All-ceramic Restorations: Preparation is the Key

Get a perfect fitting prosthetic every time

by Bill Warner, CDT, Crown and Bridge Manager

The phrase “the future of dental restorations” seems to appear with each new system that comes along. In the case of all-ceramic restorations, however, this statement might very well be true. Ever since the days of Dicor and Cerestore in the early 1980s, all-ceramic restorations have improved considerably. Options now include pressable porcelain, porcelain to zirconia, CAD/CAM restorations and sub-classes of each that continue to be developed by many different manufacturers. With gold prices continually increasing, more dentists are starting to use all-ceramic materials over traditional PFM crowns. With so many all-ceramic choices, there are many details to remember when it comes to using each system.

Preparation is the Key

Surprisingly, preparation is probably the most overlooked aspect of an all-ceramic restoration. If proper tooth preparation is not followed, an otherwise successful restoration might fail, creating an unhappy patient, the need for additional chair time and higher costs for you. Remembering the following tips will help you achieve a successful restoration each and every time.

Sharp Objects – Keep in mind that porcelain is basically glass. As such, avoid sharp angles, projections, pits or sharp transitions from one surface to the other when prepping for all ceramic veneers, inlays and crowns.

Dry, Dry, Dry – The tooth preparation must be completely dry to keep veneers from de-bonding.

Know Your Parameters – Regardless of the manufacturer, almost all of the available all-ceramic systems adhere to similar parameters:

Anterior Crowns
- 1.0-1.5mm reduction at the cervical
- 1.5-2.5mm at the facial
- 1.5-2.5mm at the incisal edge

A shoulder or deep chamfer margin is recommended and will give far better results than a featheredge or knife-edge preparation, which are contraindicated for both anterior and posterior crowns.

To get the full Tech Talk, visit www.ddslab.com/all-ceramic-restorations or call DDS Lab at 877-337-7800.

Author’s Bio

Bill Warner has more than 27 years of dental laboratory experience as a technician, supervisor and laboratory owner. Bill is an expert in all phases of fixed prosthetics, including product selection and planning for the most complex cases.
Removable Enters the Digital Age with AvaDent Digital Dentures

Every year more than five-and-a-half million dentures are fabricated in the United States and millions more worldwide. Remarkably, since the time of the Vulcanite denture, the process for fabricating a denture has been very similar for the last 150 years. Until now. Now there are AvaDent Digital Dentures and this changes dentures forever.

Developed by Global Dental Science and its international team of leaders in the digital dentistry field, AvaDent’s breakthrough technology brings the precision, aesthetics, speed and profitability of CAD/CAM process automation to removable dentistry.

AvaDent Digital Dentures, whose name is derived from Ava meaning rebirth and Dent meaning dentition, make it possible for you to offer your patients a precise fitting, aesthetic denture in two appointments.

Additionally, AvaDent allows you to offer the digital denture using standard clinical procedures, with no computer skills or capital investment required. The need for stone models, bite rims, waxed-up try-ins and back-and-forth appointments are eliminated with AvaDent.

Here is a look at the AvaDent process:

Using its simple impression taking technique and a proprietary AvaDent Anatomical Measurement Device (AMD), you will use standard clinical procedures to gather all the necessary clinical information in just one easy appointment (Fig. 1). The impression, AMD and prescription are then sent to the AvaDent Digital Fabrication Center for completion.

The impressions and the AMD are scanned and a permanent digital record is created (Fig. 2).

Using AvaDent’s breakthrough technology a virtual denture is created (Fig. 3). Advanced digital controls allow for functional and aesthetic adjustments never before possible such as natural rugae replication, border molding extensions, plus infinite thickness variability.

You can then choose the teeth and the occlusion scheme and AvaDent’s proprietary software automatically creates the optimal set-up and occlusion (Fig. 4).

Once all adjustments are made, the digital file is sent to a computer milling station where it is milled from AvaDent’s unique highly compressed, bio-hygienic base material (Fig. 5). Shrinkage is a thing of the past.

Processed within minute tolerances, AvaDent Digital Dentures offer you and your patients exceptional function, aesthetics and convenience (Fig. 6).

AvaDent also makes good business sense. By cutting the number of appointments for each denture in more than half you can save hundreds in overhead costs for each AvaDent prescribed.

In addition, because there is now a permanent digital record of your cases, you will be able to offer your patients a new level of security and convenience as you grow your future business.

Contact Info

To help you get going with AvaDent, Global Dental Science is hosting a series of half-day seminars across the country. To find a seminar near you go to www.avadent.com or call toll free 855-282-3368.
The MDI Mini Dental Implant system from 3M™ ESPE™ immediately stabilizes loose dentures using a 90-minute minimally invasive patented protocol, often completed without a flap and using the patient's existing denture. MDIs are designed for stability in soft and dense bone, with several attachment designs available for custom retention.

3M ESPE offers one-day MDI Certification Seminars, lead by some of the most experienced small-diameter implant clinicians in the nation. The 90-minute placement procedure for MDIs can be learned in a one-day workshop featuring case presentations, surgical hands-on practice and prosthetic demonstration. Participants have the opportunity to review potential MDI case diagnostics with instructors, with an overall emphasis on treatment planning, case selection, implant placement protocol, restorative techniques and valuable practice-building strategies.

The MDI system from 3M ESPE consists of 1.8, 2.1, 2.4 and 2.9mm-wide titanium alloy implants at lengths of 10mm, 13mm, 15mm or 18mm and a retaining fixture that is incorporated into the base of a patient’s denture. To hold dentures securely in place, the O-ring in the retaining fixture snaps over the ball-shaped head of the implant. When seated, the denture gently rests on the patient's gum tissue.

The procedure for placing MDIs is considerably less time consuming than that for conventional implants, which requires a full osteotomy, making it much more feasible for general dentists to adopt as part of everyday practice.

MDIs offer a less expensive, less invasive alternative to conventional implants and are an innovative solution for edentulous patients seeking long-term relief from denture discomfort. FDA-approved for long-term denture stabilization, mini dental implants can also be used to stabilize partial or upper dentures, place fixed restorations or for the long-term fixation of bridges.

Many patients find that Mini Dental Implants offer an attractive and suitable option versus conventional implant treatment for a variety of reasons. For example, patients who do not have adequate bone for a conventional implant might opt for MDIs to avoid bone grafting. Mini Dental Implants can be an affordable option for patients with deteriorating natural dentition to gain the added aesthetics that dentures provide while also achieving stability, comfort and confidence. This can be especially important for geriatric patients who are often living on a fixed income. Another benefit of MDIs is the minimally invasive insertion protocol, which allows for shorter recovery time, with the majority of patients able to begin eating normally within days.

With the MDI mini dental implant system, 3M ESPE continues to improve upon its reputation as a leader in dental care solutions. MDIs from 3M ESPE have remained a market leader in small diameter implant systems by offering a product that is innovative, reliable and efficient. MDI mini dental implants from 3M ESPE offer a simple training process and a cost-effective implantology solution for dentists everywhere.

Contact Info
For more information and a calendar of upcoming certification seminars, visit 3MESPE.com/ImplantSeminars.