in clinical research regarding bone Augmentation and Graft Techniques. He has published numerous articles regarding these subjects in the dental literature. He practices in his private clinic focusing on implant surgery.

I. Brosh, M.D.T. graduated the Department of Dental Technology at Hadassah College, Jerusalem, Israel. He is the owner of Esperanto-Brush Dental Studio, a unique laboratory in Israel. He has published numerous articles regarding dental cosmetics and prosthetic implants.
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S. Froum, S. Emtiaz, M. Bloom, J. Skolnick, D. Tarnow

“The use of Transitional Implants for Immediate Fixed Temporary Prostheses in Cases of Implant Restorations”

PPAD, August 1998
3/29/2011

Mr. Bernard Weisman, President
Dentatus USA, Ltd.
132 Lexington Ave., Suite 901
New York, NY 10016

Dear Mr. Weisman:

We have performed computerized image analysis and histomorphometric measurements to determine the percentage of bone in contact with the metal implant on almost all of these specimens. As I have told you numerous times and as you have seen from my analysis, the percentage of bone in contact with the implant is very high. In fact, it is in the same range and sometimes higher than what we usually see with the standard titanium "permanent" implants. At first I was surprised to see this high percentage of bone/implant contact with what was considered a "temporary" or transitional implant, but the more MTI specimens we saw, the more we came to expect the high bone contact. The results from my laboratory show that the MTI is performing very well in its intended application.

Please contact me if you have any other specific questions.

Sincerely,

Michael D. Rohrer, D.D.S., M.S.
Professor and Director, Division of Oral and Maxillofacial Pathology
Director, Hard Tissue Research Laboratory
School of Dentistry
University of Minnesota

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