Dentaltown Magazine reached out to leaders in the removable prosthodontics field—lab owners, marketing professionals and dentists—to take a closer look at which direction denture materials and processes are likely to take in the next few years.

What are the things dentists miss most when making a denture?

Liv Perez, Director of National Accounts, Modern Dental Laboratory: Of course, every step in the procedure is critical to the success of the case. Centric occlusion and vertical dimension record will dictate the success of a properly functioning set of full dentures. Midline and smile line recordings are often overlooked and are essential for managing aesthetics. However, the most frequently missed items are the canine lines or corner lines. Together with the midline, the canine line can help the technician find the total mesio-distal length of the upper six front teeth. Another frequently missed item is the face profile of the patient. The face profile helps us choose the appropriate and aesthetically pleasing tooth mold placement.

It is quite common for complete denture-wearing patients to request that we follow the tooth mold and setup of their old dentures. If this is the case, then an ordinary alginate impression from the dentist on the upper with the old denture in the mouth can help to avoid retry-in or remake. This is especially essential for all those straight finish dentures.

Shaun Keating, Owner, Keating Dental Arts: It is extremely useful for technicians to receive markings on the wax rim showing the patient’s midline, high lip line and cuspid position. However, this is not often provided.

What tips do you offer for high-quality impressions?

Keating: Using a custom tray for all final impressions goes a long way to improve impression quality. The Accu-Dent impression system, designed especially for partial and full denture impressions, is extremely accurate and practical.

Perez: The most optimal impressions coming through our laboratories for full dentures include custom trays and border molding. For removable dentures, we have found that
muco-compressive impression material, such as zinc-oxide eugenol for complete dentures, can contribute a better suction and might lead to better denture retention.

What can dentists do to make it easier for your lab to complete its work?

Perez: The process for successful completion of any restoration is great communication between the lab and the clinician.

Keating: It is extremely helpful to the accuracy of a face bow with centric relationship bite registration. Pictures of the tooth arrangement and lips in repose at the wax try-in are also very helpful.

Tell our readers about your company’s special method for single-visit dentures.

Mike Brennan, Vice President of Marketing, Global Dental Science: The concept of single-visit dentures is incorrect and misleading. AvaDent has an initial record-taking appointment followed by a second appointment that can be used to deliver the final AvaDent or AvaDent Advanced Try-In (ATI). In cases where the dentist requests a try-in, the third appointment becomes the delivery appointment.

Having said that, the secret of success for AvaDent is capturing all the records necessary at the first appointment. To do this, AvaDent has created proprietary procedures, devices and materials to assist the dentist in quickly and easily obtaining the correct records. It starts by taking a good impression. Its 100 percent digital platform means the design, occlusion, precision milling, setup and tooth selection are all done within a high-tech environment. This digital technology incorporates removable principles, including curves of Spee and Wilson, and occlusal plane and balanced occlusion. Once the AvaDent is designed, the base with tooth pockets created to exactly accommodate the prescribed denture tooth is milled from a patented, pre-shrunk puck of acrylic. This process helps reduce bacteria build-up, which is a major cause of denture breath and sore spots.

Younger Hong, Marketing Director, DENTCA: DENTCA’s CAD/CAM denture process with tray design and proprietary modeling software enables doctors to provide complete or single-arch dentures with only one patient visit before final delivery. The DENTCA impression tray transforms into a vertical dimension capturing device and a gothic arch tracer after the impression stage, and condenses multiple patient visits, tests, measurements and lab exchanges into just one 45-minute visit required before delivery. All of the information needed to model and fabricate the dentures is captured by the impression and bite registration. The second patient visit is either the final denture delivery or a try-in prior to the final delivery.

In your experience, at about what frequency do dentists do a try-in prior to delivery for dentures?

Hong: All dentists who use the DENTCA system for the first time are provided a mandatory try-in prior to final delivery. Try-ins are issued along with the original impression so that doctors can understand the correlation between the impression and the denture setup, as well as checking the fit, retention, occlusion and aesthetics with their patients. After approximately

The American College of Prosthodontists and Dr. Nadim Z. Baba talked with Dentaltown Magazine about current trends in dentures.

- More than 33 million Americans have no teeth.
- 178 million Americans are missing at least one tooth.
- 27.27 percent of the United States’ population over the age of 65 is edentulous.
- 30 percent of the Canadian population over the age of 65 is edentulous.
- Just nine percent of completely edentulous patients wear dentures.
- The average life expectancy of a denture is six-to-10 years.
two or three completed CAD/CAM denture cases, about half of the doctors choose to go directly to final delivery from the impression, making it a two-step process.

**Brennan:** Currently, 40-45 percent of all AvaDent cases use an advanced try-in, which allows the clinician the opportunity to fine-tune the aesthetic and functional components, but it is not a standard wax try-in. The advanced try-in is an acrylic-milled base with precision pockets. The teeth are then set in a thin layer of wax, giving the clinician the advantage of an advanced try-in with a precise base plate and occlusal scheme, which is accurate and true to the records supplied.

**How can dentists become trained in using your company’s method?**

**Brennan:** There are four ways that a dentist can be trained to become an AvaDent provider. Dentists can train online with AvaDent’s free videos featuring Dr. Charles Goodacre, join live webinars that will walk dentists through the clinical process step-by-step, attend events and seminars, or train with laboratory partners.

**Hong:** DENTCA constantly aims to help doctors stay ahead of the technology curve with seminars involving the latest advances in the digitized denture technology system. Seminars and hands-on training events are hosted regionally throughout the year often in conjunction with major dental industry conferences and events. Live seminars are also routinely sponsored with dental organizations, study clubs, laboratories and other business partners and industry affiliates. DENTCA’s website contains live patient videos, instruction manuals and step-by-step instructional videos for doctors to learn on their own schedules. Downloadable webinars will be available for additional training starting in June. We also provide on-location chairside training for doctors who are initiating multiple cases from the same facility.

**Tell me about your most popular products.**

**Eric Kibler, Marketing Manager Removable Prosthetics, Ivoclar Vivadent:** Ivoclar Vivadent Removable is one of the key areas of development and growth for our company. Our success has been predicated on our contemporary education program, segment-leading tooth lines and precision-processing options. Our specialized education center in Sarasota, Florida, focuses on tooth setup and communication, and features two key denture tooth lines: BlueLine Double Cross Linked teeth and Phonares II Nano Hybrid Composite teeth. Each tooth line offers varying levels of aesthetics, occlusal options and wear-resistance for specific applications. Additionally, we feature Ivoclar’s newest precision acrylic processing system, IvoBase, which processes specially formulated acrylic resin with virtually no dimension change.

**John Nosti, DMD, FAGD:** The most popular product that I use during my denture process is the Ivoclar Removable Smile Design Kit, centric tray and Phonares 1/Phonares 2 denture teeth. The Removable Smile Design Kit includes an Alma gauge, papilla meter, wax rim former, form selector, shade guide and bite plane.

**When are the top products best used?**

**Nosti:** The materials for the initial visit include the papilla meter, centric tray and Alma gauge. This allows your
second visit to be more streamlined with a customized wax rim versus a traditional wax rim. Having this customized wax rim allows me to perform my “smile design analysis” quickly and efficiently, and prevents me from having to remove an excessive amount of wax or, worse, trying to add wax to a deficient wax rim.

**Kibler:** Ivoclar Vivadent Removable products are designed to work for all indications, and specialized to meet the most demanding cases.

**What tips can you offer for proper use?**

**Kibler:** Material selection is key when determining best practice from prescription to fabrication. Selecting a premium tooth line and processing option will ensure the best possible outcome is achieved for the technician, clinician and, most importantly, the patient.

**What is your expectation for the future of denture use?**

**Brennan:** For nearly 100 years, the process for making dentures has not changed very much until now. Now, there is precision, speed and profitability of the CAD/CAM process, revolutionizing the concept of edentulous, full-mouth rehab treatment planning. The digital environment allows dentists to treatment plan a removable case from immediates to full-mouth rehabs, and that will make other processes obsolete.

**Keating:** With the growing acceptance of implants, mini-implants and improvements in attachments to retain dentures, we feel that this will be a growing field for many years.

**Kibler:** Based on market trends, census data and market growth, the need for superior removable options will continue to grow. The important goal as a manufacturer is to constantly improve all aspects of the process. Constant innovation will ensure patient needs and expectations are met and exceeded.

**Hong:** Although CAD/CAM technology is used in almost every other area of medical device manufacturing, its use is uniquely revolutionary in the field of denture production. Currently, there are about 195,000 dentists in the United States, more than 10,000 baby boomers retiring each day and an estimated need for more than 61 million dentures to be made by 2020.¹ Annual denture sales total $2.36 billion in the U.S. and $50 billion worldwide.² One of our primary goals is to make the majority of doctors and dental professionals associate DENTCA’s name with CAD/CAM denture technology.

**Perez:** Just as the dental world continues to adopt digital processes rendering fixed prosthetic work more precise and consistent, we are also seeing good signs that innovation continues to move us closer to a day when we will completely automate the denture-manufacturing process. With the declining number of denture technicians available, and given the increased demand on removable prosthetics due to an aging population, automation will be necessary to meet demands.

**Nosti:** As the population in the United States ages, there is an increased demand for removable prosthetics. It is estimated that nearly 3.45 million people undergo denture replacement/fabrication each year with a yearly expenditure of approximately $9 billion. Considering the fact that many dentists are looking for areas to increase revenue in their practices, it would behoove the dentist to become proficient in the area of removable prosthodontics as one potential source.

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². 2011 Dental Industry Report

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