Cleveland Clinic Akron General Urology Residency Program's COVID-19 Experience

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One word can be used to best describe the theme of each day that has transpired since the onset of the COVID-19 pandemic: uncertainty. Urologic surgical residents around the nation are faced with the unknown when they walk through the doors of the hospital each day. While experience has taught us navigational strategies to handle these circumstances, the COVID-19 pandemic has undoubtedly brought new meaning to this concept. Priorities have quickly transitioned from closely following our previously developed academic curriculum and enhancing our surgical skills, to limiting physician-patient encounters and ensuring the safety and health of our team. Normalcy within our professional and personal lives is completely lost. Yet, as health care providers, we must and will forge on. We review the techniques and guidelines that our institution has implemented in order to allow us to do just that.

We believe that our leadership, both at an enterprise and program level, has taken the necessary and early measures to prepare our residency cohort for the uncertain future and challenges posed by COVID-19. This plan emphasizes social and professional distancing, allows residents and faculty to stay current on academic topics, and provides reasonable opportunities for personal wellness, all while emphasizing safety and rationalization. Most importantly, however, we have continued to provide our patients with exceptional urologic care at 2 adult hospitals and 1 children's hospital in the Greater Akron, Ohio area. While we understand each residency program has a unique curriculum with a different number of residents that cover a range of different hospitals, we hope to provide insight into our personal experience. We believe that this method of organization allows a residency program to continue to grow professionally, socially, academically, and personally during the uncertainty that is COVID-19. This framework could serve as an immediate action plan for future pandemics and natural disasters, especially for residency programs that cover multiple hospitals and health care settings.

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DAILY SCHEDULE

Limiting exposure is a vital theme that has been emphasized throughout the COVID-19 pandemic in an effort to halt spreading of the virus, or "flattening the curve." As health care workers, we are on the front lines delivering direct patient care. During this time, we believe that it is essential to limit our exposure to healthcare settings and to patients for multiple reasons. Early estimates state that social distancing can reduce COVID-19 transmission by as much as 60%.[1••] Although it is our goal as health care providers to have patients' best intentions in mind, we can inadvertently serve as vectors of disease transmission between our patients, our team members, and even our loved ones during this time. The literature has recently suggested that hospitals are likely to blame for the highest rates of COVID-19 transmission, while other sources have established that health care workers on various teams are at a higher risk for becoming infected with the virus.[1••,2••] With the growing number of new cases and deaths on a daily basis, our team must be healthy and reserves must be prepared to continue to perform surgery and provide excellent urologic care. This mindset has been reflected in our program's effort to limit our coverage at our assigned hospitals, thus limiting opportunities for disease transmission.

Key points

- The COVID-19 pandemic has resulted in reduced surgical volume and has disrupted established urology residency program curriculums nationwide.
- The framework we provide outlines resident coverage and a revised curriculum that other urology residency programs who cover multiple hospitals could emulate during this crisis. Daily virtual learning has become the primary form of collaboration between residents and faculty members.
- This current pandemic has many future implications related to the field of urology, namely related to telemedicine.

Shortly after Ohio declared a state of emergency, our program put into effect a plan to have at least two-thirds of our residents classified as reserves each day. This allows

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for the majority of our program's residents to be away from the hospital or potentially available to aid any medical or critical care team as models project the pandemic to worsen. This plan promotes safety and flexibility of our team members, opportunities for professional and academic advancement, and personal time for those with families and children. Each day, the layout of resident coverage is as follows:

- One junior-level resident is designated as the "on call" resident for the 2 adult hospitals. This individual is on call all day and all night from the comfort of their home if possible. That resident will cover the "high-priority" scheduled surgical cases that are scheduled at the hospital along with floorwork. An effort is made to ensure that each junior, mid-level, and senior resident have an equal number of call days over the course of the month with appropriate time off in between, all while adhering to the unchanged Accreditation Council for Graduate Medical Education's (ACGME) 80-hour work week laws for medical residents.[3••]
- Only emergent consults should be seen by the junior-level resident in order to limit patient interaction and the potential spread of COVID-19. A call is made to the primary team in order to discuss the goals and necessity of each consult. A decision is made as to whether or not the patient can be seen as an outpatient via virtual visit, or whether they need to be seen in person in the hospital. Virtual methods can be used such as Facetime in order to perform limited physical examination if needed.
- One senior resident is designated as the "backup" point of contact and is in the hospital during the day to help with major cases (high priority robotic procedures). That resident is then free to leave the hospital after the completion of these procedures. They are the point of contact if there are any questions from the junior-level resident throughout the rest of the day and evening.
- One senior resident is to cover the children's hospital via home call. Quickly following the declaration of a pandemic, a decision was made for the pediatric urology department to cancel all elective surgeries and nonessential office visits. Therefore, the pediatric urology resident on call is to cover any urgent evaluations in the Emergency Room. Any nonurgent consults are to be discussed with the pediatric urology attending on call prior to evaluation in person.

A significant number of consults that are placed each day to our urology service are for nonoperative urologic conditions that can easily be managed in the outpatient setting. A recent publication estimated the nonoperative urology consult rate to be over 50%, with only 18% of consults requiring operative intervention during the patient's hospitalization.[4•] The current COVID-19 pandemic and the push to limit physician-patient interactions has created an opportunity for our residents to collaborate with the consulting team to examine the necessity of each consult. Our program's senior residents and staff arrive at a collective decision as to whether or not the consult must be seen urgently in the hospital, or if it can be addressed in the outpatient setting. Recommendations are made to the primary team if the consult is deemed nonurgent, and the patient is instructed to follow up outpatient via virtual visit. We believe that this practice will still allow for urgent urologic care to be provided, while limiting our potential role as vectors of disease transmission.

ACADEMICS

Maintaining a focus on academics and current literature is an essential component to any urologic residency. The current COVID-19 pandemic has provided our residency with unique opportunities to explore different virtual learning options. Each weekday, our residency program hosts a daily check-in at 4 PM where we discuss the assigned topic for that day. The daily check-in is conducted on a virtual platform such as Skype or Zoom. Our program traditionally holds a 3-hour morning academic conference each Wednesday morning, with the first Wednesday of each month being dedicated to pediatrics. This is a practice our program has continued to follow during this pandemic. Various interesting cases, assigned Campbell's chapters, and specific topics chosen by faculty are all presented during this 3-hour block. Faculty members at all 3 hospitals that are associated with our program are encouraged to join and contribute at these daily virtual meetings. The daily discussion topics are listed as follows:

- Monday—Indications for the major "high-priority elective" robotic cases for that week, complete with NCCN guidelines for staging and follow-up along with intraoperative surgical principles.
- Tuesday—AUA updates (typically 2).
- Wednesday—Previously described morning conference from 7 to 10 A.M.
- Thursday—Journal articles that would have been discussed at our monthly journal club meeting (typically 8 articles), are now discussed each Thursday (typically 2).
- Friday—Faculty/guest (previous graduate of the program) lecture or AUA Core curriculum topic of choice.

We believe that this all-encompassing academic schedule allows for self-study along with appropriate group virtual collaboration on a variety of urologic topics that range from traditional urology concepts to cutting edge research developments. This daily virtual accountability and mental stimulation has garnered positive reviews from residents and attendings alike. Additionally, all updates regarding hospital-specific and national/international COVID-19 developments are shared with all virtual meeting attendees on a daily basis, keeping everyone on our staff current. After each meeting, a summary email is sent by our program director or chief residents to all members of the residency program, serving both as a debriefing as well as a tracking system of our academic progress during this challenging time.

OUTLOOK

The COVID-19 pandemic will undoubtedly serve as a major benchmark in history and will likely have lasting effects related to how patient care is delivered as we look to the future. Within the medical field, many changes are already taking shape. For example, telemedicine and virtual visits have become the primary and safest forms of outpatient clinical care for all of our program's attending physicians. A recent article by Forbes highlighted the substantial uptick in telehealth popularity, with increased rates of usage ranging from 257% to 700% over a variety of platforms since the COVID-19 outbreak.[5••] While telemedicine has been around for a few decades, the current situation may serve as the future gold standard for outpatient care. Telemedicine within the field of urology is not commonplace compared to other specialties, but has been suggested in the effort to improve value-based urologic care.[6•] Our program has traditionally consisted of a weekly in-person clinic requirement as part of our patient care curriculum, however, virtual visits may soon assume this role as the pandemic progresses toward its national peak.

Another consideration in light of this international public health challenge is examining the utility of consults, particularly when it comes to a specialty service like urology. As previously mentioned, a vast majority of in-hospital consults are for nonoperative urologic conditions that can be followed on an outpatient basis. The current situation has provided our team with an opportunity to educate consulting primary services, undoubtedly allowing for more communication and collaboration in patient care. We believe that this education could lead to more discernment on the part of the primary team in the future, generating more savings when it comes to health care dollars and potentially even leading to less burnout within the field of urology.

CONCLUSION

The COVID-19 pandemic has significantly impacted the daily lives of urology residents nationwide. Consequences include reduced operative volumes, disruption of academic curriculums, and a limited personal life outside of the hospital. Despite these changes, we must persist. Our priorities are unchanged: we will provide uncompromised patient care while emphasizing safety. The framework proposed in this paper is our residency program's attempt at achieving normalcy in a field of work defined by unpredictability in the midst of a global pandemic. We hope this outline serves as a guideline for growth and development during the current crisis and for those to come.

Acknowledgment. There are no conflicts of interest.

References and recommended reading

Papers of particular interest, published within the annual period of review, have been highlighted as: • of special interest •• of outstanding interest

1. Nacoti M, Ciocca A, Giupponi A, et al. At the epicenter of the Covid-19 pandemic and humanitarian crises in Italy: changing perspectives on preparation and mitigation. *NEJM*. 2020. https://catalyst.nejm.org/doi/full/10.1056/CAT.20.0080.

•• This is an article providing an update as of March 21st, 2020 on the experience of medical professionals in Italy who are on the front lines caring for patients with COVID-19. Additionally, the authors highlight what changes are needed related to medical care moving forward in this and in future pandemics

2. Liu M, He P, Liu H, et al. Analysis of clinical characteristics of 30 patients with new coronavirus pneumonia. *Zhonghua Jie He He Hu Xi Za Zhi*. 2020;43:209–214. https://doi.org/10.3760/cma.j.issn.1001-0939.2020.03.014.

•• The primary purpose of this journal article is to highlight the symptoms and disease characteristics that were observed in a series of 30 Chinese medical workers who contracted the COVID-19 virus in January 2020 in China

3. "ACGME response to the Coronavirus (COVID-19).". *ACGME*. 2020. https://acgme.org/Newsroom/Newsroom-Details/ArticleID/10111/ACGME-Response-to-the-Coronavirus-COVID-19.

•• This is a press release from the Accreditation Council for Graduate Medical Education in relation to updated resident polices following the onset of the COVID-19 pandemic

4. Zhao H, Quach A, Cohen T, Anger J. Characteristics, burden, and necessity of inpatient consults for academic and private practice urologists. *Urology*. 2020. https://doi.org/10.1016/j.urology.2020.02.016.

• The primary purpose of this manuscript was to compare the characteristics and types of urologic consults in both a private practice and academic setting. Additionally, the authors highlighted the value-based implications of consults in both sectors

5. Rosenbaum L. The Coronavirus has created a surge of telemedicine demand. GoodRx now lets consumers compare services. *Forbes*. 2020. www.forbes.com/sites/leahrosenbaum/2020/03/26/the-coronavirus-has-created-a-surge-of-telemedicine-demand-goodrx-now-lets-consumers-compare-services/#78a9425c47f5.

•• This article highlights the new platform that GoodRx has unveiled regarding telehealth services since the COVID-19 pandemic. It also discusses other telehealth companies and the increase in telemedicine usage as the pandemic is responsible for more cases and deaths

6. Modi P, Portney D, Hollenbeck BK, Ellimoottil C. Engaging telehealth to drive value-based urology. *Curr Opin Urol*. 2018;28:342–347.

• This manuscript discusses the role of telehealth within other medical specialties and its minimal presence within the field of urology. An emphasis is placed on the potential benefits that telehealth has to offer urologists and their patients, especially related to value-based care