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Editorial

Telemedicine (Virtual Video Visits - VVV): Is the Genie out of the bottle?

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With the onset of the public health emergency (PHE); pandemic, the bureaucratic obstacles that made adoption of this technology slow have been erased. As such clinicians have been scrambling to initiate visits with their patients. This article provides first hand experience and commentary by clinicians on the front lines.

> *__Necessity is the mother of invention__
> –Plato

The COVID-19 pandemic brought profound changes to the way medicine is practiced both literally and figuratively. Telemedicine–the virtual iteration of an office visit—has boomed. The Center for Medicare and Medicaid (CMS) had regulations governing telehealth for decades, however the rules were rather restrictive to implement a broad program. The pandemic essentially eased many of these regulations. Once considered a vehicle for expediency and convenience, the widespread adoption in telemedicine or virtual video visits (VVV) today is born out of necessity – the need to continue patient care while adhering to the physical distancing requirements of the pandemic. The Centers for Medicare and Medicaid Services recognized this need as they implemented new regulations to more easily permit telemedicine visits for almost any patient encounter. There are two predominant forms of communicating with patients: synchronous and asynchronous. Asynchronous communication occurs potentially using various forms of electronic communication through a series of exchanges that occur between the clinician and patient. Examples are email exchanges and the transmission of data such as heart rate and oxygen saturation levels. Synchronous communication is akin to the experience a patient would have as if they were sitting face-to-face with the clinician in his office.

For many clinicians, incorporating VVV into their practices posed logistical obstacles—implementing new technology requisites, defining the right patient population to be served, and translating their communication skills into a virtual setting. Practical considerations such as malpractice risk and coding also begged for answers. **What can we learn from early adopters of telemedicine? How is it being used? By whom, what platform, and why?**

To gain insight into some of these questions, physicians currently performing telemedicine visits were contacted.

A STORY OF SAFETY AND CONVENIENCE:

Glenn Landon, MD (Landon 2020), Chief of Orthopedic Surgery, Kelsey Seybold Clinic, Houston, Texas reports that his practice began telemedicine visits for many of their post-operative visits in 2018. Since post-operative visits are included in the global post-operative period, they were "no charge" visits and therefore, didn't interfere with regulations restricting telemedicine visits in their community. This afforded a wonderful experience for their group, allowing them emergently to transition the entire practice's patients, not just the post-operative patients to telemedicine. The Kelsey Seybold Clinic employs 380 physicians

a Dr. Marks is an innovative problem solver who brings more than 30 years of practical experience to each engagement. He draws on his broad leadership experiences as a clinician, administrator, and physician executive when working with clients. He fully understands the need for collaborative relationships to achieve success and create win-win solutions.

For more than 15 years, he has been a communications mentor for the Institute for Healthcare Communications (IHC) providing instruction in three communication skill courses including telemedicine skills that are necessary for today's clinicians in a patient-centric healthcare environment. He is a Master Trainer for Team STEPPS (AHRQ).

Dr. Marks received his B.S. (Biology-Chemistry-Sociology) from Union College, Schenectady, New York. He then attended George Washington University Medical School for his medical degree and remained there for his orthopaedic residency. He completed a spine fellowship at the Cleveland Clinic Foundation. He has been Board Certified in Orthopaedics since 1990. In 2001, he obtained his MBA from the University of Tennessee to acquire the skills necessary to meet the healthcare challenges of the 21st Century.

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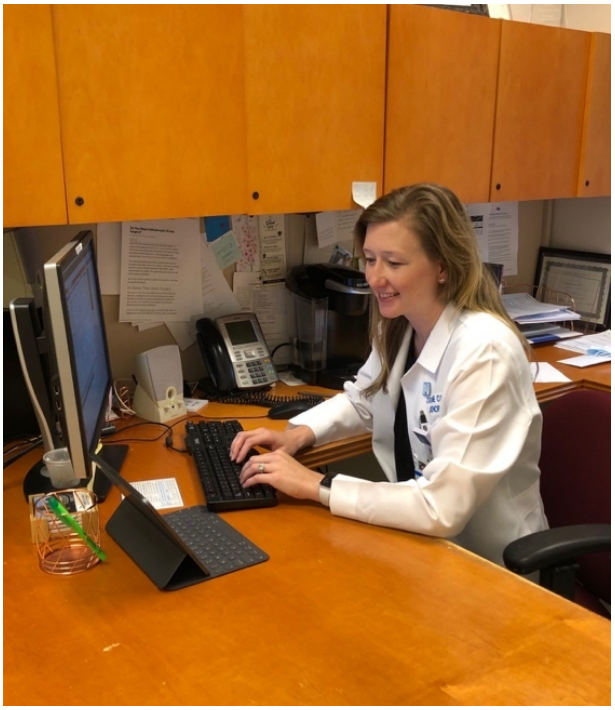

Image 1. Catherine Cahill, M.D. - Co-Chief Orthopaedic Surgery – Hip & Knee Replacement Kelsey-Seybold Clinic

and 90 advanced practice providers (APPs). When they began this endeavor in 2018, there were some technical difficulties with hardware and broadband, these were readily solved, and are now negligible. To initiate a VVV, a patient is scheduled in their practice management system (Many of the electronic medical records (EMRs) and Practice Management Systems (PMRs) have this capability.) The patient virtually checks in for their visit, and the clinician opens the patient's chart on their computer. A second interface is opened on either a smart phone or tablet to create the link for a video/audio visit. This enables the clinician to look at the patient's clinical information and interview the patient simultaneously. (Image 1). Catherine Cahill, M.D. - Co-Chief Orthopaedic Surgery – Hip & Knee Replacement Kelsey-Seybold Clinic

Some utilize two large monitors to assist in visualization of the patient during an examination. Dr. Landon stated that it took only a short time to get facile at working two devices simultaneously.

In addition to the virtual "visit," necessary post-visit information is sent to the patient through links in their patient portal. These may include YouTube videos or patient educational materials from organizations such as the American Academy of Orthopaedic Surgeons (AAOS) ("Ortho Info," n.d.). Currently, the Kelsey Seybold Clinic does not video record these visits due to the sheer volume of memory storage that would be needed, however Dr. Landon admits in the future, this could assist in both patient education and compliance to their post-op plan. Patient adherence to clinician recommendations is at times challenging. Multiple studies conclude that 50% of information provided by clinicians is retained and of that retained, about half is remembered correctly (Makoul, Arntson, and Schofield 1995; Tai-Seale, Bramson, and Bao 2007).

During this pandemic, Dr. Landon states that VVV are working for 85 – 90 percent of their patients. There seems to be a lower threshold for both the clinician and patient to ask questions. "Does my wound look OK?" "Is my leg swollen?" These visits are more of a challenge for the foot and ankle surgeons dealing with diabetic ulcers, where probing of wounds is a vital component of the examination. Based upon the patient interaction, if an injection or x-ray is needed, an appointment is scheduled.

Dr. Landon emphasizes there are secondary patient safety benefits to telemedicine. Virtual visits are especially appreciated by mobility impaired patients. The risk of falling or injury during transport to and from the office is eliminated. Additionally, a friend or relative who would previously have driven the patient for their 2-week post-op visit, is no longer inconvenienced. How do patients view their experience? Patient satisfaction surveys convey their telemedicine visits rated 93% good to excellent.

DIAGNOSING AND TREATING FROM AFAR?

Telemedicine visits use the same evidence-based biomedical skills used in a typical office visit, so Dr. Landon sees no increased risk of malpractice. The clinician takes a history, performs a pertinent examination based upon the complaints; fully understanding that the exam is limited to active range of motion, observation, and feedback from the patient with palpation of a body part. Dr. Landon explains he has diagnosed and treated 5th metatarsal fractures. In this case, the patient complained of pain along the lateral aspect of their foot after tripping. The exam demonstrated swelling and ecchymosis along the lateral aspect of the foot. As the patient palpated the foot, Dr Landon observed the response from where the pain emanated. He prescribed a walking boot that can be delivered to the patient and adds aspirin to prevent deep vein thrombosis. Another example—total hip replacement–for patients in the post-operative period. Through comparing one lower extremity to another, size differences can be visualized and if necessary, an ultrasound for a suspected deep vein thrombosis can be ordered. If he is concerned about the status of a wound, he will have a still picture sent to him as the quality is better than the video image. Other imaging studies can be ordered, as necessary. "Suspecting a rotator cuff tear and ordering an MRI is not that difficult", says Landon. Dr. Landon has become quite a proponent of telemedicine over the last two years. "Try it, you will like it and your patients will as well". However, clinicians must maintain a high index of suspicion for "bad actors", tumors, infections, etc. If the course of treatment is not going as planned, investigate further.

A TOOL TO DETERMINE PATIENT "CATEGORY" LONG DISTANCE

Dr. JW Thomas Byrd (Byrd 2020) is an orthopaedist specializing in hip arthroscopy and preservation surgery, at the Nashville Hip Institute, in Nashville, Tennessee. Dr. Byrd admits that the adoption of VVV was never on his radar until the pandemic gave him a timely reason to consider its implementation. Initially, the patient adoption was slow, however, the number of visits are increasing weekly. At the lowest point he was seeing about 20% of his pre-pandemic volume with about 30% opting for telemedicine visits. His staff IT people made the transition to virtual care seamless for both him and his patients.

Dr. Byrd enjoys a busy referral-based practice where patients come to see him from all over the United States. In fact, 80% of his patient volume comes from outside the Nashville area. Incorporating telemedicine offers an added value and convenience. His patients typically see an average of 4.2 healthcare providers before a diagnosis is reached. Patients are asked to have their records and MRIs sent to Dr. Byrd so that he and his staff, can review them and determine in which of 4 categories they fall: 1) those that definitely need surgery (20%); 2) those that definitely don't need surgery (10%); 3) those that might need surgery (30%); and 4) those that need to be examined to determine the specific origin of their pain (40%). Since many of his patients travel long distances for their visit, those that are in the third category find telemedicine provides incredible benefits. If the telemedicine visit indicates the patient is a candidate for hip surgery, these patients now need to only make one visit to Nashville for their surgery. The use of telemedicine has permitted Dr. Byrd to provide time efficient and financially responsible care; there are less wasted visits for his patients and less patients being seen that don't result in a surgical procedure.

Image 2. Dr JW Thomas Byrd – Hip preservation surgeon Nashville Hip

Image 3, Beth, NP – Nashville Hip

NO COMPROMISE IN "BONDING" WITH PATIENTS…

Dr. Byrd's initial hesitance to launch VVV was more personal, based on his impression that he would lose a precious bond with his patients. For over 30 years, he believed in the power of connecting with each patient in person. To his surprise, Dr. Byrd discovered that performing these virtual examinations (Image 2) – Dr Byrd during a telemedicine visit and Image 3 – Beth NP conducting a visit) has worked better than he expected.

He can genuinely get to know these patients, albeit remotely, and determine to which quadrant they belong. Interestingly, the physical diagnosis is only part of the equation. The best candidates must also be in the right mindset for surgery– ready to participate in the extensive rehab program necessary for a complete recovery. Dr. Byrd has found that he has been able to accomplish these difficult conversations virtually. Dr. Byrd stated that he will always derive the greatest satisfaction from "in person" visits. However, he is excited about the ways in which telemedicine provides a new tool to enhance his practice, making communication and "presence" more convenient and less costly for his prospective patients, improving their overall experience.

A VISIONARY CONCEPTUALIZES THE "CURBSIDE CONSULT" TO A WHOLE NEW LEVEL…

Dr. David Eisenhauer (Eisenhauer 2020), is a practicing orthopedic surgeon specializing in pathology of the upper extremity and resides in Joplin, MO. Dr. Eisenhauer is the Founder and CEO of MoonlightOrtho®—officially launched in 2019 using the first and proprietary direct-to-consumer, orthopedic-specific "Asynchronous Video Telecommunication" platform. MoonlightOrtho® was conceptualized as a service to extend the orthopedic "Curbside Consult" to the general public. Dr. Eisenhauer envisioned a concierge level of service, sharing expert advice with patients on a broader basis where patients can sign up for cash pay episodic care/

consultations starting at $20. The service as of April 1, 2020 had 75 physicians located in all 50 states.

Patients go online and select a physician that treats their problem and is licensed in their state. The accelerated expansion of MoonlightOrtho® is due in part to the fact that many states have liberated the licensing requirements and have reciprocity with other states. In fact, as of May 2020, the Interstate Medical Licensing Compact (IMLC) makes the process for obtaining a medical license in 29 states, the District of Columbia and the Territory of Guam simpler if you already hold your primary license in one of the participating states("Interstate Medical Licensure Compact," n.d.). Patients complete an online questionnaire about their concerns and create a 2-minute video demonstrating their pain, symptoms, and range of motion. This "chart" is sent to the selected physician and the patient receives a response to their query within 24-36 hours versus a longer waiting time to see an orthopaedic surgeon in his office. Although there are now many orthopaedic walk-in clinic, many are manned by advanced practice providers (NP and PA), and not orthopaedic surgeons. The physician provides a suspected diagnosis and treatment recommendations and sends a short video back to the patient, allowing the patient to review the assessment as many times as they wish, while connecting a name with a face. The patient has the opportunity for one more "session" of follow-up questions. Treatment may include a prescription for a medication, a lab order, an imaging order, a nerve study, or a referral to another specialist. The group has also compiled several short, informational videos, from fellowship trained Orthopedic Surgeons, discussing the most common orthopedic conditions encountered. This is available at no charge.

In addition to the "curbside consult," patients can also engage for a new patient visit or second opinion. Free postoperative visits can be scheduled as well. Since the pandemic, Dr. Eisenhauer has doubled the number of physicians across the country that have signed up to provide episodic care. "We offer our patients more choices in their healthcare delivery that addresses simple solutions to common orthopedic problems, at a reasonable cost, on their time schedule—even during moonlight."

SYSTEM-WIDE SYNCHRONOUS PATIENT CARE

At the same time, Mercy Health System, Dr. Eisenhauer's employer and a large healthcare system in the Midwest, has transitioned to telemedicine services. This has provided Dr. Eisenhauer with the opportunity to experience synchronous patient care. Currently, he is seeing 30+ patients a day from his hospital-based office with approximately 15% being referred for in-person urgent/emergent visits that require imaging studies. They are using their EMR and various versions of "real time video" for the video/audio feed. He has found the process to work well and patients seem to be satisfied with the care received via telemedicine. He has not identified any major glitches and is considering adding synchronous video services to MoonlightOrtho. Dr. Eisenhauer commented, "The pandemic has fast-tracked the changes needed to put telemedicine in the mainstream of the healthcare delivery system and has advanced telehealth and distance healthcare by 4-5 years in a matter of months." He added, "The Genie is out of the bottle and I don't see it going back in."

ANOTHER SPECIALTY WEIGHS IN…

Mark Epstein, MD (Mark Epstein 2020) is a board-certified cosmetic plastic surgeon. He provides insight into how another surgical subspecialty has incorporated VVV into his practice. His world-wide reputation draws patients nationally and internationally from outside his Hauppauge, New York office. Several years ago, he started using a simplistic platform that only provided face to face communication to engage patients and assist them in deciding if they were good candidates for the procedure they desired.

Dr. Epstein realized this was a real opportunity so he went all in and invested in telemedicine: the video/audio platform to communicate with patients; the appropriate platform for medical record collection; and a platform to collect photographs. The video/audio platform was critical. He now subscribes to Go to Meeting™, which costs $15/month and has his surgical coordinator present through the entire consult as both a chaperone and allow her to understand the surgical plan and any special considerations to assist the patient following the virtual video visit. He may also have his schedule coordinator join the e-visit to arrange next steps following the consultation.

NOT JUST FOR LONG DISTANCE…SERVING WHILE "SHELTERING IN PLACE"

Prior to the actual visit, the patient opens his practice website and e-signs multiple consents including one specifically for the telemedicine visit. Using another secure platform, the patient can upload medical records and photographs. The consents, medical records and photographs provide Dr. Epstein with all he needs to accomplish a thorough consultation with the patient. During the virtual consultation, he has two and sometimes three monitors at his disposal allowing him to move information in and out of view while he shares his screen with the patient. (Image 4 – Dr. Mark Epstein)

Prior to the pandemic he would typically perform these sessions in his main office. Since "shelter in place" orders, he conducts these visits from the comfort of his home and has his associates participate remotely from their homes. Overall, he has received great feedback from patients. Initially inspired to serve patients potentially traveling long distances, local patients restricted by the pandemic also benefit. Typically, he would see 6 – 10 new consult patients a day in the office with an occasional telemedicine visit. Currently, he is seeing 4 – 5 new consults/patients/ week. As the word is spreading about his telemedicine visits, he expects the volume to increase. Dr. Epstein is convinced. "The future has arrived. This will be an integral part of my practice for the future".

Image 4. Dr. Mark Epstein – Plastic Surgeon, Epstein Plastic Surgery

READ THE PLAYBOOK—VET YOUR SOURCES

The AMA has a Telehealth Implementation Playbook ("AMA Telehealth Implementation Playbook," n.d.) with a copyright of 2020. This playbook provides useful information, especially for the development of a long-term program. It encourages performing vendor evaluations and calculating return on investment among other considerations. However, this guidance is not particularly useful in a crisis, when it is necessary to get a telemedicine program jumpstarted immediately.

Up to the minute information can be found online from reputable and reliable practice management firms. Karen Zupko & Associates has answered many of the "Payor Telehealth Policies" on her website ("Payor Telehealth Policies," n.d.). 11 Technical Tips for Telehealth (n.d.) can be found at www.karenzupko.com where a section dedicated to the subject resides. The landing page is entitled KZA Telehealth Solution Center and offers a comprehensive resource regarding ever-changing telemedicine guidelines including all the latest billing updates from CMS and other payers.

It is fair to assume Orthopedics would be the last specialty to embrace telemedicine because of the way we have always practiced. And yet…even the most reluctant among us can see how quickly the field of virtual video visits is evolving to benefit surgeons and patients alike. The "pioneers" cited in this article demonstrate there is much to learn about how virtual visits might be the next revolution for our specialty.

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