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## Editorial

# Evaluating the Fellowship Experience During COVID-19: Adult Joint Reconstruction



In a TED talk (Technology, Entertainment, Design) in 2015, Microsoft's cofounder Bill Gates illustrated lessons that were learned from the Western Africa's 2014 Ebola virus crisis. He further warned against a future pandemic that was almost certain to occur and how the United States and several countries were ill-prepared for a potential calamity. In April 2020, the novel coronavirus disease 2019 (COVID-19) continues to wreak havoc among the general public, global health care systems, and economies. The orthopedic surgery profession has similarly undergone drastic changes. As Dyer *et al.* [1] have recently described, this pandemic has cultivated fear diffusely among medical professionals. Orthopedic surgeons, specifically, have increased concerns about redeployment strategies to staff emergency departments and intensive care units caring for COVID patients. The recent editorial from Columbia University highlighted the resident and attending staff redeployment experience in the COVID-19 epicenter in New York City [2]. As those authors accurately suggested, this pandemic has also united the medical and orthopedic surgery community by bringing out our intrinsic desires to help those in need, and to collaborate with our colleagues.

Overall, COVID-19 has affected orthopedic surgeons regardless of the stage of their career. As orthopedic training in the United States consists of a five-year minimum residency program, followed by an optional subspecialty fellowship training, it is still to be determined what the effect of this pandemic disruption will have on training programs. Unlike some medical subspecialty fellowships that consist of multiple years, most orthopedic surgery subspecialty fellowships are only 1-year programs. No one could have predicted that most surgical fellowships would come to a screeching halt after only two-thirds completion. However, there are several positives that have been generated from this unique global experience, as we adapted to this crisis. After all elective procedures were canceled nationally, residents and fellows were on the front line in the hospitals, while attending surgeons were busy with transitioning to virtual patient visits amid other clinical/administrative responsibilities. There was a sudden void of structured operative, clinical, and academic education, which was subsequently filled in with a combination of virtual lectures, journal clubs, virtual reality learning, research, and mentorship.

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## Current Experience

There are concerns over the lost number of operative cases in the current class of fellows. As the volume of orthopedic subspecialty fellowship programs and applicants has grown markedly over the past decade, completing a subspecialty fellowship has become an apparent necessity as part of orthopedic surgery training [4]. However, all nine orthopedic subspecialty fellowships continue to vary in their matching system, accreditation, and overall curriculum [4]. Adult reconstruction fellowships, specifically, have a great variety from institution to institution in regards to time allotment for structured academics including formal lectures, dedicated research time, and operative cases. This increased downtime due to elective surgery cancellation from COVID-19 has triggered a greater interest in formal academic education, which has further enhanced collaborative efforts among academic centers. The emphasis on continued virtual learning is especially critical during the fellowship year, as studies have shown that clinical practice preferences, implant selection, and surgical technique are the most influencing factors gained during the fellowship year among fellowship-trained arthroplasty surgeons [5]. Therefore, these trying times have highlighted the importance of an equal balance between the development of thought patterns and approaches to problems to enhancement of cognitive skills and honing of surgical skills in a surgical fellowship [6].

Under the direction of William G. Hamilton, MD, from the Anderson Orthopaedic Clinic, the American Academy of Hip and Knee Surgeons (AAHKS) initiated the Fellows Online COVID-19 AAHKS Learning (FOCAL) platform [3] after recognizing that the pandemic had markedly impaired the fellowship training experience. Fellowship programs around the country have united and committed to providing online lecture series with different daily topics. There is an interactive chat with multiple esteemed faculty attendings fielding and answering questions based on evidence-based literature and their own anecdotal experience. This is the first open platform where there is a seamless integration between attending surgeons and fellows committed to enhancing the orthopedic fellowship educational experience. In comparison with national conferences, such as AAHKS, American Academy of Orthopaedic Surgeons, or regional meetings, the FOCAL lectureship has allowed fellows and attendings to connect without feeling a time-crunch pressure while avoiding industry-sponsored bias. Once quarantine and elective surgery restrictions are lifted and normal daily clinical activities have resumed, the arthroplasty fellow's education platform will likely endure especially with

recorded lectures, as it has shown successful collaboration among trainee and attending surgeons across several academic institutions. While each arthroplasty fellowship varies substantially in terms of procedural volume, types of cases, and structured education curriculum, the FOCAL initiative will continue to standardize fellows learning and to augment the experiences gained at each individual institution. Furthermore, this virtual interaction between arthroplasty surgeons is a valuable approach not only to fellowship education, but also to staff surgeons at any stage of their career. The harvest of these changes will be seen in years to come.

### Future Initiatives

This pandemic and its effect on fellowship case volume will also call to question and redefine the value of the number of cases that are “ideal” in a fellowship. For example, for the Cleveland Clinic Adult Reconstruction Fellowship, our class of fellows has completed nearly 280 arthroplasty cases each with a projection of finishing with 450 to 500 cases before this crisis. While some of our colleagues in other fellowships have performed many more surgeries, others have considerably fewer cases during the same timeframe. Although there is a sense of anxiety looking ahead to the transition into the first year of practice as a junior attending due to the drop in surgical volume in the last third of the fellowship, this challenge is also an opportunity, as the learning experience has morphed. Most fellows, with the experience obtained through two-thirds of the year complete, will still feel confident in performing complex primary and difficult revision cases. Moving forward, fellowships and fellowship applicants will probably place greater emphasis on some of the intangibles such as attending-fellow mentorship and academic opportunities, as opposed to chasing a high volume of cases during the fellowship year.

The value of mentorship has been further highlighted during these times. With uncertainty for some individuals seeking employment in a few months in epicenter areas such as New York City, New Jersey, and Seattle, there may no longer be job security. The current class of fellows has had multiple conversations with our fellowship faculty sharing thoughts, concerns, anxieties, and potential strategic plans if there is suddenly a loss of employment opportunity where a job contract was signed, in some scenarios over a year ago. The ability to discuss unsettling topics between fellows and attendings further solidifies a lifelong relationship that is especially critical during the transition from fellow to a junior attending. Furthermore, this highlights the value and true meaning of a fellow, which comes from an Old English word, *feolaga*, “one who shares with another.” [7].

Cultivating mentorship and networking can further be augmented through multi-institutional collaborative efforts. Virtual journal clubs between four to six institutions on a weekly basis have blossomed over the past several weeks. In the future, this platform could be organized by a journal (offered by the *Journal of Arthroplasty* or *Arthroplasty Today*) and formally supported by the AAHKS (publication committee). This interactive initiative is beneficial to further establish professional relationships between faculty and fellows from different geographic and academic backgrounds and perspectives. Furthermore, some institutions, such as New York University, Brigham, and Women’s Hospital, Dartmouth, and Hospital for Special Surgery, have opened their weekly orthopedic division meetings to other institutions to create an environment for idea exchanges for overall academic and clinical improvement. Many of these open access platforms will continue to add value to fellowship programs and our profession overall. These times may have sparked a paradigm shift toward widespread

collaboration and togetherness for a common personal, academic, and clinical goal: improve our aptitude as clinicians so we can best serve our patients. This collaboration has also been realized in the research realm, where multiple institutions are able to work together and complete research projects during this time.

### Conclusion

Overall, the social and clinical consequences of COVID-19 have been widespread and transformative. While most institutions have formulated a redeployment plan, the idea of being reassigned to care for patients outside of orthopedics or our field of practice is a daunting thought. In most areas outside the epicenters around the country, resident physicians, fellows, and attending physicians have been on the frontline helping to manage overflow medical patients and, in some instances, intensive care unit COVID-19 patients. However, other physicians, including some fellows, have been staying home while trying to maintain a structured educational learning experience. The social and academic contract between surgeons and surgeons in training including residents and fellows has become especially relevant during this pandemic time. As we will overcome these trying times, the landscape and outlook on the fellow experience will continue to shift along with an increasing value in mentorship and collaborative clinical and academic fellow experiences.

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