The patient presented with multiple caries and localized periodontal disease. He was severely apprehensive and had not been to the dentist in more than 20 years. Because of pain and discomfort, the patient realized it was time to get treatment. Using the Internet, he sought treatment in a practice where he could be sedated and have all the necessary surgical treatment performed at one site, by one provider, and in the least amount of appointments. Ultimately, he found my practice and gained the courage to present for an evaluation. From the initial visit, it was apparent that not only was this patient apprehensive, but he was also ashamed of his current condition. My goal was to offer him the best treatment available to restore his smile to proper form and function. Without prejudging this patient because of the condition of his mouth, I offered him a variety of treatment plans ranging from dentures to full-mouth reconstruction with implants. The patient chose full-mouth reconstruction with fixed bridges and dental implants.

The first phase of treatment consisted of extracting the patient’s entire dentition atraumatically with Physics Forceps (Golden Dental Solutions). The extraction sockets were filled with grafting material to rebuild the maxillary and mandibular ridges for ideal implant placement.

After approximately 5 months of healing, the patient was scanned with an iCat (Imaging Sciences) using a scanning appliance fabricated by Glidewell Dental Lab. With the dentist on staff, Dr. Brad Bockhorst, we devised a virtual treatment plan using the Blue Sky Bio Plan software (Blue Sky Bio). Our goal was to place 8 implants in the maxillary ridge and 8 implants in the mandibular ridge abiding by the key implant positions as taught by Dr. Carl Misch (Contemporary Implant Dentistry, Third Edition). Using surgical guides fabricated by Glidewell Lab, I placed 16 implants (Internal Laser Lok, BioHorizons), 8 in the upper arch and 8 in the lower arch.

When the implants integrated 4 months after placement, full-arch impressions were taken with a quick setting polyvinyl siloxane impression material (Take One Advanced, Kerr) as well as a full-arch bite with a registration material (Take One Advanced Bite, Kerr). These impressions, along with the bite registration and measurements were forwarded to Glidewell Dental Lab for fabrication of the final restorations.
Figure 1—Retracted view of patient presenting with extensive decay. He had multiple caries and localized periodontal disease. The patient had not visited a dentist in more than 20 years. Pain and discomfort finally led the patient to seek dental treatment.

Figure 2—Panorex (PC1000, Panoramic Corp) further illustrates the extent of the patient’s clinical situation. As clearly seen in this radiograph, the patient has extensive decay that has caused major infection as illustrated by the radiolucent lesions at the tips of some roots. In addition, the panorex identifies some periodontal lesions as seen in the lower arch.

Figure 3—Impression posts that used either a 4.5 mm (green) or 5.7 mm (blue) platform with an internal hex were used to take impressions 4 months after surgery. They could be placed or removed easily due to the ball top screw.

Figure 4—Upper impressions were taken using Take One Advanced (Kerr). Using a polyvinyl siloxane impression material like Take One Advanced that can be universally used for single-unit, removable, or multiple crown-and-bridge procedures was a huge advantage. The filler technology in this material allows it to capture perfect impressions in any environment.

Figure 5—Lower impression using Take One Advanced.
Figure 6—To place the custom abutments (Inclusive, Glidewell) in an effective and efficient manner, a placement jig fabricated by the lab was used. When all the abutments were fully seated and confirmed with an x-ray, the screw access holes were closed with a cotton pellet followed by Temposomal (Coltene/Whaldent).

Figure 7—FP3 porcelain-fused-to-metal maxillary bridge. (Fixed Prosthesis-3 according to Misch’s nomenclature for a restoration that appears to replace the natural teeth crowns and a portion of the soft tissue.)

Figure 8—Maxcem Elite (Kerr) cement is easily dispensed into multiple restorations due to its auto mixing tip and syringe. Because of this, there are no voids or discrepancies in the consistency of the mix. When using Maxcem Elite it is important to clean up excess cement during the gel state before the material completely hardens.

Figure 9—Retracted view of patient after placement of final restorations. Using a combination of implants and fixed bridges, the patient was restored to proper form and function. Notice the increase in vertical dimension in the final restorations. Before, the patient had worn his dentition so much that his vertical dimension was collapsed.

ABOUT THE LAB

Glidewell Dental Lab

Having a dental lab that incorporates all the services necessary from A-Z for this type of reconstructive case is very important when delivering a full-mouth rehabilitation on several dental implants. Using the treatment planning services available at Glidewell with the assistance of the dentist on staff (Dr. Brad Bockhorst) allowed us to plan everything from start to finish (immediate dentures, surgical guides, Inclusive abutments, Biotemps, fixed bridges). In other words, we were able to place the implants in key position areas using surgical guides that were prosthetically driven. This eliminated any problems with improperly placed implants or issues with biomechanics. Most importantly, having the type of technology and resources available at Glidewell helped eliminate the stress often associated with these larger cases.
GO-TO PRODUCTS USED IN THIS CASE

INTERNAL LASER-LOK
Internal dental implants provide maximum surface area through the use of parallel-walled body and square thread design. It also is available with Laser-Lok microchannels to create a physical, connective tissue attachment and long-term crestal bone maintenance.

BIOHORIZONS
800.420.8990 ext. 70163
http://link.argifocus.com/2MZ-163
Reader Service 163

TAKE 1 ADVANCE
Take 1 Advanced VPS impression material combines various characteristics to meet many individual clinical needs. It creates a wettable surface that breaks surface tension and displaces fluids for detailed impressions with no voids or gaps.

KERR CORPORATION
800.420.8990 ext. 70163
http://link.argifocus.com/2MZ-163
Reader Service 163

MAXCEM ELITE
Maxcem Elite self-etch, self-adhesive resin cement is easy to use. Cleanup is simple in the gel state, there is no need for hand mixing, and no refrigeration is required. In addition, it is compatible with all common substrates.

KERR CORPORATION
800.420.8990 ext. 70163
http://link.argifocus.com/2MZ-163
Reader Service 163

PC-1000
Internal dental implants provide maximum surface area through the use of parallel-walled body and square thread design. It also is available with Laser-Lok microchannels to create a physical, connective tissue attachment and long-term crestal bone maintenance.

PANORAMIC CORPORATION
800.420.8990 ext. 70163
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Figure 10—Panorex after reconstruction illustrates the proper placement and orientation of the dental implants into bone as well as complete seating of the restorations.