

The Technology That's Driving Dentistry Forward

A landscape of rapidly evolving tools and technologies lays the groundwork for providing amazing dentistry that meets a higher level of patient expectation



Designing a high-tech dental office equipped with the latest and greatest technologies doesn't happen overnight. And how could it? At the rate that dental technology is currently exploding, it can take time to sift through the hype and determine which digital tools are truly the best fit for your practice. No one knows that better than Penelope Chang, DDS. She's proud to own a tech-driven practice in Tenafly, NJ, but her journey with dental technology proved to be a marathon—not a race.

"I've always been fascinated by technology, and when I opened my practice 19 years ago, I started immediately with practice management software and electronic charts," she said. "A few years later, I switched over to digital sensors, eliminating the chemicals and reducing radiation to my patients. Intraoral photography has become an important part of my records, as I find that a visual picture supplies so much more information about a tooth or smile than a simple chart notation."



HOT TOPIC

Turn to page 146 to explore how artificial intelligence and other evolving technologies are accelerating the pace of dentistry and dramatically improving diagnostics, patient monitoring, surgical outcomes, and more.



Making Dentistry Fun

Dr. Chang has been offering same-day dentistry to her patients since 2014, and CAD/CAM is one technology that she truly cannot live without. "I can't imagine ever practicing without it—please don't take it away from me!" she joked, adding that the ability to restore a tooth in less than 2 hours is a huge benefit, as the immediate gratification for the patient and time savings in her own workday are irreplaceable.

"I really enjoy the artistic side of dentistry, and technology like CEREC has made it satisfying to restore teeth, as I have greater control over the restorations I create in regards to shape, contours, and shade," she said. "Access to tools such as digital wax-ups, sintering ovens, various types of ceramic and zirconia blocks, stains, and glazes has provided me with more predictable outcomes. It makes dentistry so much more fun that it's exciting to go to work every day."

A Smart & Safe Investment

While any time is a good time to invest in technology, Dr. Chang is grateful to have purchased her Solea laser at the tail-end of 2020, during the height of the COVID-19 pandemic. "It was really important for me to be able to prep a tooth with fewer aerosols, and I was looking for ways to keep dentistry exciting yet safe," she said. "The idea of not having to give the patient a shot to perform restorative work, whether on kids or adults, was such a cool idea. It almost seemed like magic."

Dr. Chang has found that the all-tissue laser is much kinder to the tooth, as it abates the hard tissue while simultaneously disinfecting the surface. She also is amazed at how quiet it is, which she says creates a Zen-like experience for everyone in the operator. "Patients are very happy with the procedure, and when surveyed, always indicate that they prefer the laser experience."

What's Next?

While it may seem impossible to predict the next technology that will take the dental community by storm, Dr. Chang is most excited to start using Primeprint, Dentsply Sirona's newly launched medical-grade 3D printing system. "It's the first dental-specific 3D printer and post-processing unit with an

DOCTOR'S FAVORITES



Passionate about using the latest dental techniques and staying active in the dental community, **Penelope Chang, DDS**, maintains a cosmetic and family dentistry practice in Tenafly, NJ. A leader in CAD/CAM dentistry, she shares some of her favorite digital tools to provide high-quality care to her patients.

Supported by Patterson Dental, **Eaglesoft** allows me to pull together the administrative, clinical, and business aspects of my practice into one practice management software. We've been using the software for nearly 20 years and over time, it's become increasingly user-friendly while offering software integrations that streamline our workflow.

Using Dentsply Sirona's CEREC chairside system for same-day dentistry has been game-changing.

The patient saves time by not needing multiple visits and possible remakes, and the gingiva and tooth remain healthier. There is no need to worry about patients losing a temporary, and the ability to shade match is amazing.

I use my **Primescan** not just for same-day dentistry, but also to scan new patients for study models and records, and to take impressions for whitening trays, night guards, and retainers.

I purchased a **SprintRay Pro** at the end of 2019, right before the pandemic started. Once the office reopened, I quickly realized how important the digital workflow is in keeping everything clean. Since I was taking digital impressions and then 3D-printing the models, everything was sanitary and there

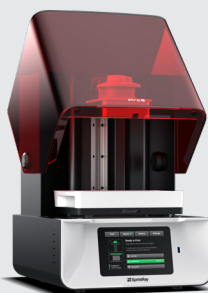
was no fear of transferring germs from the patient's mouth from an analog impression to a stone model. It has been really nice to retire the model trimmer, stone vibrator, and all the materials that go with them. Because the models are digital files, there is always a permanent record, and it's easy to reprint a model if needed—for

example, if a patient loses a night guard.

The **Solea** all-tissue laser from Convergent Dental allows me to trough around crown preps for my impressions and perform gingivectomies. I have learned to appreciate being able to actually see my prep as I work, as well as switching back and forth very quickly from hard tissue to soft tissue. Patients experience faster recoveries from soft-tissue procedures, which benefits all parties.



Primescan



SprintRay Pro



Solea

THE TECHNOLOGY THAT'S DRIVING DENTISTRY FORWARD

automated workflow that simplifies the entire printing process," she said.

Primeprint gives dentists like Dr. Chang the ability to 3D-print medical-grade surgical guides, splints, models, dentures, and temporary crowns and bridges in-house, thanks to ongoing advancements in printing resins. "And the ability to mill custom titanium abutments in-office is just over the horizon," she said. "All these technological advances change the game in terms of achieving what I feel is the ultimate goal: to be able to restore the patient in the least traumatic, most efficient way possible, using the best materials available and within the shortest amount of time. A happy patient is a happy dentist!"

Over the next several pages, *DPS* explores a handful of product categories that have undergone the biggest transformations in recent years—from digital scanners and magnification to "magic" materials designed to rebuild healthy tooth structure.

INTRAORAL SCANNERS

Step into digital dentistry with the intraoral scanner, whose evolution over the past several years has been extraordinary—allowing practitioners to scan patients in less than a minute and dramatically increase the accuracy of their restorations.

Packed with patient engagement apps like TRIOS Patient Monitoring and TRIOS Smile Design, the 3Shape **TRIOS 4** helps patients better understand their oral health issues and visualize treatment options. Available wired and wireless, it offers increased battery life and a new generation of TRIOS smart tips with an automatic use counter and instant-heat technology.



TRIOS 4



iTero Element 5D Plus

Align Technology's **iTero Element 5D Plus** imaging system simultaneously records 3D models, intraoral images, and aids in caries detection above the gingiva using near-infrared technology. It also is available in a space-saving mobile design with VESA mounting for a zero footprint.

With a Smart Pixel Sensor that processes over 1 million 3D data points per second, Dentsply Sirona's **Primescan** produces photorealistic and highly accurate scans. Validated and open data transfer options allow for instantaneous sending of high-resolution models to labs or other partners.

Denterprise's **QuickScan IOS** is an entry-level scanner that offers full-color



QuickScan IOS

ULTRADENT

GRAB YOUR UMBRELLA

Sometimes, the smallest changes can make the biggest impact. Case in point is Ultradent's Umbrella tongue, lip, and cheek retractor—deemed a *DPS* Best Product last year by a group of evaluators. Here's what makes it unique:

- **Natural spring-like action** helps patients hold their mouths open, allowing the jaw to relax without pulling or stretching the lips
- **Flexible material** allows patients to close their mouths so the dentist can easily check occlusion
- **Prevents gag reflex** and helps channel saliva for efficient evacuation



digital scans, an easy-to-use interface, simple file sharing, and impressive speed and accuracy. A slender, lightweight handpiece makes it easy to capture a full-arch scan in one pass.

Featuring turbo scanning speed that has been proven to scan in vitro single arches in 30 seconds, the **CS 3700** from DEXIS features a revolutionary new workflow that lets users navigate freely among different clinical applications, including restorative, orthodontic, implant, and sleep device.

Exceptionally small and lightweight, the **Planmeca Emerald S** captures digital impressions in vivid and lifelike colors—from single- and multiunit restorations to full arches—while supporting imports and exports in both STL and PLY file formats.



Planmeca Emerald S

A SlimLine tip is available for patients with smaller mouths, making it easier to reach posterior teeth and interproximal areas.

MAGNIFICATION

What you use to visualize the oral cavity matters. Loupes and headlights designed

for both ergonomics and eye safety are designed to do just that.

Orasoptic's **EyeZoom** allows users to switch seamlessly between 3x, 4x, and 5x magnification levels. Patent-pending technology provides edge-to-edge clarity and high-definition resolution, while working distance and declination angle are customized to each individual user.



Endeavour XL



Use Code DPS25 for 25% Off Your Next Order!



- No middleman
- No buyers' club
- Just low prices

Celebrating our 25th year of delivering results.

Buy Direct & Save

We keep it simple: honest pricing, great customer service, and proven products. For all your restorative needs, buy direct from EXACTA Dental and save. All purchases are fully guaranteed.



(800) 474-7665
www.exactadental.com