

ROUNDTABLE DISCUSSION

COVID-19 and Outpatient Venous Care

How COVID-19 has affected venous practice in the United States and Europe, patient management during the pandemic, protocols for reinitiating elective procedures, and thoughts on how COVID might affect the future of venous care.

WITH JEFFREY CARR, MD, FACC, FSCAI; SERGIO GIANESINI, MD, PhD, FACS; MATTHIEU JOSNIN, MD; NICOLAS NÉAUME, MD; DVORA NELSON, MD, RVT, RPVI; AND SUMAN WASAN, MD



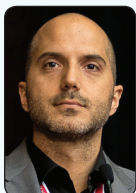
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How would you briefly summarize the impact COVID-19 has had on your venous practice? Which procedures, if any, have you continued to provide throughout the restrictions?

Dr. Carr: The COVID-19 pandemic continues to impact all of us and especially my venous practice. Initially, our governor issued an executive order in March restricting

elective surgeries and procedures. There were several weeks of essentially no procedures in our vein center and cath lab; but later, with clarification and revisions of the order and subsequent reopening, our vein visits and case volumes have gradually and steadily returned. We continued to perform procedures for active venous leg ulcers (VLUs) and refractory pain, after clarifying that these procedures would

not negatively impact hospital beds and personal protective equipment (PPE) in case of a local outbreak and need for inpatient services and resources.

Dr. Giancesini: The COVID-19 outbreak completely halted our elective venous practice. We have continued to schedule urgent cases related mainly to ulceration and suspected or follow-up of venous thrombosis. The COVID-19 outbreak has increased awareness in other medical specialties of the central role of the venous system and the thrombotic risk related to infection. To determine which patients to treat, I have mainly followed the American College of Surgeons COVID-19 guidelines for triage of vascular surgery patients and the International Union of Phlebology recommendations for triage of patients with venous and lymphatic diseases.^{1,2}

Drs. Josnin and Néaume: The impact of COVID-19 on our practice has been substantial, with the government mandating the closure of our medical offices for all daily procedures except emergencies. We are only treating venous emergencies such as suspicion of deep vein thrombosis (DVT). We take care of arterial and venous vascular emergencies (venous thrombosis, ischemia) but also ulcers that have decompensated.

Dr. Nelson: We stopped doing elective procedures as mandated by the Ohio State Medical Board. We converted

our practice to provide urgent care for those patients who wanted to avoid going to the hospital emergency department where they may be exposed to COVID. We continued to perform laceration repairs, urgent ultrasound evaluations for possible DVT, incision and drainage of abscesses including infected pilonidal cysts, and wound care for cellulitis. At best, we saw two to five patients total per day, and we used the extra time to organize the facility. We updated our procedural protocols and invested time in writing newsletters to educate and motivate the community during the pandemic. We focused on how we could offer services to help ease the COVID stress. We received our Clinical Laboratory Improvement Amendments certification for moderate-complexity lab testing so that we could offer serologic testing for patients who wanted to know if they had developed some level of immunity to COVID-19.

Dr. Wasan: Initially, with dismal circumstances reported in Italy, the health system took a conservative approach and all elective venous procedures were canceled. As more information was acquired and local and regional safeguards were put into place, the system was able to make contingency plans for a surge of COVID patients. Now, venous consults and procedures, both surgical and endovascular, have largely returned to normal with enhanced patient screening and required facemasks and coverings.

Because our practice includes vascular surgeons, we continued to provide emergency procedures, such as place-

ment of inferior vena cava filters, declotting of occluded fistulas, other surgical emergencies, and the occasional vein ablation for treatment of nonhealing wounds.

How have you incorporated telemedicine into your practice, and how will you incorporate it going forward?

Dr. Wasan: Because we work within such a large health system, telemedicine was initially limited to a handful of providers with a staged approach to get everyone trained and on board. When it became clear that in-person visits were not an option, the system was able to give every provider access to telehealth within a week or so. We have offered a telehealth option—phone call and video call to those with smartphones—for any visit per patient preference. The usage has waned in the last month as diagnostic studies were needed, and thus patients needed to be seen in person. I believe telehealth visits will continue for those who live some distance from their provider, are elderly, have difficulty with transportation, or have annual visits just to check in and receive medication refills.

Dr. Nelson: Telemedicine was not very relevant for my practice. I only did one telemedicine evaluation for a patient who needed a follow-up to have her insurance approve a lymphedema pump for her severe leg edema. It is difficult to differentiate whether an acutely swollen leg has a deep venous clot with just visualization. An ultrasound is needed.

Dr. Carr: We introduced telemedicine very early on and use a few different modalities based on our electronic health record platform and also the patients' personal home devices, technical access, and abilities. Although we provided access early, we found that the majority of our patients still wanted to see our physicians in person at an office visit and opted to wait for signals that the pandemic was slowing. We screened all patients, used all the recommended guideline precautions, and offered telemedicine to every patient. We recommended delaying follow-up visits for high-risk patients. Going forward, we will still offer telemedicine but believe it will represent a smaller proportion of our practice visits. However, it may be an efficient option for our doctors and advanced practice providers for follow-up visits to assess efficacy of conservative management trials, which are often required prior to preauthorizing superficial vein therapies. Telemedicine also offers an alternative for patients who have difficult transportation issues or live a distance from our office.

Before reopening for elective procedures, how have you counseled patients regarding management of pain and swelling in the interim?

Dr. Giancesini: As soon as COVID-19 was deemed a pandemic, in conjunction with the venous-lymphatic World

International Network foundation, we released five educational multilingual videos based on scientific evidence, instructing the population on how to best manage lower limb venous and lymphatic issues during the containment. The material is open access and is available at www.vwinfoundation.com/covid. A strong focus has been given to lifestyle choices and the evidence-based use of proper compression and venoactive drugs. The patients have been monitored with phone calls, with the help of pictures, videos, and limb circumference measurements.

Dr. Nelson: Any patients with acute or new pain or swelling were advised to come into the office to be seen for an evaluation including a duplex ultrasound. Making the diagnosis of a deep venous clot virtually is a challenge.

Dr. Wasan: All scheduled patients are screened by phone for travel and health risks, including temperature and COVID symptoms, before the procedure is confirmed and the patient presents to the clinic. On arrival, all patients have temperature screening and are required to wear a mask. Those family members or friends who accompany them are asked to wait in the car until they can drive up to pick the patient up after the procedure.

Drs. Josnin and Néaume: We have been providing advice via teleconsultations on a very ad hoc basis on classical venous hygiene measures, wearing venous compression, and taking venotonics.

What recommendations are you providing to your wound care colleagues for managing VLU's?

Drs. Josnin and Néaume: We recommend that the protocols already in place be continued, and we use telemedicine to adapt the care protocols if necessary.

Dr. Wasan: We have one dedicated wound care provider in our group who works in an outlying clinic; I assume he is following health system policies.

Dr. Giancesini: Venous thrombosis risk assessment and self-management are fundamental. Use of adjustable compression wraps can be an effective solution for multiple reasons, including quicker healing time,³ cost-effectiveness,⁴ and to limit clinic visits during the time of the pandemic.

Dr. Carr: During the shutdown, we counseled our patients and wound care colleagues to continue conservative management with compression therapy and to contact us with any significant clinical changes. On reopening, we have placed a priority on treating patients with VLUs and have instituted the Centers for Disease Control and Prevention (CDC) COVID-19 guidelines in our office.

As you begin to reopen for elective procedures, what precautions are you taking? What changes are you making to ensure safety of staff and patients?

Dr. Nelson: Because we were seeing patients throughout the peak of the COVID pandemic, we have been using PPE including eyewear, masks, gowns, and gloves for every patient encounter. Patients do not wait in the waiting room and instead are directed to their private patient room after they check in at the front desk. They are encouraged to wash their hands and use hand sanitizer when they enter their exam room. If they do not already have one, patients are given a cloth mask as soon as they enter the building to wear throughout their evaluation. Examination rooms and countertops are cleaned before and after each patient enters the room, and we continue to do so aggressively. All medical staff wear a new/fresh gown, mask, and eye protection with each patient encounter.

We optimized the air quality in our facility. We use high-filtration air filters that filter particles as small as 0.1 μm . We also have air ionizers to further cleanse the air. At every opportunity we open windows in the office building to add fresh air to circulate throughout the system.

Additionally, patients are questioned to ensure that they are asymptomatic and have not been recently exposed to COVID to their knowledge before they come into the office. Temperatures are taken, and family members are encouraged to stay in their cars or return to pick the patient up. The slow pace during the peak of COVID allowed us to become comfortable with the practice of donning the protective wear. Now with the increased volume of patients, this new practice is routine. We launder, sanitize, and dry our gowns on site.

Dr. Carr: When we call patients to schedule or remind them of their appointments, we ask COVID-19 symptom and exposure screening questions. We follow CDC guidelines and screen all patients and staff before entering our facility. Patients and staff wear masks, and cleaning protocols are followed before and after every procedure.

Drs. Josnin and Néaume: We have implemented safety instructions to be adopted in all medical practices, to protect both patients and employees, including use of hydroalcoholic solution; protective glass for office staff; social distancing; lengthening consultation time to avoid crossing patients; cleaning surfaces, floors, and ultrasound probes with disinfecting products; and masks and other PPE. These recommendations were drafted by the various societies we belong to, and a consensus was reached. Health care institutions then adapt these recommendations to the particularities of the field.

If you have already restarted elective procedures, what are patients saying about their experience? What percentage of your patients would you estimate feel uncomfortable and unwilling to undergo interventions?

Drs. Josnin and Néaume: In the first weeks after the end of the lockdown, about 30% of patients refused or canceled their visits. This hesitation gradually faded, partly due to the regression of the pandemic and partly due to the seriousness of the measures and their application within the health care institutions. We have resumed operating room activities, but a significant proportion of patients are still reluctant to come to the clinic.

Dr. Carr: Our patients are very comfortable with the care and precautions we have taken to ensure their safety during their procedures. Initially, we had a majority of patients wanting to postpone their procedures. Due to the several-month-long shutdown, most are now wanting to undergo treatments due to their refractory symptoms and challenges with long-term conservative management. Approximately 10% to 20% of patients are still uncomfortable at this time.

Dr. Wasan: We have not had any negative comments to my knowledge. Most patients are eager to have their procedures completed to avoid resubmission of insurance authorization. We have the ability to schedule elective procedures at our outlying clinics away from the main hospital for patients concerned about coming near the main health facility where COVID patients may be admitted. I do not know the exact percentage who are uncomfortable with undergoing procedures, but it seems very small. As time goes by, it seems most patients are ready to venture out and adhere to the safety measures that have been instituted.

Dr. Nelson: Patients are having a good experience. They seem to appreciate that we are cautious and visibly working to protect their welfare. I would say that < 5% are uncomfortable and unwilling to undergo interventions at this time.

Dr. Giansesini: Extremely variable feelings have been reported by my patients. The majority downgrade the severity of COVID-19, with a tendency to underestimate the contagious risk and the related consequences. The majority feel safe inside the clinic, as we have strict protocols in place to avoid contact among patients in the waiting room and guarantee maximum safety during the diagnostic and therapeutic examinations. Just around 1% of our patients reported that they preferred to postpone their procedure because of COVID-19.

How will you prepare for the possibility of enduring a second surge? With an eye toward the future, if you'd known COVID-19 was coming 6 months ahead of time, what might you have done to prepare?

Dr. Nelson: We are making sure that we maintain a sufficient stock of PPE. I am budgeting to ensure that there is funding for multiple payrolls at all times. Had I known that the pandemic was coming, I would have ordered more surgical gowns when I wanted to in December, but my staff assured me that we had plenty to accommodate our schedule of procedures. Little did we know that we would also need gowns for every staff member to wear for all patient encounters.

Dr. Carr: In Texas, we are currently experiencing a second surge in numbers of cases. We are much better prepared, will continue with our current precautions, and will adhere to any state or local health and practice advisories. As an office-based practice, we will not impact hospital-based resources that may be needed for a potential surge in inpatients. Even prior to the first outbreak, we had an ample supply of PPE. During the shutdown period, we never had to order additional PPE, and therefore we did not have a negative impact on hospital resources. One idea we've had is to conduct telemedicine visits with patients and initiate conservative management during any stay at home or social distancing setbacks. This will allow the patients to expedite their payer-mandated conservative management trials during any surge or recurrent lockdown of elective procedures.

Dr. Wasan: The facility has done a good job of communicating contingency plans for a surge, with up-to-date statistics and weekly conference calls as new data come in and the status changes. As with others nationwide, securing adequate PPE and universal use of face masks would have been top priorities if we had advance warning.

How have you communicated or how will you communicate the reopening, and how will you be ensuring safety to patients?

Dr. Giancesini: We communicated the reopening by mail to all our patients. We have implemented the following protocol to ensure the safety of our patients: (1) a phone call 3 days prior to the appointment to verify the patient's status and risk of exposure to COVID; (2) previsit temperature assessment and questionnaire related to possible exposure before accessing the waiting room; (3) individual appointments with no gathering in the waiting room; (4) allowing 20 minutes between appointments to disinfect the examination rooms after each and every visit; and (5) use of masks and gloves by all health care professionals and patients. Health care professionals also wear face shields.

Dr. Wasan: This facility has a large referral network. The marketing department has developed a plan of outreach to practices and individual physicians to reassure providers that we are seeing patients again with rigorous safety measures in place. We have seen our referrals steadily increase over the past few weeks.

Dr. Carr: All patients are informed about our COVID-19 screening and staff policies when they are confirmed for their visits. Our policies are posted to our website and social media.

Drs. Josnin and Néaume: We have not done anything specific through our offices. Our ministries have communicated through television, and patients are gradually getting back to our office staff about rescheduling appointments.

Dr. Nelson: We notified patients using Facebook, Instagram, e-newsletters, and by direct contact via telephone that the office is open and in full swing with added health enhancements to protect their well-being. We called those patients whose procedures were canceled during the quarantine as well as patients who received insurance approvals in the interim and needed to be scheduled.

How are you working to reestablish referrals, and what challenges do you envision?

Dr. Carr: Communicating with referral sources and patients will continue to be a priority for our center. During the pandemic and uncertainty with reopenings, there are challenges in reassuring referring doctors that superficial and chronic deep venous interventions should be performed. There remain negative biases about the chronic and even cosmetic nature of these disease states, yet many patients suffer in pain and discomfort even with conservative therapies. It is paramount that we ensure and communicate the safety and appropriateness for treating venous patients during this pandemic.

Dr. Nelson: Referrals have not been an issue because we made ourselves readily available so that providers could send their patients to us for urgent evaluations. We provided services that complemented their telemedicine evaluations and kept their patients out of potentially crowded emergency departments.

What do you think the permanent or long-term implications on venous care will be?

Drs. Josnin and Néaume: In France, we have set up a questionnaire on venous care deprogramming to measure its impact for the future. This questionnaire is accessible via an internet link that has been distributed

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to all vascular physicians and surgeons in France. The practitioner's identity is verified by a unique identification number provided by the state, and the link opens a secure access to a platform, allowing the practitioner to provide information for each patient whose intervention was postponed during the lockdown, including civil status, CEAP (clinical, etiology, anatomy, pathophysiology) stage, and clinical severity score. The practitioner is then asked to fill out the questionnaire again when the initially postponed intervention is performed. The aim is to assess the modifications undergone by the patient and a possible loss of chance for treatment.

Dr. Giancesini: The difficulty of this pandemic provided the opportunity to learn more about the potentials of telemedicine, self-management, and vein care options such as proper graduated compression stockings, adjustable compression wraps, and validated venoactive drugs. Moreover, there is an increased awareness regarding the importance of adequate thromboprophylaxis. The experience of providing adequate venous care through public awareness and self-management during quarantine can also be applied to rural health, in which patients in rural areas may not have easy access to specialized centers.⁵

Dr. Wasan: It is difficult to say. If the pandemic is ultimately controlled, practice will likely resume as normal.

Dr. Nelson: I do not foresee any long-term or permanent implications that the COVID pandemic would cause. COVID-19 is associated with aberrant clotting and if anything, there may be more venous evaluations as a result.

Dr. Carr: Although there has been a significant negative impact by the pandemic, there may be positive changes brought about by accelerating efficiencies to venous care not just in telemedicine use but also in technologies based in the venous care continuum. Leveraging digital media and resources may expedite and improve access to venous care. Although still in its infancy, remote learning and continuing medical education, virtual proctoring, and virtual rep-based case support will also likely add to the efficiencies for superficial and deep venous evaluations and interventions. ■

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