

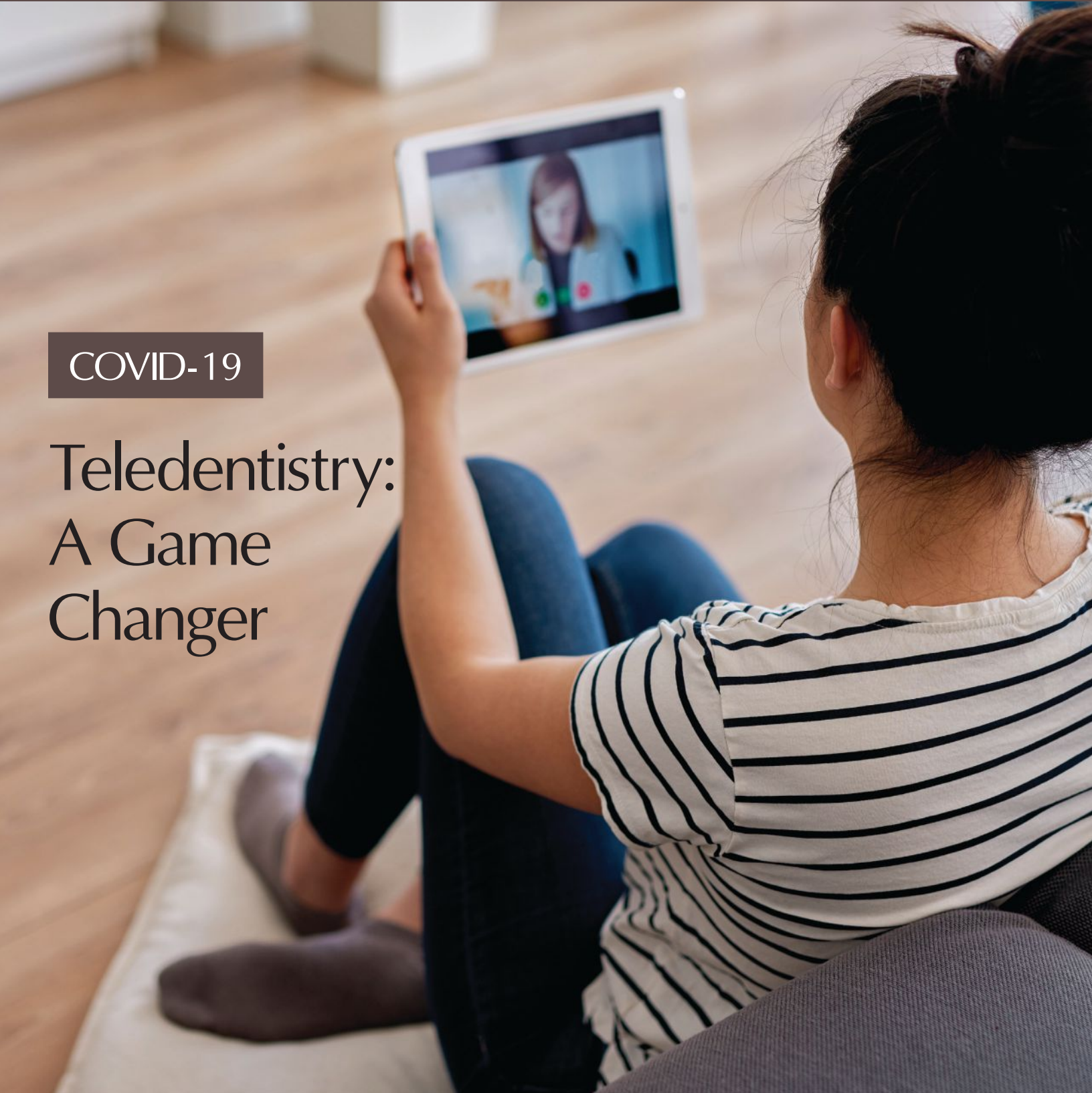
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## Teledentistry: A Game Changer



# Teledentistry: A Game Changer

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## INTRODUCTION

The onset of the COVID-19 pandemic earlier this year allowed dentists and dental professionals to step back, look at what they have been doing, and try to gauge where things are headed. Many of us spent hours online watching webinars, interviews, and manufacturer demonstrations, and had countless discussions with peers on Facebook. We found known experts and new voices to guide us with information about the biology of the coronavirus, as well as its impact on our personal and professional lives—including how to protect our patients, our staff, and ourselves in a manner that allows us to continue practicing dentistry as we had in the past. Dental offices have certainly been impacted in scheduling, which is the backbone of the office performance. Most of the procedures we have been performing have now adapted to the new routines, with minor modifications—a majority related to disinfection and patient safety. We also have learned a few new things, some out of trial and error and adapting ideas that emerged during the height of the shutdown.

One of the biggest developments impacting just about everyone because of the pandemic has been the widely adopted use of Zoom. Although not new, the Cloud-based video communication software has become a standard communication tool for everything from holding business meetings to staying in contact with family to watching newscasters and celebrities carrying out their jobs from home. Many dentists have used this or similar technology to keep in touch with office staff and in many cases, with patients. Although there are many other online video platforms, Zoom has entered the lexicon as the universal term, a genericization like Xerox, Kleenex, and Band-Aid. In truth, before COVID-19, dental professionals never really used this type of technology in daily practice as it seemed to be something that only computer-savvy people were adept at, but this is an opportunity for us.

Patient communication is the core of a dental practice relationship. In the office, it is important for patients to receive clear explanations of findings and treatment plans, as some of the procedures and processes may be unclear to them. The use of technology products over the years has been an excellent aid in this process. For example, there have been companies that produce educational videos, such as CAESY Cloud, which helped replace the doctor's hand-drawn sketches of teeth, root canals, crowns, and more scribbled on random

pieces of paper they found in the operator. Digital radiography with sensors and intraoral cameras, as well as digital cameras or even videos, are now all readily available to expand this service. If a treatment room is equipped with a monitor, tablet, or other mobile device facing the patient, the conversation is simplified. Now, instead of drawings, patients can see their actual teeth in 2D or even 3D with the dentist pointing out the areas of discussion. And those who have incorporated 3D intraoral scanners have an even better manner of show and tell. Many of the offices that purchased these instruments to scan preparations for prosthetics are using them as virtual study models for case presentation. The newer scanners take these 3D images in high definition (HD) and full color, creating a fantastic teaching tool. As companies continue to evolve these systems, they are now adding educational software and diagnostic features, such as tracking amounts of wear, and a few have added caries detection, which is also easily displayed for both patient and doctor.

Many of you are familiar with receiving email notifications from banks, attorneys, accountants, federal agencies, and more requiring a username and a password through an encrypted portal to access an account. The correspondence from that point forward is maintained in a separate system from your normal email. Replies and new correspondence are all done through these portals. Some email programs like Microsoft Outlook give the user an option to "Send" or "Send Secure." The latter requires the receiver to enter a code or password. There are many email encryption programs available to the public that can certainly be used in a dental office, such as Aspida Mail, Proofpoint, ProtonMail, Sendinc, and Trend Micro. There are many programs that are free, and those with monthly fees are not expensive. Aspida, an MDS Member Savings Program partner, has gone above and beyond the basic encryption while assuring users that it is totally Health Insurance Portability and Accountability Act (HIPAA) compliant.

Recently, we have also had to resort to remote use of some of these products and processes to stay in touch with patients quarantining at home, often from our own homes during office closures. A relatively new term you may have heard a lot these past few months is "teledentistry"—although this sort of application has been around for quite some time. In the past, we have been able to answer patients' questions by simple sharing of images via cell phones; however, this is not actually HIPAA compliant even if the patient initiated the



process. This fact, though, must be explained prior to responding to the patient as the information is not being relayed through an encrypted portal. It is at this juncture that the process becomes teledentistry. The sharing of medical/dental information over the internet must be secure, not unlike financial transactions used in online purchases. This requires a secure portal for the information exchange, usually provided by an external third party.

### TELEDENTISTRY AND HIPAA

A true teledentistry platform includes video, which allows the practitioner to securely conduct a live “face-to-face” chat. We are all familiar with Zoom, as well as products like FaceTime, Skype, GoToMeeting, and Webex, among others. The basic versions of these, which most people use, are non-encrypted and therefore not HIPAA compliant, although some have paid subscriptions that do allow for the creation of a secure portal. There have been a few platforms specifically created for dentistry and others that are viable for any commercial situation, some having features

well beyond our needs. One of the earliest entries in the dental space was Brightsquid, whose system not only includes encrypted email, but also has methods for multiple providers to collaborate electronically. Another excellent and robust product is OperaDDS, which has a dentist at the helm, Dr. Brian Laskin, who has become a great resource to dentistry, giving lectures and webinars on this important area. These are just a couple of examples of companies providing this type of product. (See “Teledentistry Resources” on page 16 for more.)

With the secure systems, the recipient could be directed to turn on a camera and begin a live chat. This might look like the generic versions of videoconferencing that people have become accustomed to, but again, these are secure. In addition, some of these teledentistry platforms allow sharing of information with others. For example, the patient might present with an issue that needs to be addressed by a specialist. The platform allows that transfer to be done securely, as well. This can even expand to multiple group video chat consultations

conducted via email, all within the boundaries of patient confidentiality. The most comprehensive system the author has seen is from MouthWatch with its aptly named TeleDent system (now available through Henry Schein). MouthWatch Founder Brant Herman was one of the most sought-after speakers/webcasters earlier in the pandemic when dentists were looking for ways to stay in communication with their patients, colleagues, and staff.

Dental emergencies are a natural for the teledentistry format, with a fractured anterior tooth, swelling, or other easily visible issue able to be addressed remotely. Dentists became all too familiar with this process during COVID-19 office closures. Often, how a patient describes his or her ailment is not always accurate. For example, what he or she describes as a “broken-off half of a front tooth” turns out to be a small chip. However, by utilizing a photo or video, the patient can be calmed down and a rational explanation can be made. The tendency when handling emergency calls is to use a smart phone and, as mentioned, a video chat app, but keeping

## TELEDENTISTRY RESOURCES

Several teledentistry products are discussed in this article. To further help JOURNAL readers, here is a partial listing of companies and products you may want to review.

Please note: This list is not exhaustive and the appearance of a company or product in this listing is not a guarantee or endorsement of the product or service.

### TELEDENTISTRY/REMOTE CONSULTATION

Carestream Dental ([carestreamdental.com/senseicloud](http://carestreamdental.com/senseicloud))

Dentulu ([dentulu.com](http://dentulu.com))

Doxy.me ([doxy.me](http://doxy.me))

Expert Advice from American Dental Software  
([expertadvice.dentist](http://expertadvice.dentist))

OperaDDS ([operadds.com](http://operadds.com))

SmileSnap ([smilesnap.com](http://smilesnap.com))

Smile Virtual ([smilevirtual.com](http://smilevirtual.com))

The TeleDentists ([theteledentists.com](http://theteledentists.com))

MouthWatch ([mouthwatch.com](http://mouthwatch.com))

Your Virtual Consult ([yourvirtualconsult.com](http://yourvirtualconsult.com))

### MOBILE VIDEO CONFERENCING

FaceTime

GoToMeeting ([gotomeeting.com](http://gotomeeting.com))

Google Hangouts ([hangouts.google.com](http://hangouts.google.com))

Microsoft Teams ([teams.microsoft.com](http://teams.microsoft.com))

Portal by Facebook ([portal.facebook.com](http://portal.facebook.com))

Skype ([skype.com](http://skype.com))

Talky ([talky.io](http://talky.io))

Viber ([viber.com](http://viber.com))

Webex ([webex.com](http://webex.com))

WhatsApp ([whatsapp.com](http://whatsapp.com))

Zoom ([zoom.com](http://zoom.com))

### ENCRYPTED EMAIL SERVICES

Aspida Mail (<http://aspida.us/MDS/>)

Brightsquid ([brightsquid.com](http://brightsquid.com))

OperaDDS ([operadds.com](http://operadds.com))

Proofpoint ([proofpoint.com](http://proofpoint.com))

ProtonMail ([protonmail.com](http://protonmail.com))

Sendinc ([sendinc.com](http://sendinc.com))

Trend Micro ([trendmicro.com](http://trendmicro.com))

### REMOTE COMPUTER ACCESS

Chrome Remote Desktop ([remotedesktop.google.com](http://remotedesktop.google.com))

GoToMyPC ([gotomypc.com](http://gotomypc.com))

LogMeIn ([logmein.com](http://logmein.com))

RealVNC ([realvnc.com](http://realvnc.com))

RemotePC ([remotepc.com](http://remotepc.com))

Splashtop ([splashtop.com](http://splashtop.com))

TeamViewer ([teamviewer.com](http://teamviewer.com))

Windows Remote Desktop

([microsoft.com/p/microsoft-remote-desktop/9wzdncrfj3ps](http://microsoft.com/p/microsoft-remote-desktop/9wzdncrfj3ps))

this whole process in the secure teledentistry portal makes this a legitimate virtual visit that can be documented and added to the patient's clinical chart. There is an assumption that the office is using a digital practice management system. This becomes important for documentation as even during office shutdowns, there are still rules and regulations, including aspects of liability. An interesting sequela to this was that during the early stages of the COVID-19 pandemic, many insurance carriers agreed to reimburse offices for virtual consultations. In 2018, the American Dental Association (ADA) added new codes for teledentistry. For this sort of one-on-one live consultation, code D9995 can be used along with code D0140 (limited oral evaluation).<sup>1</sup> Although these codes exist, there are policy rules and restrictions that determine if they are reimbursed. The practitioner must determine what a fair fee is for this service irrespective of insurance reimbursement.

### REMOTE COMPUTER ACCESS

Another critical aspect of remote consultation is having information from the patient chart available to you in your home or other non-office location. All of us have received calls or messages along the lines of "it is that tooth" or "the doctor knows my situation." Many times, this is true, and the dentist does know the tooth in question, but most of the time the doctor would like to see recent chart notes or images. This can easily be accomplished by what is called "remote computer access." There are many commercial programs that allow you to log into a workstation in the office from anywhere using a computer, tablet, or even a smart phone, and access your office computer from wherever you are, as if you were sitting in front of it in the office. There are free systems like Windows Remote Desktop or (Google) Chrome Remote Desktop. These use basic encryption and can be secured (using SSL/TLS) but to be HIPAA compliant, other safeguards must be manually set up that include more complex passwords and use secure firewalls.<sup>2,3</sup> One of the most popular of this type of product is LogMeIn. This and similar systems such as GoToMyPC, Splashtop, and TeamViewer not only allow you to duplicate your desktop, but also allow file transfers and printing, all in real time and totally secure. There are fees related to the number of users and features you are using and there is usually a system of support.

### TELEDENTISTRY USE POST-PANDEMIC

Dental practices have mostly reopened and are out of the crisis mode of only treating emergency cases, and as we continue to get back to "normal" practice, the concept of teledentistry can be used in many ways. These virtual visits can help screen emergencies, with office staff utilizing the technology to schedule the patient more efficiently. The doctor doesn't have to be on that call but can be shown the issue(s) later and then be able to give staff a better idea of what type and length of time the appointment should be so they can call the patient back to schedule. Beyond this, patient consultations are possible for many scenarios.

Virtual "smile consults" have been around for a while now, but they were mainly for a niche market and required a fair amount of explanation on how to proceed. But now, since people have become more comfortable living in this Zoom world, it is a natural transition. More than two years ago, Dr. Brian Harris of Phoenix, AZ, developed Smile Virtual LLC using teledentistry to explain cosmetic services to

patients. With this process, as well as several others now, dental practices can have remote consultation apps embedded in their practice websites or can subscribe to services that drive new (and existing) patients to their offices looking for better aesthetics. Many instruct patients to upload a series of smile selfies and/or videos and then get a call back from the doctor with a consult and suggested solutions.

This consult usually leads to an in-person office visit as it is explained that a few photos cannot give a precise diagnosis. This also allows new patients to have a meet-and-greet “audition” of the dentist to help them decide if they want to come to this dental practice. A simple online search of “virtual dental consultation” will bring you a long list of options (or see the sidebar on page 16 for more examples). Many of these services can also be used for dental practice promotion with broader marketing.

As these services have been evolving, there has been a convergence of features pooling the consult, teledentistry platform, email encryption, and more in one total bundle. As more people use these systems,

the creative teams behind these companies’ products continue to introduce even more features. One company, Dentulu, includes a dental office “finder” that looks and operates like Uber or Lyft. Dentulu and MouthWatch also have intraoral cameras that patients can borrow or purchase for follow-up to see for themselves or send images to the dental practice. This may sound a bit extreme, but during COVID-19 quarantine, many patients did in fact resort to home treatment with over-the-counter temporary filling materials and cements such as DentTemp or even made attempts to smooth off their own teeth with nail files. Some checked YouTube for do-it-yourself dentistry advice, which we dental professionals know can be quite dangerous.

## CONCLUSION

Hopefully, by the time you read this we will have a better handle on the coronavirus and have bounced back fully from the office closures with patient visits back to pre-COVID levels. We hopefully have learned from these experiences, and perhaps even started re-thinking the incorporation of these technol-

ogies into our practices. And should we see widespread outbreaks and extreme increases in COVID-19 cases over the coming winter months, resulting in mandated quarantines and office closures, dental practices will be better prepared to continue to provide care for our patients with these game-changing teledentistry tools. **JMDS**

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