

# Changing Your Denture Patient to an Implant Patient in One Day

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As we enter the 21st century, minimally invasive devices and procedures are becoming the fastest growing segment of the medical- and dental-device industry. Compared to traditional approaches, minimally invasive devices reduce the risk to the patient, require less anesthesia, shorten surgical and recovery times, and result in significant cost savings. Research and development has been directed at the utilization of ever-increasing smaller and smaller components. Mini-dental implants (Sendax MDI, IMTEC Corp.) are an excellent example of this trend. They dramatically broaden the spectrum of mandibular overdenture patients who can be successfully treated. These 1.8 mm implants differ from their full-sized counterparts in a number of significant ways. The configuration of the implant permits a more conservative placement protocol. No tissue flaps or tapping procedures are required, which results in less trauma to both gingival tissue and bone. Their smaller size also permits placement in ridges that might not otherwise be suitable for full-sized implants.

The implants are firmly seated in place in intimate contact with bone. Once they have been fixed in place, they can be immediately loaded. There is no need for a long waiting period or second stage surgery. The simplified protocols, conservative procedures, and elimination of gingival surgery make this implant ideal for medically, anatomically, and financially compromised patients.

### Case History

A woman in her late 70s presented to our office frustrated with her lower complete denture. She complained it was non-retentive and non-functional, always falling out during speech or during eating. The patient suffered from hypertension, which was controlled with medication. She had been a denture wearer for the last 30 years resulting in excessive resorption of the mandible.

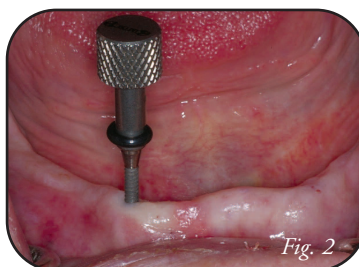
Palpation and radiographic examination revealed a moderately narrowed mandibular ridge. Crestal bone and ridge height were sufficient to receive 13 mm mini-dental implants. After reviewing her panoramic radiograph, the mental foramen was located, and it was determined that four implants could be safely placed within the cuspid-to-cuspid area.

All risks, benefits and alternatives were reviewed with the patient before initiating treatment. The patient was draped and a clean operating environment established (Fig. 1). Local infiltration of anesthetic was administered. Markings were placed to designate landmarks and areas of insertion. Keeping correct alignment, the implant drill was advanced through the gingival tissue and the cortical plate. No surgical insertion was necessary. During this stage it was very important to accompany each step of drilling with generous amounts of sterile water. Once penetration had been achieved through the cortical plate, the sterile mini-dental implant was placed with the finger driver until firm resistance was met (Fig. 2). At that time, the winged thumb wrench was



*Mandibular ridge exhibiting little retention for complete denture.*

Fig. 1



*Placement of the mini-implant with the finger driver instrument.*

Fig. 2

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employed (Fig. 3). During insertion, it was important to press apically during the rotation of the implant. When advancement precluded further advancement, the ratchet wrench was employed, using small, carefully controlled incremental advancements until the implant was fully seated. Full seating was achieved when the threads and base of the implant were subgingival and only the abutment head was exposed (Fig. 4). It was important to ensure that the mini-implants were absolutely tight at this point. If they were not, the quality of the bone would indicate a poor prognosis.

At this point, the location of each implant was transferred to the denture using bite registration material. These areas were relieved to a diameter of 5 mm and the denture was resealed, confirming adequate relief had been established. It was very important to maintain a passive fit onto the implant/housing complex, so that no excessive force would be placed on the implants during mastication.

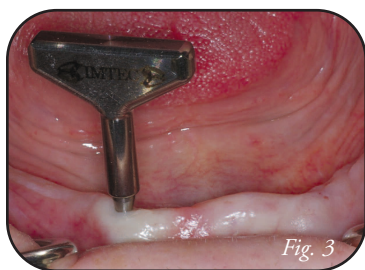
A small, plastic shim was placed over each implant, allowing only the o-ball of the implant to be exposed (Fig. 5). This step

would prevent the reline material from locking around the implants. A female o-ring keeper cap, metal housing, was then fitted over each implant (Fig. 6). Retentive fit and mobility were then again verified (Fig. 7).

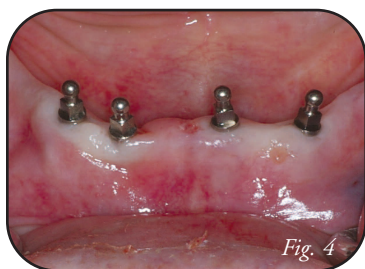
The cleaned and dried recesses in the denture were then filled with cold cure acrylic (Secure, IMTEC Corp.), and allowed to polymerize. Upon setting the denture was relieved of flash and any voids were filled. The patient was then instructed in denture placement, removal, and oral hygiene.

## Conclusion

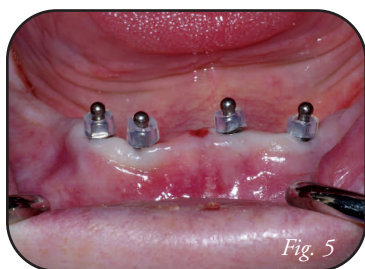
A mini-dental implant service provides clinical and economic benefits to your practice and restores function and confidence to your patients. The simplified protocols, conservative procedures, and elimination of gingival surgery make these mini-implants ideal for medically, anatomically and financially compromised patients. Denture retention and function are dramatically improved, and the results are immediate.



*Tightening of mini-implant with thumb wrench instrument.*



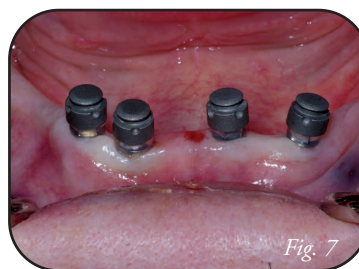
*Four mini-dental implants placed for stabilization of denture.*



*Block out shims placed to prevent lock on of acrylic.*



*Retentive housing caps placed before reline pick-up procedure.*



*Retentive housings tried in for accurate fit and clearance.*



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