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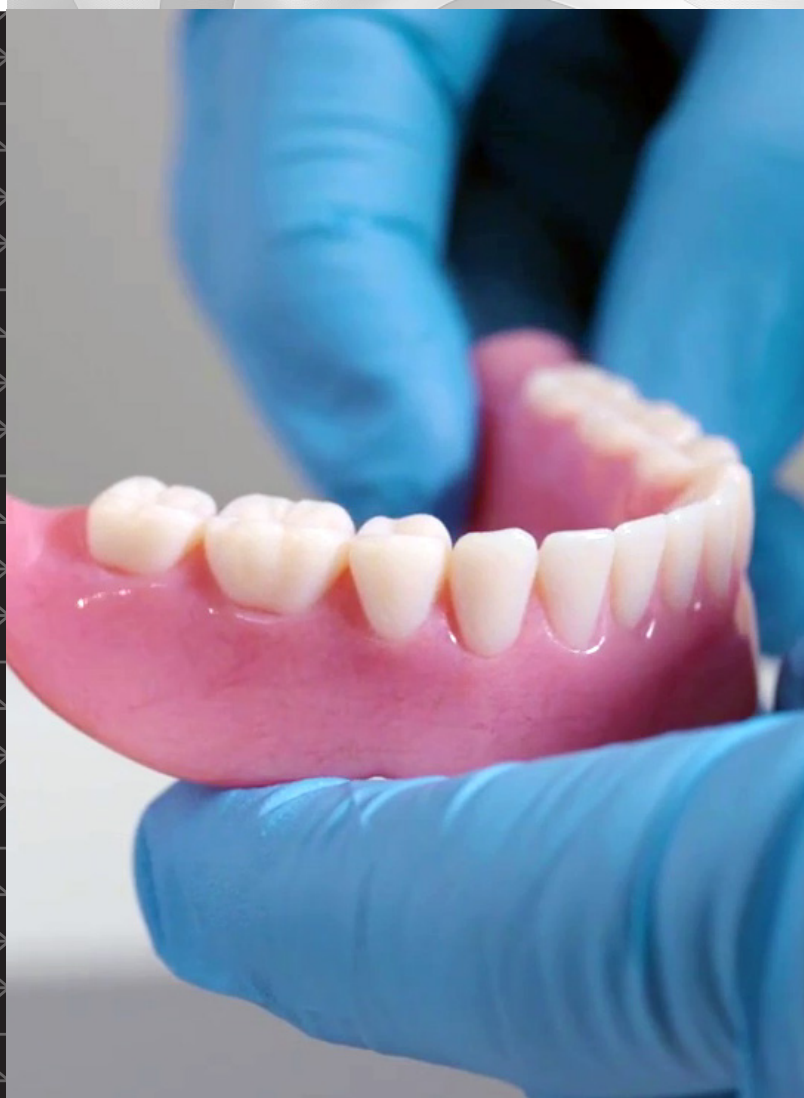
CASE STUDY
DENTAL

Renew Dental Brings Smiles Back with TrueDent

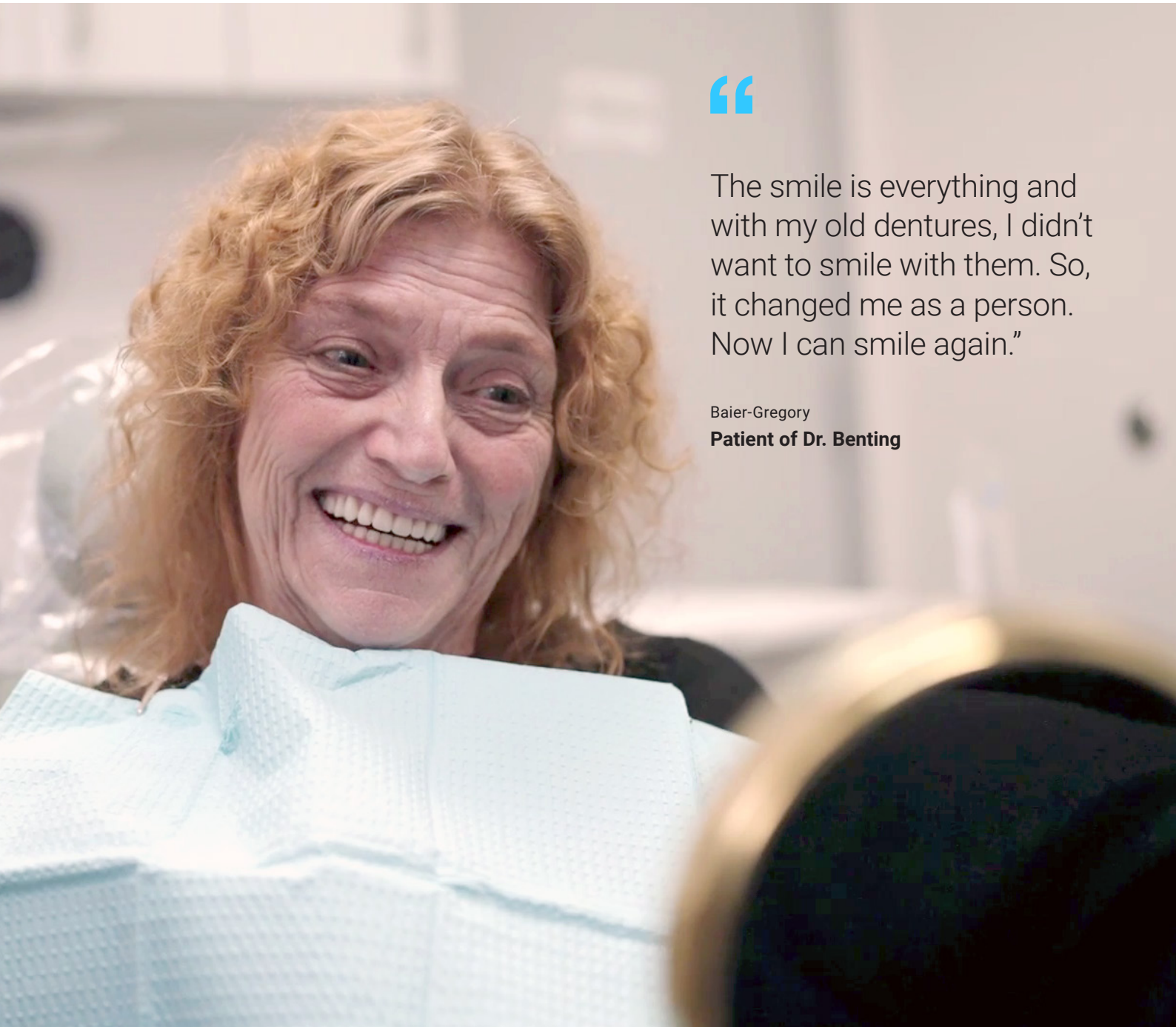


Candice Baier-Gregory has always struggled with dental health. When it became too expensive to continuously repair her teeth, she was fitted with dentures — but struggled to find dentures that stayed in place while she was talking and eating. “It was humiliating,” says Baier-Gregory. “It was just awful.”

In 2023, Baier-Gregory did her research and discovered TrueDent, a new 3D printed denture appliance developed by Stratasys. She drove two hours from her home in Tucson, Arizona to Renew Dental in Phoenix to see Dr. Douglas Benting, DDS, MS, FACP, a prosthodontist who offers the TrueDent solution.

Today, she’s smiling, talking, and eating with renewed confidence, thanks to her new set of TrueDent dentures, designed and fitted by Dr. Benting and printed on the J5 DentaJet 3D printer with TrueDent resin.

“I want to smile now,” explains Baier-Gregory. “I want to talk to people again.”



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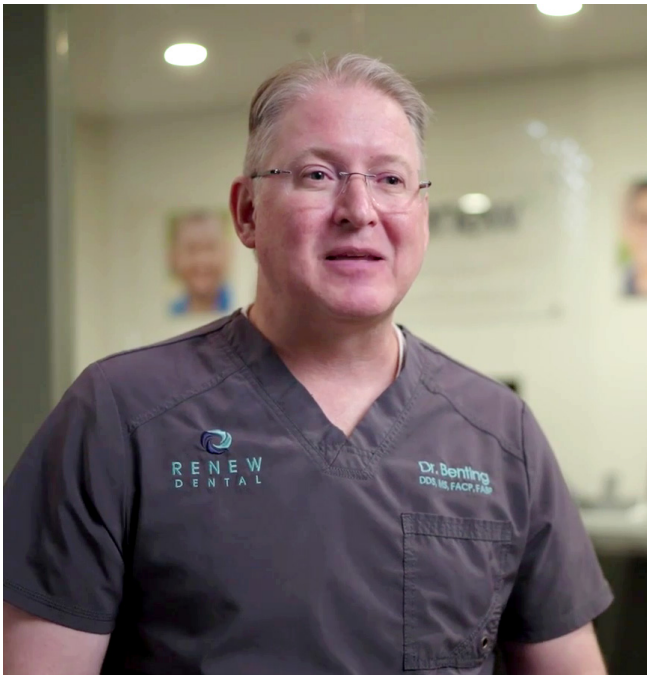
>
> Baier-Gregory
> **Patient of Dr. Benting**

TrueDent dentures, accurate from design to fit.

"Most dentures are still traditionally fabricated in a labor-intensive process. Some dentures are milled, and others are printed from different materials and fused together," Dr. Benting explains. "Because TrueDent dentures are printed monolithically, base and teeth are produced as one piece. This reduces potential for breakage1, prevents permanent staining between the tooth and base, and eliminates teeth debonding."

After years of working with traditional and milled dentures, Dr. Benting was amazed by how well TrueDent dentures perform in the patient's mouth during their daily routines, including while consuming hot and cold beverages. With TrueDent, Dr. Benting was happy to finally find a material that performs as well as traditional dentures but has all the time, labor and cost saving advantages of a 3D printed monolithic denture.

"Traditional dentures have responded very well over decades in what really could be considered a hostile environment inside the mouth," says Dr. Benting. "It's been a challenge to come up with a technology that's an improvement over that. Now, we've got something that we can work with that really bodes well for our future."



Well-fitting dentures transform socializing, chewing, and speaking

Dr. Benting, who has worked as a prosthodontist for 22 years, became captivated by the "functional art" of dentures early in his career. He brings that fascination to his work with patients like Baier-Gregory.

"I could really see the impact of making dentures that work well and feel good for a patient," explains Dr. Benting. "Well-fitting dentures can make a big difference for somebody who may be feeling particularly self-conscious when communicating or eating. We want to make sure that patients can go out and about and interact with their family and friends, without being worried about having prosthetic teeth."

The first thing Dr. Benting looked for when Baier-Gregory visited his office was the retention and stability of her existing dentures. He quickly noticed that her existing denture had poor retention and stability. It simply didn't fit the tissue in her mouth.

Dr. Benting also looked at Baier-Gregory's facial landmarks to design a denture that fits correctly. He considered her eyes, nose, mouth, and lips, plus the intraoral landmarks on the roof of her mouth.

"Form follows function, and the stability of the denture plays a role in appearance as well as in chewing function," says Dr. Benting. "The denture needs to look right, as if the teeth belong in the patient's face. When the lips come together naturally, it is a sign that the denture was designed to optimize the patient's ability to adapt to the new prosthesis. The stability of a denture is truly a source of confidence for the patient that everything will stay in place during social interactions."

The TrueDent process – streamlined denture production

To achieve lifechanging outcomes with TrueDent, a prosthodontist first completes an intraoral scan of the patient's mouth to capture the soft tissue and supporting foundation. The denture is then designed on a dental CAD platform, exported into Stratasys' GrabCAD software, and printed monolithically, in full color, on the J5 DentaJet 3D printer.

The denture that Dr. Benting designed re-aligned Baier-Gregory's upper and lower jaw. Now, whether she's chewing vertically or horizontally, her mouth is working with, and not against, the removable prosthesis in her mouth. "With TrueDent, we produced an outcome for Candice that is really outstanding in terms of speech sounds and chewing function," says Dr. Benting.

True aesthetics made possible – a natural looking smile

One of the benefits of the 3D printed TrueDent dentures for Baier-Gregory, Dr. Benting notes, is their highly aesthetic look. Aesthetics impact a patient's day-to-day life. A natural looking smile allows a person to communicate freely and drastically improves confidence.

"The smile is everything and with my old dentures, I didn't want to smile with them. So, it changed me as a person," explains Baier-Gregory. "Now I can smile again."

For her, the comfort and fit of the TrueDent solution has been definitively life changing. "These absolutely fit wonderfully. I can eat on both sides of my mouth. The feel in my mouth is incredible. It's been nothing but a positive experience for me."

Baier-Gregory is thrilled to feel comfortable sharing her smile again. As she explains, "the smile, it radiates who we are."

Fewer appointments, reduced chair time, reduced costs

In his decades of experience with dentures, first with milled denture technology and now with digital design and 3D printing, Dr. Benting has experienced a revolution in his ability to create consistent, natural looking results for patients.

With digital intraoral scans, CAD design, and accurate printing on the J5 DentaJet, prosthodontists like Dr. Benting are able to create a better fitting denture in less time and with fewer appointments than with traditional dentures. This is a tremendous benefit, especially for patients like Baier-Gregory, who had to travel a significant distance to receive treatment.

"We're all limited by time, and having multiple visits to the dental office requires a significant commitment for the patient and the provider," Dr. Benting explains. "This solution is better for everybody in terms of time and cost. It takes less time to create the outcome we are looking for due to the streamlined digital workflow on the lab side. In fact, we are also saving on chair time thanks to better accuracy which results in better fit and fewer (if any!) adjustment appointments needed."

> "We want to make sure that patients can go out and about and interact with their family and friends, without being worried about having prosthetic teeth.

Dr. Douglas Benting, DDS, MS, FACP
Prosthodontist at Renew Dental

Peace of mind - digital backup with the click of a button

Another advantage of digital denture workflows is that the digital files remain, even after the patient has gone home with their new dentures. This means that repairs or replacements are seamless and can happen in demand, quickly. “TrueDent dentures can be easily reprinted when needed from a digital record,” Dr. Benting notes.

In the past, if a patient lost or fractured their traditional denture, Dr. Benting and the lab would have to go through the entire process to create a replacement. Now, it’s just a quick reprint of an identical denture.

“A true advantage here is that we can just reproduce the dentures,” Dr. Benting explains. “We’ve already done the design work, we’ve done the work to incorporate the data, and we save the digital record, so that we can reproduce a new set of dentures at a click of a button.” In fact, Dr. Benting can send his patients home with a spare denture so they will have a replacement handy in case the original gets misplaced or damaged.

In Baier-Gregory’s case the ease and speed with which Dr. Benting could simply create a new denture for her, without even needing her to come back into the office, was a significant additional benefit.

“The peace of mind of knowing that I can have dentures in a day or two, however long it takes for mail to get from Phoenix to Tucson, is just incredible. It’s amazing that they can do it that fast,” she explains.

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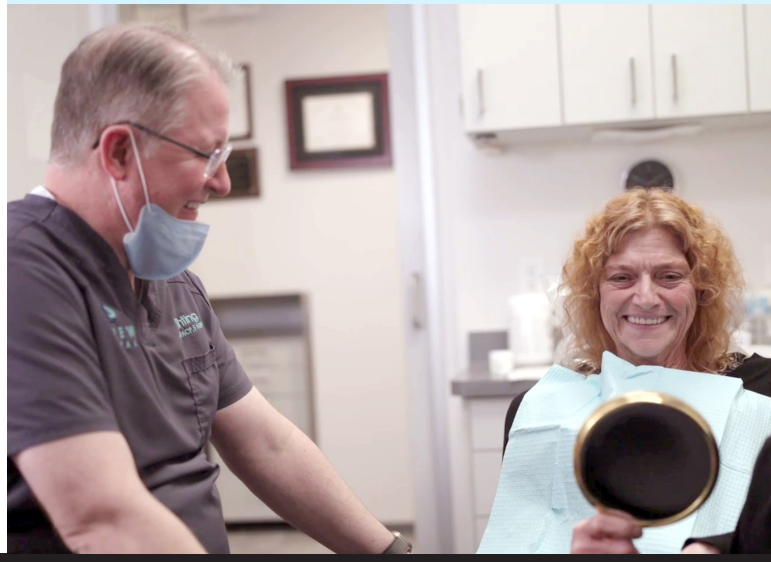

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