Leveraging COVID-19-Inspired Changes to Advance Otolaryngology—Here to Stay

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Beyond any doubt, it is clear that the worldwide coronavirus disease 2019 (COVID-19) pandemic has rattled the sphere of health care in an unprecedented manner. Physicians, other clinicians, and leaders of health care institutions have been thrust into previously unfathomable situations in which the urgent needs of patients are deferred, clinicians are at risk of acute disease and even death, and non–COVID-19–related clinical operations are reduced substantially. Still, amid the scrambling to adjust to a new reality, the idiom “necessity is the mother of invention” rings true. We see this in newly (and quickly) developed strategies for distance or virtual learning, mask production, and the new concept of social distancing. It is our belief that many of the changes and breakthroughs that have been made under duress during the COVID-19 pandemic will persist long after the outbreak has waned, thereby resulting in positive long-term change in many aspects of the practice of medicine. We must also remember that the current COVID-19 crisis is unlikely to be the last infectious disease epidemic or pandemic. Therefore, our ability to have systems in place that allow both in-crisis and non-crisis modes of functionality is critical.

Perhaps the most obvious new opportunity relates to the use of telehealth. For quite some time, various institutions and systems have discussed bringing video visits to the forefront, but it never came to pass because of regulatory and privacy concerns, bureaucracy, disagreements about implementation, and security concerns. Yet, in a matter of weeks, many US institutions are now conducting video visits with the blessing of the US Centers for Medicare & Medicaid Services. We can be certain that most current problems with some telehealth platforms, whether related to software, hardware, or bandwidth, will only improve in the coming months. It is not difficult to imagine a very near future in which a clinic day will consist of a mixture of video and in-person encounters. Discussions involving laboratory tests, imaging results, or preoperative counseling could be entirely addressed by video visits. Only those patients for whom care is particularly dependent on a physical examination, endoscopy, or other procedure would need to physically visit the clinic. We can easily envision patients queued in a virtual waiting room in the comfort of their home while other patients are in the actual waiting room as the clinician moves from the examination room to video visits and back. This has the added benefit of partially decanting outpatient clinics while still maintaining patient access and volume. Furthermore, the potential benefits of post-COVID-19 changes extend to care of the voice and facial plastic surgery. In both, telehealth platforms allow for routine follow-up, voice therapy, or wound assessment as we work to limit exposure during future outbreaks.

We surmise that each subspecialty within otolaryngology will be affected in unique ways. In the case of head and neck oncology, for example, clinicians have been forced to prioritize urgent cancer cases like never before. While an order of priority has been formalized in Canada, there is a need for the same in the US with guidelines during in-crisis periods to help prioritize which patients should proceed to surgery. This may also force us to change our approach to more indolent diseases, such as well-differentiated thyroid cancer or asymptomatic hyperparathyroidism. In addition, many surveillance and survivorship visits may require only video-based interaction. Reducing the significant travel burden that is currently borne by many patients who live in rural areas might have the benefit of reducing loss to follow-up.

Group visits, which have been shown to be effective in providing care while also providing support, may find new life. What if we could run group visits for head and neck cancer survivorship that matched people at the same trajectory in their stage of recovery and disease? These visits could save time by addressing the shared concerns of people at different trajectories of their illness and allowing survivors to share personal insights that otherwise would be lost. For patients with new diagnoses of low-stage thyroid cancer, patients could have their questions answered about choosing between monitoring or having hemithyroidectomy or total thyroidectomy. Additional data suggest that the first 2 years of active monitoring are the highest stress for patients opting for this approach, and supportive visits might mitigate this burden.

Physicians treating rhinologic disease may face a mandate to minimize aerosol generation. The practice of routine nasal endoscopy during initial encounters may undergo a paradigm shift such that new patients are screened noninvasively. Remote encounters would be supported by a thoughtful history and other noninvasive data in the assessment of rhinologic disease. When an in-person encounter is required, limited examination with anterior rhinoscopy may provide adequate objective information. Narrowing the indications for nasal endoscopy would contribute to resource stewardship and personal safety for the patient and clinician. In cases in which endoscopy is deemed necessary, the grouping of multiple patients into a designated procedure day should be considered, a practice that has long been the norm for other specialties, such as gastroenterology. The widespread application of en-
Opinion Editorial

Spiratory mucosa. What precautions are necessary preoperatively? The challenge of using a powered air-purifying respirator under microscope has been voiced and pushes our field to consider new technologies and tools (eg, a 3-dimensional video exoscope) to keep both the surgeon and the operating field safe. For patients who require binocular microscopy or audiometry, telemedicine paired with commercially available otologic endoscopes may soon allow us to monitor patients with chronic ear disease while pairing with smartphone apps to evaluate changes in hearing. In addition, telemedicine will permit check-ins for patients with chronic dizziness and enable patients with hearing loss in ocular microscopy or audiometry, telemedicine paired with commercially available otologic endoscopes may soon allow us to monitor patients with chronic ear disease while pairing with smartphone apps to evaluate changes in hearing. In addition, telemedicine will permit check-ins for patients with chronic dizziness and enable patients with hearing loss in resource-limited areas to receive cochlear implants in urban centers with remote activation and rehabilitation.

One subpopulation that is difficult to access with telehealth are those without internet access. This is not an insignificant number of people. In 2019, an estimated 10% of the US population did not have smartphone or internet access. While this number continues to decline, these patients tend to be of lower socioeconomic status, older, in more rural locales, and generally underserved. Methods to remotely connect exist and continue to evolve. At a minimum, most of these people have telephone access and therefore can verbally communicate symptoms about health status for triage purposes. Other successful approaches have been developed for those who cannot communicate or if some degree of physical examination is needed. One example is store-and-forward telemedicine, which has been shown within the Alaska Native Health System to improve access for care and reduce wait times as well as decrease travel-associated costs for patients. In this approach, patients visit a local clinician (eg, physician, nurse, other health care professional) who has been trained in the protocol and provided equipment to collect health data, including case history, and if indicated, audiometry, tympanometry, and photography of lesions, that are electronically sent to the tertiary care center for review. While this approach has been successful, further innovations are needed to reach this underserved population and to close the telemedicine access gap.

Lastly, we may find that our surgical techniques will evolve and be modified in a permanent fashion to decrease the risk of aerosols and subsequent virus exposure. Several reports published in the journal describe the use of such methods to limit exposure. These include limiting involved operating room personnel to small, consistent groups and repurposing commonly available equipment to limit exposure. For example, Pollaers et al describe the use of a polymethyl methacrylate [Perspex, Perspex International] box with 3 open sides covered with a transparent drape, under which all maneuvers and instrument passing are performed during operative laryngoscopy. In another report by Bertroche et al, a clear plastic drape was laid on the patient while a suction machine was used to evacuate air under the drape during tracheostomy. In this way, tracheostomy can be performed as surgeons place their hands through holes cut into the drape, which effectively separates the surgeons from the airway as it is exposed during the procedure. As mentioned previously, mastoidectomy also results in dust and debris that has the potential to transmit virus particles. Similar to the approaches described by Pollaers et al and Bertroche et al, Carron et al describe the use of a clear plastic barrier during mastoidectomy that is linked to the operative microscope and keeps the operative team separated from aerosolized products during the procedure. We anticipate that innovation in these areas will continue and new protocols will be implemented to allow clinicians to provide care while maintaining safety of those on the front line.

While we cannot predict every aspect of this anticipated transformation, it is incumbent on us to embrace the possibilities that have suddenly become available. Otolaryngologists, and physicians in general, must seize the opportunity to develop a new steady state in which we are well equipped with experience and can adapt to the next in-crisis period with minimal disruption.

ARTICLE INFORMATION

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REFERENCES