TEST DRIVES



A look at 6 of the most innovative products and techniques taken for a test drive in 2021.

TOP 6 TEST DRIVES OF 2021



 $\label{lem:well_start} \textbf{WELL}, \textbf{THAT WAS FAST!} \ 2021 \ \ \text{went by in a hurry.} \ \ \textbf{It seems, at least to me, that 2 weeks ago I was working on my January column and the next thing I know, it's time for the Top 5 Test Drives.$

I really love what I do here at *Dental Products Report*[®]. I have always loved to tinker and experiment with things. As regular readers of this column know, my tinkering and hacking go all the way back to my early childhood, when my parents never knew what they would find taken apart next. That stuff is just part of my DNA.

Now I get to channel that energy in ways to help you, the reader, make better decisions about products and techniques. This is a job I love and don't take lightly.

Every year I get the opportunity to test a lot of products in my practice. The ability to actually get hands-on time with the latest and greatest helps me understand these new devices and techniques and see how they impact the industry. Then I get to make a list, check it twice, and write about the 5 things that most impressed me in the past year. This list is by no means inclusive; it is subjective, after all. However, these are the 5 things—actually 6 this year—that made the biggest impact on me in 2021.



iTero Element 5D Plus

The world of digital impression systems is now so strong that companies are expanding their systems to provide even more impact to the dental office. iTero has done a tremendous job of that with its latest model.

In addition to providing incredible scans, the system allows the dental team to create those scans in record time with unsurpassed quality. We always position the system so the patient can see the monitor and watch the scan live, and they are routinely blown away.

The device also features near infrared imaging (NIRI) that happens simultaneously with the scan. The NIRI provides transillumination for caries detection and provides an amazing way to see defects in the tooth structure. It is non-ionizing, meaning it can be used on any patient with no health concerns.

By taking several scans over a period of time, the Element 5D Plus can create a video. This is a great educational tool for bruxers or patients whose teeth have shifted for a variety of reasons. It also shows the patient the results of orthodontics, which makes it all seem worthwhile.



EndoButler File Organizer

I do quite a bit of endo in my practice and for years I've been looking for a great way to help keep all of my files together in a way that is organized and safe. One of the things about endo files is that they have a very sharp end and, as such, need to be treated with the same care one exercises with needles.

The EndoButler was developed by Paul Moore, BDS, who practices in Galway, Ireland. It consists of a thick rectangle of medical grade silicone rubber sitting atop a hollow plastic stand. The files are pushed through the silicone and the tips are protected by the stand. The stand also works as an endodontic ruler so lengths are easy to determine.

The device holds the files safely and allows for accurate file measurements, and because the files are pushed into the silicone they cannot be spilled—even if the EndoButler is dropped!

The device is genius in its simplicity, plus Dr Moore is one of the nicest guys you'll ever meet. He also makes a full line of other "Butler" products all based on the idea of medical grade silicone (in a variety of fun colors) that can hold burs, indirect restorations, lab burs, CAD/CAM blocks, and more.



Genius Proflex Endo Files

As engineers better understand the effects of heat on nickel titanium (NiTi), great progress is being made with the flexibility of endo files. Within the last few years we have seen NiTi files that can be curved and then return to their original shape by being autoclaved. That was a significant discovery, but now Medidenta has taken that 1 step further with the Genius Proflex line of files.

The files needed for the midpoint of canal instrumentation are created in a way to give them a good mixture of flexibility and strength. When the canals are still being fine-tuned, these files offer the best of both worlds.

I have been using the Genius system for a while now and I am impressed with the continued advancements. The brain behind all of this is Carlos Spironelli Ramos, DDS, MS. Not only is he an endodontist, but he also earned a PhD in endodontics in his home country of Brazil. He is constantly working, experimenting with, and testing the latest endodontic instruments he has created. He has 3 patents on endodontic devices and when he speaks, many experts in endodontics listen. Even though I'm not an endodontist, I listen as well. His latest creation is a game changer.



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Monet Handheld Curing Laser

As I've said in the past, curing is the stepchild of adhesive dentistry. It's always there, but no one ever pays any attention to it. We've seen some pretty dramatic improvements in our curing devices over the past decade, but AMD Lasers has leapfrogged the industry with the first laser that is the same size as the standard LED curing light.

A laser pushes all of its photons in 1 direction in a column of light. Because of this, every photon created goes to the process of curing the composite. The physics of LED lights means that as soon as the light leaves the LED, it begins to sort of "spray" in all directions. That means wasted photons, which do not help cure the composite. The Monet Curing Laser focuses all of those photons in a single column of light.

Because of the intensity of the beam, AMD's internal testing shows a depth of cure of at least 4 mm. In my own independent testing, I have seen similar numbers.

The Monet also comes with some handy aperture attachments that can easily snap on over the curing lens. These little clip-on attachments reduce the diameter of the beam to create different aperture tacking tips or smaller beams for more precise curing.

The Monet has benefits for indirect restorations as well. The intensity of the beam assures the operator of a strong bond and effective photopolymerization even through thick restorations such as onlays. This means that the user can have confidence that the restoration has a strong bond and is not relying on autopolymerizing resins to complete their chemical curing process. Lasers are truly the next step in our curing armamentarium.

Infinix Composite

It is truly amazing how far composites have come. They now wear like iron, can match almost any color of tooth, and are simple to repair. I have not done an amalgam restoration in probably 20 years, and I don't miss them at all. If anything, I'm grateful that I don't have to place them.

However, the 1 drawback composites have is that they are technique sensitive. Manufacturers have done their best to create materials that can withstand the incredible environment of the human mouth, but there are still some times where things fall short. One of the toughest things about placing composites is adequately controlling the field. Even a small amount of water, saliva, or blood can reduce bond strengths especially along the margins. This leads to recurrent decay, which is the bane of the composite restoration's existence. Current research is showing that the average composite has a life span of a little over 5 years.

Infinix contains a very special molecule: a quaternary ammonium molecule bonded to silica that is mixed into Infinix and actually becomes part of the composite. This molecule lyses the cell wall of the caries-causing bacteria and kills it. You read that right. This is a composite that can actually kill decay-causing bacteria.

The molecule is never used up or depleted and never needs to be recharged. It just stays there, in the material, killing the bacteria that come into contact with it. I was actually fortunate enough to be the first office in the United States to use Infinix and even though I have had time to place only a limited number of restorations, so far, I have been incredibly impressed. This material has the potential to change restorative dentistry as we know it.

Re-Gen Universal Adhesive

Composite technology has become a bit like the automobile. I know that sounds strange but hear me out. Originally the idea of automobiles was simply a better form of transportation. While at first, they were for tinkerers, the devices had to grow and mature. They became safer and more reliable. The old adage of "Get a horse!" came from the fact that cars were not reliable and broke down far too often. However, as the vehicle category improved, cars became much, much more than simple transportation. In fact, today, everyone expects safety and reliability. The selling features are now what technologies they offer.

Adhesive dentistry is now entering a similar phase. Everyone expects a material to be strong and highly polishable.

A new entry into the bonding arena is Re-Gen from Vista Apex, the first dental adhesive to utilize Bioglass as an active ingredient. Bioglass has been around in medical applications for over 50 years and has even proven to form a hydroxyapatite like surface that can help propagate the actual regeneration of tooth structure. That's right, not only can this bonding adhesive hold your restorations in place, but it can even help to regrow healthy tooth structure in areas where that structure is microscopically missing.

The product was developed by John Kanca, DMD, one of the founding fathers of the entire idea of "wet bonding" in dentistry. Over the years he has developed several products that have helped advance the world of adhesive dentistry and Re-Gen is his latest. The system has performed well in my hands.

WRAPPING UP

Not too long ago I read an article stating that medical knowledge doubles every 18 months. If that is true (and it may be an underestimate), it's almost hard to imagine where our field is headed.

As another year draws to a close, I'd like to take this last paragraph to tell all of you who read my columns how much I appreciate each and every one of you. I love getting the opportunity to work with these cutting-edge products and techniques and then tell you all about them. I hope you find value in what I bring and I promise to continue to work hard bringing you the best information and product recommendations I can. Thank you all so much. I'll see you in January!



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"Fitting GrindRelief was an easy workflow that took very little time. It was comfortable for the patient and adaptation was great. Love the product!" RODOLFO OLMOS, DDS





"I tried the GrindRelief and it has been a life saver! I have personally made myself various night guards and this is the only one that has actually given me relief."

CHRISTINA CRACKNELL, RDA

"Very easy to use and adjust chair-side...a great solution for patients needing immediate relief from muscular pain due to clenching."



HIBRET BENJAMIN, DDS

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Dr Flucke's Top 6 Test Drives of 2021

GAME CHANGERS

This year saw the COVID-19 vaccine's impact, while other technologies have bolstered the dental industry. [by Lou Shuman, DMD, CAGS]



[VACCINES]

COVID-19 Vaccines

COVID-19 has changed the way we practice both physically and emotionally. Pfizer, Moderna, and Johnson & Johnson are the companies that created our vaccines in break-neck speed and they deserve recognition. As I write about this, about 442 million doses of the COVID-19 vaccine have been administered in the United States, which is an unprecedented achievement. The dental community as a whole has gone to such great lengths to make their practices, teams, and patients safe. A sincere congratulations to the vaccine companies and dental practices everywhere!



[3D IMPLANT NAVIGATION]

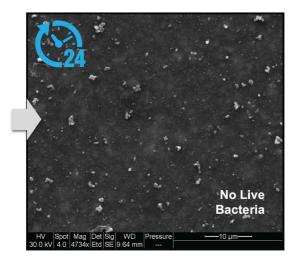
DTX Studio X-Guide

As stated in an interview with a dentist who focuses on implants in his practice, "Every dentist and specialist who provides implants should have an X-Guide in their practice," and I couldn't agree more. The technology is second to none in providing the most ideal placement. It can provide same day placement and support extremely difficult cases with ease. The X-Guide® Dynamic 3D Navigation system delivers a higher level of implant accuracy compared to freehand surgery. It extends the capabilities of your cone beam imaging and digital treatment planning with interactive, turn-by-turn guidance during live surgery. X-Guide navigation gives you the ability to improve the precision and accuracy of implant position, angle, and depth.

X-Nav Technologies

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CIRCLE RS #83



[ANTIMICROBIAL COMPOSITE]

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This composite has integrated into it non-toxic proprietary antimicrobial nanoparticles that once placed creates an anticaries nanoparticle interface that will eliminate secondary caries. Say again? Game changer yes! The future will see it incorporated into varnish, aligners, retainers, ortho cement, implants, root canal sealers, and more.

Nobio

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[INTRAORAL MIRROR/CAMERA]

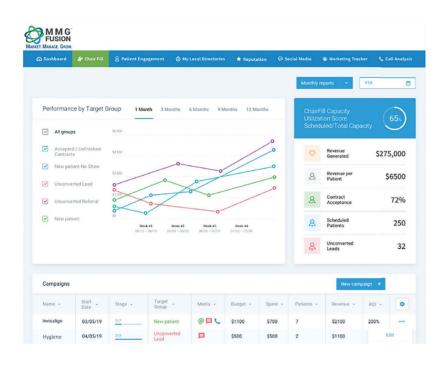
SmartMirror

I get very excited when I see visionaries look at traditional dental equipment and reinvent them with technology. SmartMirror is a perfect example. From the old staple that has basically not changed in years comes the SmartMirror. Twenty-one integrated adjustable LEDs gives you tremendous control of brightness. A built-in HD intraoral camera streams to any device providing you stills and video to present to your patient what is seen in the mirror. Voice recording that can be transferred to your electronic charts. It is fogless, scratch resistant, and autoclavable. No more gothic age.

Smart Mirror Dental

 $smartmirror.dental \mid info@smartmirror.dental$

CIRCLE RS #85



[PRACTICE SOFTWARE]

MMG Fusion ChairFill

Imagine going to your computer and pressing a button. Imagine a machine learning software that will go through all your records and find the most profitable dentistry not performed, one that contacts your patient based on analyzing the patient's psychographics and best conversion method, whether text, audio, video, etc. Then it sets the patient up in your schedule, all by just pressing that button and with no human involvement. Customizable to go after ortho, hygiene, implant patients, etc? Yes! And this all-inclusive software does so much more.

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