IMTEC Corporation

SENDAX MINI-DENTAL IMPLANT SYSTEM™

With the patented “auto integrating” implant technique.

1. MINI DENTAL IMPLANT DESIGN:

IMTEC Corporation’s patented SENDAX MINI DENTAL IMPLANT (MDI) SYSTEM™ is a uniquely designed concept for immediate and on-going fixation of a patient’s dental prosthesis. The IMTEC MDI system is a minimally invasive, one-stage, immediate load implant that provides for a fixed or removable prosthesis. The unique “O-Ball” design of the system easily accommodates the MDI “Keeper Cap” that utilizes both semi-rigid and non-rigid prosthetic retainers. The Mini Dental Implants are double-packaged and provided in individual, sterile containers in four different lengths, 10, 13, 15 & 18mm. They are made of Titanium Alloy, Ti6A4V. (Titanium alloy has a 62.5% higher tensile strength than grade IV CP titanium, the strongest of the ASTM tested standard commercially pure titanium classes.) In addition, IMTEC offers an MDI MAX mini implant in three sizes, 10, 13 & 15mm for less dense bone.

2. JAW ANATOMY EVALUATION:

The clinician using estimation concepts accomplishes evaluation of jaw anatomy for angulation determination by using estimation concepts, to include palpation pointed calipers, explorer point probe, and anesthetic needle. In addition, radiographic examinations should be taken, to include panoramic, cephalometric, and computerized tomography (CT), as indicated.

3. DRILL SPECIFICATIONS:

A Brasseler-type latch drill (IMTEC catalog #S1011) is used primarily to open denser bone layers to facilitate the self-tapping and self-cutting features of the MDI system. The clinician should take steps to ensure that the speed of the drill does not exceed 1,600 RPM’s with adequate torque and irrigation. Alternatively, a friction-grip air turbine may also be used as a starter at moderate speeds, carefully controlled by foot rheostat and with concurrent water irrigation, using a long, tapered point diamond drill or 700XXL carbide.

4. PUMPING MOTION DRILL TECHNIQUE:

Drills should only be used to establish access angulation and pilot starting point for placement of the implant. The auto-integrating mini implants are designed to be self-tapping and self-drilling into the underlying bone. The drilling technique typically involves no surgical incision, or flaps. The initial locator drill is utilized by the clinician to drill through a small patch of attached gingiva. The suggested drilling technique will gradually penetrate the medullary bone layer after the initial cortical bone penetration. It also provides a very light touch approach to the minimal osteotomy required by the technique, since very little actual bone cutting is needed for the pilot entry.

The drilling entry procedure is usually completed with a few pumping motions resulting in light penetration past the dense cortex into softer, more trabeculated medullary bone. Sterile irrigation should be utilized throughout the drilling procedure. The desired site depth should not exceed one-third to one-half the threaded length of the mini dental implant itself. A gentle up and down pumping motion prevents the drill tip from overheating, and/or becoming bound and embedded into the patient’s bone.

NOTE: Accurate bone anatomy estimation by palpation and simple drilling skills has a distinct learning curve. Clinicians who have acquired digital reflexes as a part of their underlying training will readily adapt to this non-incision method of implant placement.
CAVEAT: Never drill into any inflamed soft tissue or where a prior infection or osteitis has recently occurred or is currently present. This could result in implant failure and/or severe post-operative pain.

5. Packaging of implants.

Each sterile, double-pouched implant is suspended in a transparent vial for easy access and transmission to the implant site. This packaging method also allows ease of removal and transfer to the clinician’s sterile environment. The mini-implant body may be also be held with IMTEC titanium locking pliers, (catalog part #1030.)


- A small thumb carrier-wrench or finger driver (IMTEC catalog part #S9030) can be used to retrieve, convey and introduce the mini dental implant into the target site after the initial pilot drilling process has been completed. The implant is carefully screwed clockwise into the site using rotation of the thumb and index finger on the knurled handle of the wrench until it binds and becomes difficult to turn. The thumb wrench is then removed from the implant abutment/head.

- The clinician then replaces the thumb wrench with a winged thumb wrench (IMTEC catalog part #S9032) for more mechanical advantage and leverage. He should continue to turn the implant gradually into the patient’s bone until once again it binds to a point where it is increasingly difficult to turn. Then the winged wrench is removed from the implant abutment head.

- The clinician should then use a ratchet wrench (IMTEC catalog part #8010) to slowly ratchet the implant into its final position. The neck of the mini dental implant should be fully inserted into soft tissue (attached gingiva) so that only the abutment head protrudes into the oral cavity. Finally, the clinician should then check for bite clearance and inter-arch/intra-arch relationships, making appropriate adjustments where necessary.

- Mini Dental Implants should be placed no closer than 6mm to each other and should be seated as parallel as possible when utilizing a removable prosthesis. It is not necessary for complete parallelism, as the elastomeric MDI block out shims allow for slight divergence of the implants.

7. Adaptation of patient’s prosthesis to the implants, (retro-fit)

- The clinician should relieve the tissue side of the patient’s prosthesis so that it can be seated passively over the top of the seated implants.

- A soft block-out MDI shim (IMTEC catalog part #S1010) should then be placed on each inserted mini implant’s square base portion of abutment head, leaving the O-Ball top half exposed for attachment placement. Keeper Caps (catalog part # S0454) with IMTEC MDI O-Rings (catalog part #0550)(for non-rigid fixation) or Keeper Caps (catalog part #CN010) [for semi-rigid fixation], are then snapped onto the O-Ball heads.

- The patient’s prosthesis should then be carefully examined to ensure passive fit. A standard chair side “cool-set” acrylic mix is then prepared and placed into the denture, then seated with a functional bite into the patient’s mouth over the top of the mini-implants with the keeper caps attached. After an appropriate hardening time, the prosthesis can then be removed from the patient’s mouth, the block out shims discarded, and any excess acrylic material trimmed. The finished prosthesis, containing the Keeper Caps, is then replaced into the patient’s mouth for occlusal equilibration and border adjustment.

- Appropriate follow-up and oral hygiene instructions should be given to the patient.
This procedure provides for immediate and on-going stabilization for the patient in an economical, efficient manner.

Read what Dr. Gordon J. Christensen of Provo, Utah, says about mini implants and the Sendax MDI:

“......the recent popularization of the “mini” implant concept should provide motivation for general dentists to use these very small implants (1.8mm diameter) on both a transitional and long-term basis. An example is the Sendax MDI implant which I have demonstrated in one of our recent ‘New Concept’ videos, The Mini Implant For General Practitioners’ (item #C900A), available at 800/223-6569 or on the web at www.pcdental.com.

"I have used the Sendax implant as stabilization for complete dentures where bone quantity is inadequate for standard implants, as well as for salvage jobs where there are not enough remaining teeth to support a previously placed or new fixed prosthesis. This implant concept is very simple, and the implants can be placed in some situations without performing a soft tissue flap.

“Look into the concept. If you can screw a wood screw into a board, you are ready to begin. It’s almost that simple.”

Gordon J. Christensen, DDS, MSD, PhD - February 2001 DentalTown Magazine

IMTEC invites general dentists to call now for complete Sendax MDI information, including an eleven-minute videotape of Dr. Ronald A. Bulard performing a mandibular stabilization procedure. Also, ask for the latest information on Sendax MDI one-day seminars slated for the balance of 2001 and for shows already scheduled for 2002. Enrollment is limited so call at your earliest convenience.

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