# MTI™-MP: A Necessary Step in the Implant Process

**Keith Rossein, DDS**
President
International Dental Consultants
Malverne, New York
Phone: 516.593.3806
Fax: 516.887.6036
E-mail: kdr@itd.net

Implantology has made major strides in the last 20 years by becoming more acceptable and more predictable. This can be attributed to the development of strong, biochemically compatible materials that allow osseointegration without rejection and to the proper design of the implants and their component parts.

## Transitional Restoration

It is widely accepted that precise and high-quality provisionals are critical to successful restorative efforts. Within the more specialized area of implantology, the transitional restoration takes on an even more important role because it can spell the difference between success and failure.

## The MTI™-MP System

The MTI™-MP System (Dentatus USA, Ltd.) (Figures 1A and 1B) has elevated the art and science of implantology to the next level by solving two major problems: (1) achieving adequate osseointegration without disturbing the submerged implants, and (2) alleviating the patient's psychological reluctance to proceed.[1-3]

Before MTI™, there was no way to initially fabricate a fixed transitional restoration, especially for the completely or unilaterally edentulous patient, which would protect the endosteal implants that require an undisturbed, "unloaded" 4- to 9-month healing period.

### Benefits

The fabrication of a chairside and/or laboratory provisional restoration using MTI™ and its prosthetic components has three major benefits:

1. It prevents transmucosal loading of the submerged implants and allows necessary time for their undisturbed healing.
2. It provides immediate cross-arch fixed stabilization of the MTI™ implants.
3. It protects the surgical site.

### Psychological Fears

When emotions and rational thinking come up against each other, emotions almost always win out. A patient's psychological fears about the implant process often stand in the way of accepting the recommended treatment. These preconceptions usually develop from a "story" they heard or from the experience of a friend who had implant surgery. Thoughts about pain, potential embarrassment, and/or how they will look translate into "I'll have no teeth for my daughter's wedding!", "My teeth will fall out when I eat!", or "I'll never smile again."

### Advantages

The Dentatus MTI™ System is the key that will open up these emotional barriers by assuring the patient during case presentation that:

- they will never be without teeth during the entire healing period;
- they will have a fixed esthetic and functional restoration and be able to eat normally in a relatively short time;
- they will have less discomfort and fewer complications after surgery;
- they will be able to continue with usual activities and lifestyle without interruption.

Additionally, the patient will have the opportunity to discuss and decide with the dentist the size, color, and cosmetic appearance of the final restoration.

Because of the patient's better understanding of these advantages,


*Figure 1A—The complete MTI™-MP system, available from Dentatus USA, Ltd., has elevated implantology to a new level by solving the science's most common problems.*

*Figure 1B—Top to bottom: Winged Socket Key, MTI™ titanium implant, R/A Driver.*

*Figure 2—Three teeth to be extracted. Patient is unable to proceed with definitive implants at this point. The MTI™ implants are usually installed at the same time as the definitive implants. In this situation, they are being installed alone.*

*Figure 3—Diagnostic wax-up done by lab technician. The model is duplicated twice to fabricate a surgical stent and to fabricate a clear matrix for the provisional restoration.*

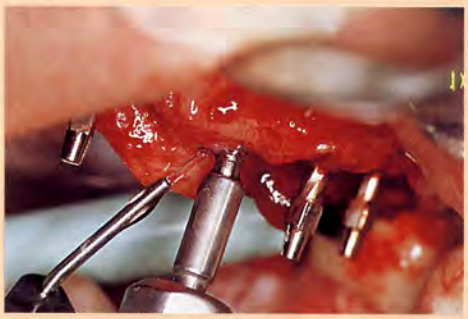

*Figure 4—The five MTI™ implants are installed using the R/A Driver at about 50 rpm.*

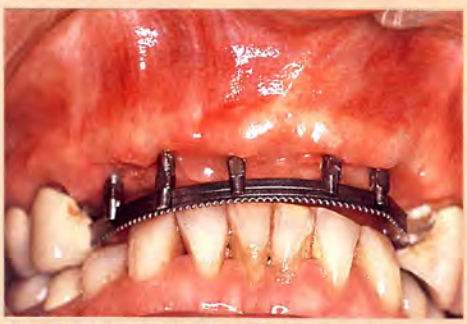

*Figure 5—After insertion through the implant slots, the Ti Connective Bar is aligned with light finger pressure around the contour of the edentulous ridge.*

*Figure 6—Modular Copings, which engage the Gingival Protective Sleeves, are designed to overcome nonparallel discrepancies and allow for stress-free seating and removal of the provisional.*

*Figure 7—Modular Copings are luted to the Ti Bar with acrylic. Note: Dentatus USA, Ltd. has new Modular Copings with metal clips, making this step unnecessary.*

MTI™ is considered a potent practice builder and a "lifesaver" for the advancement of modern implantology.

## Responsibility

Implantology is most often a team approach involving the surgeon, restorative dentist, and lab technician. Whose responsibility should it be to initiate the process, purchase the product and its components, and manage the process for rewarding results?

### *Restorative Dentist*

It would seem to be the restorative dentist's responsibility because they initiate, discuss, and recommend the choice of treatment to patients, and it is the restorative dentist who usually remains the long-term dental care provider. Consequently, the restorative dentist should coordinate the process, making sure that the MTI™ component parts are available to the surgeon and lab technician so that they can fulfill their specific tasks.

### *Surgical Specialists*

The nominal cost for MTI™ implants, components, and the provisional bridge should be included in the fee presented by the restorative dentist. The surgical specialists should include a fee for the additional time it takes to install MTI™ implants, together with their customary implant fees charged to their patients.

Until recently, the surgeons immediately received payment for their services while the restorative dentists had to wait a considerable length of time before commencing the prosthetic restorative treatment. The good news is that with MTI™, the restorative dentist can also collect a sizable part of the overall restorative fee from the inception of the provisional restoration.

## Case Presentation

There are two schools of thought on how to present MTI™ to the patient. One would be to

*Figure 8—A vacuum-formed matrix is used to fabricate a chairside provisional, which is cemented temporarily in place.*

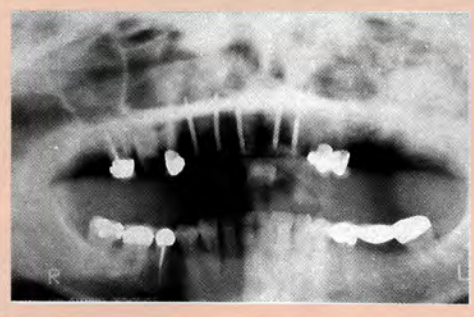

*Figure 9—Postoperative x-ray of placed MTI™ implants.*

offer it as an alternative to retrofitting their removable partial denture or full denture. However, I am an advocate of the second opinion: Don't give the patient a choice! Tell them, "This is the way it is done: You will have a fixed provisional restoration fabricated chairside immediately after surgery. In about 2 to 3 weeks (when healing is complete and sutures are removed), we will take an impression to replace the temporary with a restoration processed by the dental laboratory. This will give you natural-looking teeth and allow you to function normally, with confidence, every day until the provisional is no longer necessary."

## Surgical Process

The surgical procedure is relatively simple. Using the stent that is created from the diagnostic wax-up (Figure 3), an osteotomy is created with the MTI™ Profile Drill at low speed in a R/A handpiece using a straight up-and-down motion with plenty of irrigation. The MTI™ implants should be placed at a 1.5-mm to 2-mm distance between fixtures and, if necessary, may be placed lingually or facially to gain more space.[4-6]

For easier access, the MTI™ implant is inserted into the osteotomy using the R/A Driver in a low-speed handpiece (Figure 4). The installation is completed and aligned manually with the Winged Socket Key, providing greater tactile leverage (Figure 1B). After installation, the surgical flap should be closed around the MTI™ implants with primary contact on both sides of the flap.

## Provisional

The Ti Connective Bar is inserted through the MTI™ implant slots and is aligned with light finger pressure to follow the contour of the edentulous ridge (Figure 5).

Gingival Protective Sleeves are placed over the protruding MTI™ implants to prevent flowing acrylic or composite from interlocking under the wider implant heads. Then, Modular Copings are placed over the implants/Ti Bar in a clamp-like fashion, engaging the Gingival Protective Sleeves (Figure 6).

The Modular Copings, designed to overcome nonparallel discrepancies, allow for stress-free seating and removal of the provisional restoration. The "splinting effect" of the connective bar results in balanced function and cross-arch stabilization.

After the Ti Connective Bar and copings are luted together with acrylic (Figure 7), a vacuum-formed or prefabed matrix is used to fabricate a chairside provisional. The restoration is then cemented temporarily in place (Figure 8). Figure 9 shows a postoperative radiograph of the installed MTI™ implants.

## The Litmus Test

Patients considering implants with major financial and psychological implications need to be assured of the short- and long-term benefits to accept your recommended treatment.

In my opinion, when dentists present implants as the bestalternative for replacing missing teeth, it is critical to include MTI™ provisionals as the "usual and customary" part of the treatment plan. Nothing less should be presented and professionally acceptable!

## Acknowledgment

The author would like to thank Dr. Paul Petrungaro for his excellent clinical photography appearing in this article.

## Note

**Dr. Keith Rossein, consultant, author, and lecturer, presents a half-day, hands-on workshop on this topic called "Fabricating a Fixed Provisional Restoration Immediately After Implant Surgery." Any interested study clubs, dental meetings, schools, or other continuing education sponsors can contact him at 516/593-3806, or by fax at 516/599-3734.**

## References

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