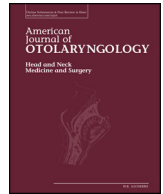




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COVID-19 and rhinology: A look at the future

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ABSTRACT

The novel Coronavirus (COVID-19) has created a deadly pandemic that is now significantly impacting the United States. Otolaryngologists are considered high risk for contracting disease, as the virus resides in the nasal cavity, nasopharynx, and oropharynx. While valuable work has been publicized regarding several topics in Rhinology, we discuss other aspects of our specialty in further detail. There are several issues regarding Rhinologic practice that need to be clarified both for the current epidemic as well as for future expected “waves.” In addition, as the pandemic dies down, guidelines are needed to optimize safe practices as we start seeing more patients again. These include protocols pertinent to safety, in-office Rhinologic procedures, the substitution of imaging for endoscopy, and understanding the appropriate role of telemedicine. We discuss these aspects of Rhinology as well as practical concerns relating to telemedicine and billing, as these issues take on increasing importance for Rhinologists both in the present and the future.

1. Introduction

The novel coronavirus (COVID-19) has created a deadly worldwide pandemic that is now sweeping across the United States. Many individuals and professionals have been forced to work from home, accelerating a trend that has already been increasing in society. Healthcare professionals have been severely impacted; there have been concerns about the availability and quality of personal protective equipment (PPE) including appropriate masks, eye protection, and gowns. Deficiencies in these supplies have led directly to infection and even death, impacting not just “vulnerable” populations but the young and “healthy,” including those who work in healthcare.

Physicians of various specialties have been demonstrated to have unique risk factors for contracting COVID-19. Otolaryngologists can be considered high risk when it comes to certain aspects of this epidemic. There has been controversy and significant concern regarding endoscopic evaluation of patients in the office, especially nasal endoscopy and flexible laryngoscopy, since performing these procedures puts one in direct contact with the virus as it resides primarily in nose and nasopharynx. These issues have been detailed by other groups, and our objective is to examine clinical topics relevant to Rhinologists which warrant consideration and have not been discussed in detail elsewhere. We appreciate the valuable work that has already been publicized, and we will discuss other topics that we feel will also become increasingly

important in today's healthcare environment, as they have the potential to minimize the Otolaryngologist's role in spreading infection [1].

1.1. COVID-19 and the future of rhinology

Numerous groups have taken the lead discussing rhinology-specific concerns related to COVID-19 and have identified items of special importance. For example, the Stanford Rhinology Division, the British Rhinologic Society, and the American Academy of Otolaryngology – Head and Neck Surgery have emphasized issues relating to the recognition of anosmia as a symptom that cannot be ignored. We are approaching these issues from a different perspective, both with regards to the acute phase of the pandemic as well as being prepared for upcoming “waves” that may happen over the coming months and the future of rhinology.

1.2. Rhinologic cases – what is considered elective and what is urgent?

This is an important topic for which to develop guidelines: not just for the immediate portion of the pandemic, but with an eye to the future in case there are subsequent “waves” as **expected**. An established consensus backed by an organization would be helpful for this specific purpose. Some cases are clearly elective, while others are obviously urgent. There are, however, some cases in a grey zone that are not as

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obvious.

Prior to establishing a guideline-backed consensus for which surgeries are not elective, safety considerations must be addressed for sinonasal surgeries, including exactly which personal protective equipment (PPE) is required in the OR. Rhinologists from the Stanford University group have performed a valuable service by publicizing their communications with colleagues abroad and their experiences with COVID-19. There have been reports that during a transsphenoidal resection performed in China, all 14 individuals in the operating room, ranging from the surgeons to ancillary staff, contracted COVID-19 despite some of them using N95 masks and other PPE. They have posited this may be due to viral particles becoming aerosolized during epithelial disruption, and that these viral particles may stay in the surrounding air for 3 hours or longer. Similarly, COVID-19 cases were contracted following other endoscopic endonasal cases. Surgeon and staff COVID-19 infections anecdotally appear to be eliminated with the use of Powered Air Purifying Respirators (PAPRs). In addition to these communications, the Stanford group suggests COVID-19 testing for all surgical patients, if possible two tests due to the prospects of a false negative especially in those groups that had previously tested positive.

1.3. In-office procedures

In practice, a significant number of Rhinologists perform in-office procedures. Consequently, guidance is needed on many of the same safety measures as for OR cases. Similar to the OR, the chief concerns are whether the Otolaryngologist and assisting staff need N95 or full PAPR masks and what type of gowning and other PPE are required; these should be considered in light of the fact that many of these procedures are more “minor” than the ones performed in the OR, and whether that makes a difference.

Recommendations for office visits are necessary both during the crisis and thereafter. The same questions remain and guidelines would be helpful. Importantly, if no procedures are performed, knowledge about which type of mask is sufficient is important, as well as whether gowning and eye protection are needed.

The transition from OR-based cases to in-office procedures has been increasing tremendously [2,3]. Common procedures include debridement, cryotherapy (e.g. Clarifex), balloon sinus dilation, eustachian tube dilation, limited ESS with or without a micro debrider, turbinate reduction (various methods), and external nasal implants (e.g. Latera®). Most important of all is when and how to perform nasal endoscopy.

The diverse array of sinonasal procedures above may represent completely different risk profiles. COVID-19 patients harbor the virus in the nasopharynx; as a result, the Stanford Rhinology Division has recommended avoiding aerosolized sprays and instead using pledgets to mitigate this risk in the outpatient setting. This also presents the question of whether all patients or just high-risk patients undergoing these procedures in the office obtain COVID-19 testing. Furthermore, do different procedures harbor different risks to the Otolaryngologist and staff? Our hope is that a reliable and rapid test is widely available by the time of this commentary's publication, but that may not be the case.

1.4. Telemedicine

There have been numerous studies demonstrating that Otolaryngology is amenable to telemedicine consultation. Gilani et al. performed telemedicine consultation on patients with ear-related complaints and found that more than 80% did not even require in-person followups [4]. Another analysis noted patients with ear problems were also most appropriate for telemedicine [5]. Although these are relatively recent studies, we would argue that in our current circumstances, rhinologic patients are amenable to consultation on a remote basis as well. Additionally, there are already available telemedicine platforms used in Otolaryngology that demonstrate its

potential benefits in evaluating patients in remote and underserved areas [6], such as Quintree (Quintree Medical LLC, Detroit, Michigan, USA).

The easiest concern to address is that history taking is obviously accommodating to telemedicine. Providers can take this opportunity to triage who needs nasal endoscopy, but this requires guidelines to be developed on this for the future. In our practices, we feel that this involves several categories of patients. Patients with unilateral sinonasal symptoms warrant a repeat in-person visit after telemedicine for nasal endoscopy, as well as patients with imaging demonstrating unilateral disease. High-risk patients such as immunocompromised patients present a quandary, particularly during these COVID-19 times. These are the individuals who you would want to stay home, and that would certainly be appropriate during the initial telemedicine visit. Nonetheless, there should be a low threshold for considering nasal endoscopy on them if they are having troublesome new onset symptoms such as severe pain, fevers, and other systemic symptoms. Patients with a known tumor history need appropriate surveillance and are not amenable to simply a telemedicine visit without nasal endoscopy, however depending on the severity of the previous lesion, perhaps some of these routine surveillance visits can be performed remotely with imaging replacing endoscopy for surveillance. Finally, while many epistaxis patients can be seen remotely and instructed on conservative measures for minimizing epistaxis, this is not always possible, particularly in this day and age characterized by an expanding repertoire of blood-thinning medications.

The Department of Health and Human Services (DHHS) has relaxed guidelines on using certain platforms for telemedicine during the COVID-19 pandemic. HIPAA violations are relaxed as long as the visit is in “good faith” when telehealth is used for any treatment or diagnostic purpose [7]. In addition, software supporting video platforms including Skype, Zoom, Google Hangouts and Apple FaceTime are allowed for use, but those with social media capabilities (Facebook Live, Twitch) are still not allowed to be used.

1.5. Telemedicine billing changes from COVID-19

Several changes have been implemented by CMS for Medicare patients that make it easier to perform telehealth visits in Otolaryngology. Importantly, retroactive to March 1, 2020, telehealth visits are “considered the same as in-person visits and are paid at the same rate as regular, in-person visits” [8]. This removes the prior stipulation that the patient had to be in an approved originating site. DHHS will not perform audits examining for a pre-existing patient-physician relationship, for codes that are considered “established patient only” while the COVID-19 public health emergency continues. In addition, patients can be seen and billed via telemedicine across state lines assuming your state medical board approves.

There are several documentation requirements that are important to include for telehealth visits, similar to requirements for a regular visit. Statements or variations on them as appropriate are helpful to include and optimize appropriate reimbursement. The statements that we are suggesting to meet documentation requirements are detailed in Table 1. Additionally, physicians should be familiar with the difference between telehealth visits, “virtual check-ins,” and “E-Visits.” Prior to the public health emergency, virtual check-ins and E-Visits were for established patients not seen within the previous 7 days and did not lead to an in-person visit within 24 hours [8]. However, CMS now allows virtual check-ins and E-Visits to be performed on new or established patients [9]. Patients need to provide verbal consent to qualify for these visits.

A Medicare telehealth visit for an outpatient service is reported using CPT codes 99201-99215. As noted previously, a “virtual check-in” may now be provided to new and established patients and are reported to Medicare with HCPCS code G2012. This 5–10 minute service may be performed via telephone, text or patient portal and is used to determine whether an office visit or procedure is required. The last type

Table 1
Documentation to include for telemedicine visits.

Statements to Include for reimbursement ^a
(1) The service was provided with telemedicine using [state platform used such as Apple FaceTime]
(2) All persons (and their role) participating in the encounter
(3) Geographic location of patient and provider (state) and place of service for patient (e.g., home) and provider (e.g., office, home)
(4) Patient was informed they have the right to go to another provider, but by doing so there could be a delay in care as well as the need for an in-person visit.
(5) Patient was made aware they have the right to trained and available personnel while receiving the telemedicine service should there be emergencies or other needs
(6) Patient was told they can refuse telemedicine and should be informed of risks and alternatives of telemedicine vs. an in person visit
(7) All questions regarding equipment and technology were addressed

^a These are documentation tips that can be modified or paraphrased.

of visit recognized by Medicare is an E-Visit, which involves communication with a patient through an online patient portal; the CPT codes used for E-visits, which also may now be used for new and established patients, are 99421, 99422, and 99423 [9]. Additional HCPCS/CPT codes used for ED or inpatient visits can be used for telehealth but are less applicable to Rhinology during the COVID-19 epidemic; more information can be found on the CMS website.

Depending on practice setting, many patients are supported by commercial payers rather than Medicare/Medicaid. Most commercial payers are supporting these telemedicine guidelines, however this is anecdotal; patients and providers should check with individual insurances for individual insurance guidelines.

1.6. Revisiting CT as a substitute for nasal endoscopy

In an attempt to facilitate telehealth consultation and maximize its usefulness, thought needs to be given to the role of CT as a substitute for nasal endoscopy in the positive patient. The hazards of nasal endoscopy to both the Otolaryngologist and the staff with whom they work have been suggested to be considerable in light of the COVID-19 epidemic. Particularly with the possibility of future waves of this virus impacting our healthcare delivery system, planning in advance for how to deal with patients now and in the future should be kept in mind. Aside from obvious indications for nasal endoscopy, including unilateral symptoms, immunocompromised patients, and patients in whom malignancy is suspected, failed appropriate medical treatment and complications of rhinosinusitis, telehealth offers an excellent opportunity to gather an appropriate history supporting the need for imaging as an alternative to nasal endoscopy be it in the office or radiology suite. To decrease nasal endoscopy procedures and minimize risk, organizations such as the American Rhinologic Society (ARS) should consider guidelines examining when it is appropriate to go straight to CT in select cases of possible COVID-19 now and in the future.

For a patient who is being seen in person in an office with CT capability, it may make sense under appropriate circumstances to utilize this *instead* of nasal endoscopy. To our knowledge, there has not been a direct comparison of in-office CT versus nasal endoscopy as diagnostic modalities. Nonetheless, in these times this is another issue that may need to be addressed by any guidelines coming out.

1.7. Liability implications of not performing nasal endoscopy

In the current litigious environment that characterizes the practice of medicine, the medicolegal risks of not performing nasal endoscopy need to be further determined. Malpractice litigation has had an impact on the practice of all aspects of Otolaryngology, including sinonasal disease and endoscopic skull base surgery [10–13]. As the pandemic continues and as there are risks for subsequent “waves” this fall and

winter, guidelines for when imaging can be considered in lieu of nasal endoscopy can be a helpful resource on which to fall back. In addition to surgical misadventure, missed diagnoses have been demonstrated to play a role in pursuing litigation. Therefore, in patients in whom we decide to perform imaging for the purposes of facilitating telehealth visits and follow ups, we need to still maintain a low threshold for in-person consultation when there are findings in imaging warranting follow-up. Communication with patients is key in this regard, as perceived inadequacies in informed consent play a large role in medicolegal litigation. We need to be clear that in these cases, CT imaging is a valuable tool that we are using as an alternative to nasal endoscopy to minimize in-person visits and risk.

In-Office CT sinus will continue to play an important role as a point of service procedure in lieu of nasal endoscopy in patients with COVID-19 or suspected thereof.

2. Conclusion

The COVID-19 pandemic has tremendously impacted our entire society, including healthcare providers. Those serving on the front lines, including those working in hospital settings, the emergency department, and critical care units, are at greatest risk. Otolaryngologists harbor unique risks due to the viral particles residing in the nasopharynx and nose. This makes nasal endoscopy and other in-office rhinologic procedures a concern for the Otolaryngologist with increased risk for infection. Rhinologists need to develop standardized guidelines with an eye to both the present and the future due to the troubling potential for additional “waves” of the pandemic, and what the Rhinologist needs to do as they get back to work both in the office and the OR. These include protocols pertinent to safety, the substitution of imaging for endoscopy when appropriate, and importantly, understanding the role of telemedicine. Additionally, it is important for Rhinologists to be prepared with practical information about the differences between various types of telemedicine and how to bill appropriately.

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None.

Declaration of competing interest

KP is an employee of KarenZupko & Associates, Inc.

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