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Editorial

COVID Will End But Telemedicine May be Here to Stay



Simply put, there have not been many “bright spots” associated with the COVID-19 pandemic from an arthroplasty standpoint. Cases have been delayed or canceled, patients have died, and our practices have been affected in ways that we never could have anticipated. These events have forced us to change, especially with regard to how we interact with our patients. We can no longer shake their hands, read their facial cues, or in many instances, talk directly to their family or friends, who will likely be their support system throughout the procedure and the recovery period. Furthermore, some patients are concerned about coming into the office during the pandemic and have sought alternative means to be cared for by our teams. This has led to the expansion, or initiation, of telemedicine for many of us in our daily practices. Also, while some surgeons and patients seem to have embraced this technology better than others, the likelihood that telehealth will remain a part of our “everyday” care of arthroplasty patients, even after this pandemic subsides, continues to increase.

In this issue, El Ashmawy et al. [1] report on their experience with 1749 patients who were invited to undergo a virtual follow up visit once they were more than six weeks after their hip or knee arthroplasty. The authors found that over 90% of patients utilized the virtual service at the 1 year follow up visit and only 7% of patients required an in-person visit in place of the virtual meeting. Most importantly, 90% of the patients were either “satisfied” or “very satisfied” with their virtual experience and the cost savings for the institution was valued at over \$55,000.00 per year. Interestingly, this study was completed prior to the onset of the COVID-19 pandemic and the main reason that patients liked their virtual appointment was because it saved them the inconvenience of having to travel. It would be expected that such increased satisfaction would be even greater in the current environment, and we should realize that the desire to save time and prevent the inconvenience of going to appointments are always going to be appealing to our patients.

This is not the first telemedicine article that we have published in the *Journal of Arthroplasty*. In 2014, Sharareh and Schwarzkopf [2] found that patients who had telemedicine visits in the acute postoperative period had less unscheduled clinic visits and calls than those who did not. Furthermore, those patients who used telemedicine post-operatively actually ranked their postoperative satisfaction higher than those who completed

in-person visits. In addition, Marsh et al. found that there was not an increased risk of “missing” an acute problem for patients who utilized web-based follow up [3]. Therefore, it appears that virtual follow up is a relatively safe, and suitable practice for at least some of our arthroplasty patients.

Yet, during the COVID-19 pandemic, the benefits of telehealth visits are more than simply patient or surgeon convenience or even safety. Many of our procedures are quite complex and require a large commitment from the patient and their family in the post-operative period. During COVID-19, many practices are not allowing family members or visitors to accompany a patient to their appointment (or even in the hospital thereafter). Virtual visits provide a medium through which the surgeon can discuss the operation and explain the risks, benefits, and postoperative course with the patient and their support system during both the pre- and post-operative periods. In addition, these visits allow surgeons and patients to see each other's faces, potentially increasing the comfort level that each party has with each other by picking up some of the nonverbal cues that are such a critical part of our communication. Providing excellent care for our patients is hard enough in the best of times. It becomes even more challenging when the circumstances work against all of the stakeholders. The use of telemedicine appears to provide an avenue through which we can help improve the communication and relationships that are so vital to the successful care of our patients.

The cost savings brought up in the El Ashmawy et al. report is also interesting. Although the Center for Medicare and Medicaid Services are currently instituting large cuts to our specialty [4], it is possible that providing virtual care to patients postoperatively may assist our profession in recouping some of these losses. Clinic space is not inexpensive and it may be possible for some practices to shrink their physical footprint and save on practice overhead as telehealth options continue to expand. It is worth noting that almost all of the studies on this topic to date have looked at virtual visits in the postoperative setting. While instituting such practices preoperatively may be challenging from the viewpoint of performing an adequate physical examination, it is likely that in today's hyper-digital world, some form of telehealth could be used preoperatively as well.

Ultimately, virtual clinics and other forms of telehealth will only persist if they are shown to be effective for the clinician and the patient. However, based on the limited data we have to date, it appears that both of these requirements can be achieved. In addition, telehealth seems to offer the one thing that we are all looking for in the current time - a way to connect on a personal level to our patients and their families. The COVID-19 pandemic has been harsh on many levels, but we look forward to seeing

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how the practice of telemedicine that it has pushed forward will be able to help us better care for our patients in both the short and long term.

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References

- [1] El Ashmawy AH, Dowson K, El-Bakoury A, Hosny HAH, Yarlagadda R, Keenan J. Effectiveness, patient satisfaction, and cost reduction of virtual joint replacement clinic follow-up of hip and knee arthroplasty. *J Arthroplasty* 2021;36: 816–22.
- [2] Sharareh B, Schwarzkopf R. Effectiveness of telemedical applications in post-operative follow-up after total joint arthroplasty. *J Arthroplasty* 2014;29: 918–22.
- [3] Marsh JD, Bryant D, MacDonald SJ, Naudie DD, McCalden RW, Howard JL, et al. Feasibility, effectiveness and costs associated with a web-based follow-up assessment following total joint arthroplasty. *J Arthroplasty* 2014;29:1723–8.
- [4] Centers for Medicare & Medicaid services (CMS) H 2019. <https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/PhysicianFeeSched/PFS-Federal-Regulation-Notices-Items/CMS-1715-F>. [Accessed 8 December 2020].