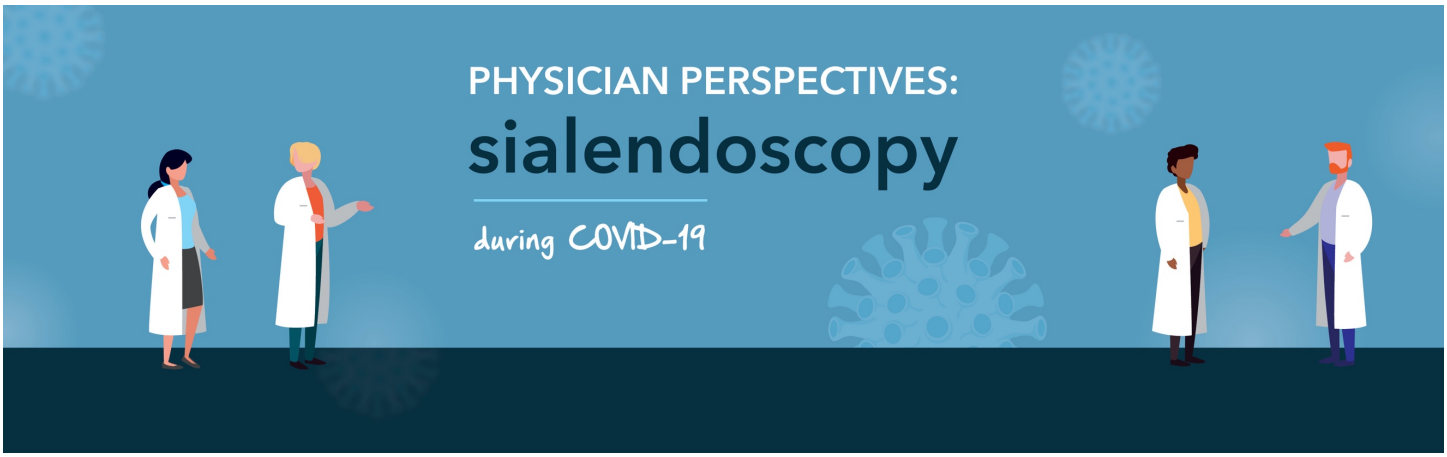

COVID-19 has changed the way that physicians are thinking about patient care, forcing them to adapt to new technologies and protocols. It has also given physicians the opportunity to think about the future of medicine, including what it may look like after COVID-19. Through this blog series, we're interviewing physicians to share their first-hand experiences on how they're adapting their practices during the COVID-19 pandemic, as well as their thoughts on the future of patient care.

We interviewed **Rohan R. Walvekar, MD**, to get his perspective on patient care and what the future of sialendoscopy procedures may look like during the COVID-19 pandemic. Dr Walvekar is the Director of Salivary Endoscopy Service and the Co-Director of ENT Service University Medical Center in the department of Otolaryngology Head & Neck surgery at the Louisiana State University Health Sciences Center in New Orleans, Louisiana.

THE FUTURE OF SIALENDOSCOPY PROCEDURES

As otolaryngology procedures start back up, how quickly do you see sialendoscopy procedures returning?

It will depend on several factors, such as how severely the area or hospital was affected by COVID-19. In regions where COVID-19 numbers are high, as they were at our centre in New Orleans, hospitals will have to prioritise resources and personal protective equipment (PPE). At our centre, a surgical resource utilisation committee was created to review case requests before elective surgery cases could be scheduled. Consequently, sialendoscopy cases were not a high priority, especially if there were emergent cases that compete for the same resources (e.g., oncologic surgery, trauma surgery, or acute emergencies). This also means the return for sialendoscopy procedures will depend on surgeons being advocates for their patients who are truly symptomatic and can benefit from early intervention.

Sialendoscopy and salivary patients form a significant part of my clinical practice. Patients with severe symptoms or chronic symptoms have severe impairment of their daily functioning and quality of life. As I eluded to earlier,

sialendoscopists must advocate for their patients. This is important in our 'new normal', where we are forced to justify the elective surgery in the face of limited resources. It is natural that clinical practices where sialendoscopy numbers are high will have more cases that fall into the categories of semi-urgent or urgent; patients who have persistent and intractable symptoms will need intervention.

How have sialendoscopy procedures changed to adapt to COVID-19 in your practice?

COVID-19 has definitely changed our practice patterns, especially for outpatient services. Many of the otolaryngology procedures, including sialendoscopy, are now considered high-risk since they are aerosol-generating procedures (AGPs). Patients who need an interventional procedure, whether it is a routine flexible endoscopy as a normal part of a head and neck examination during their visit or an interventional sialendoscopy procedure, are now required to have a COVID-19 test within 48 to 72 hours of their in-office procedure, since these are all considered to be AGPs. Some of our clinic spaces have been re-structured to provide negative pressure ventilation in the rooms. In-office AGPs are performed in these negative pressure rooms with proper PPE precautions. Many practices at some sites, including ours, have moved to the use of disposable scopes and equipment when possible for COVID-19- positive patients. Social distancing and its impact on triaging patients, the need for COVID-19 testing, and the need to use additional sterilisation procedures to clean and turnover clinic rooms, e.g., UV light technology, has significantly reduced overall patient volumes in clinics. Some of these factors have also impacted surgical turnovers in the hospital setting, impacting surgical volumes. However, these precautions have been vital to help keep our patients, staff, and other healthcare professionals safe during this pandemic.

How have patient consultations and physical examinations changed?

Our practices have been diligent and proactive about making sure that we limit in-person patient interaction to a minimum. Our consultations went from in-person to almost a 100% virtual using either teleconferencing or videoconferencing. As COVID-19 testing became more accessible and available, we were able to test patients who needed to be seen or needed interventional office procedures for more specific care. There has been a return in trend to in-person visitation. However, in many instances, discussing results of scans or post-op surveillance visits can and are still being done virtually. The decision to see a patient in-person or virtually is the need for a physical examination, especially for sialendoscopy patients. The palpation of the floor of the mouth, examination of the puncta of the duct, or bimanual palpation of the glands are not possible other than in a formal, in-person visit.

How have you implemented PPE into your practice?

Our hospital systems and practice locations, as well as our internal efforts, have been aimed at ensuring adequate training for physician and non-physician providers in PPE utilisation and sterilisation procedures as applicable. This impacted the clinic flow and volume initially, but as we have adapted to the new norm, this has become a part of this process and efficiency in our clinic to help return it to its pre-COVID-19 status.

All medical personnel have to wear masks while on the facility premises and while performing patient care. For patients who are potentially or categorically COVID-19-positive, recommended PPE is used, such as N-95 or P-100 masks, face shields, and proper gowns. COVID-19 units and teams were created in the hospital to help facilitate the care of COVID-19- positive patients and reduce the risk to other patients who were in the hospital for a diagnosis other than COVID-19, as well as the healthcare providers.

How are the examination rooms set up?

These policies may differ from centre to centre. However, in many centres, COVID-19-positive patients are not triaged to the clinic and may have a different mechanism for treatment through the hospital if necessary, or they are recommended to quarantine until they have two COVID-19-negative tests that are performed 24 hours apart. For COVID-19-negative patients, the room is not set up differently. However, COVID-19-negative patients that require ENT procedures are directed to negative pressure rooms. After the procedure, a thorough cleaning of the room is performed and when available, UV technology is used to sterilise the room. There may be a wait time of 18 to 20 minutes after the room is cleaned before another patient is allowed in that space.

How are you screening patients for COVID-19?

Patients must fill out a basic self-assessment about the common symptoms associated with COVID-19 as determined by the Centers for Disease Control and Prevention. Their temperature is checked with an infrared thermometer. If the patient reports positive symptoms or symptoms similar to an upper respiratory infection, they are recommended to get tested for COVID-19 and quarantine themselves. For patients who have no symptoms or have not been recently in contact with COVID-19-positive individuals, they are asked to undergo COVID-19 testing within 48 hours of the procedure if an in-office or inpatient procedure is being considered.

We have heard of some physicians changing from betadine to chlorhexidine for prep prior to salivary and sialendoscopy procedures. Do you have any thoughts on this and the impact on COVID-19?

Traditionally, hydrogen peroxide (H_2O_2), povidone iodine (PI), and chlorhexidine have been used to help sterilise the oral and nasal cavities during surgical procedures. However, viral shedding from oronasal cavity put all healthcare workers at risk. Also, there is and always may be a concern of an infection from an asymptomatic carrier. Consequently, both outpatient and inpatient healthcare workers and procedures have become high risk. While some of these agents have been used, they have some inherent disadvantages and may not be tolerated by awake patients in an outpatient setting. For example, H_2O_2 has a tendency to clog suction tubing in the OR. PI, while effective in the oral cavity, does stain the mucosa, consequently making it difficult to evaluate mucosal color differences that may be relevant for biopsies and surgical margins. Chlorhexidine could be cytotoxic in the nasal cavity and is unlikely to be tolerated by awake patients.

I think there is still need for a non-toxic, mucosal universal antimicrobial product that will be effective against COVID-19 and may have a lasting mucosal adhesive and protective effect. In fact, I am currently initiating a study at LSU Health Sciences Center evaluating a novel product, ACE2-X (silver-chitosan mucosal wash) manufactured by Ideoto, LLC, in terms of its efficacy in serving as a non-toxic option for providing mucosal protection.

How will the procedural landscape for salivary gland treatment change?

The thought process for salivary intervention will be influenced by the COVID-19 status. For COVID-19-negative patients, the procedural landscape may remain the same. However, if the patient is COVID-19 positive, then the surgical intervention will be postponed until the patient is past the infective phase, i.e., after 14 days of quarantine and after demonstrating two successive COVID-19-negative tests. Or, if intervention is necessary, a gland excision route may be preferred for certain indications where intra-oral intervention may be complex and have a high risk of viral shedding—for example, an intermediate sized (5-6 mm) hilar stone in the submandibular gland that needs a combined approach procedure, laser fragmentation of hilar-intraglandular stones, or possibly an endoscopic management of high-grade diffuse stenosis. All of these conditions are surgical challenges.

It is more likely that procedures will move from in office to the operating theatre setting as the intervention is more controlled and measured. All healthcare professionals can take adequate PPE precautions, and once the patient is intubated, the risk of viral shedding decreases compared to an awake patient, who may cough, sneeze, or have a robust gag reflex.

Innovations will come in various ways to help the current situation. Innovations such as the ACE2-X solution could be helpful, if proven effective, to help reduce viral burden and make intervention safer. There are many new innovations, such as innovative techniques to perform examinations, negative pressure environments, and perforated face masks or helmets to allow ENT examinations.

How do you see hands-on educational courses adapting to further physician education?

Course directors will have to be creative in terms of providing a foundation for training through e-learning and training. In our own expert focus meetings, sialendoscopy experts have discussed a variety of options that could be considered to help e-training, such as more recorded or live video demonstrations and content to help e-learners better grasp techniques, in addition to a live broadcast of a prosection. Other ideas floated included having course participants receive models via mail, which would have basic equipment that would allow them to follow online course instructions. While e-learning may be a new norm for the time being and may offer a reasonable alternative to in-person training, procedure-related training cannot be comprehensive or complete without true hands-on experience to understand the feel of the instruments and how they interact with human anatomy.

It may be possible that, as we develop virtual tools and interfaces that have 3D capabilities and haptic feedback for the trainees, these limitations may be overcome. However, to the best of my knowledge and experience, we do not have the level of sophistication that matches hands-on experience yet.

Will there be a shift away from surgical procedures?

I do not believe so. Our patients will need surgical intervention for management of their conditions and symptoms. Although there may be some protocols in order to keep patients and healthcare providers from spreading or contracting COVID-19, the standard of care is unlikely to change.

SIALENDOSCOPY PRODUCTS

Do you anticipate an increased usage of the Advance® Salivary Duct Balloon Catheter by bringing more stricture patients into the office and using ultrasound?

It is possible that, in certain scenarios, the indication may require the usage of the Advance Salivary Duct Balloon Catheter for the management of stenosis using ultrasound guidance. This does have an element of reduced invasiveness vs. irrigation using salivary endoscopy. However, the utilisation may be limited by the technical skills in ultrasound procedures among physicians. The success of ultrasound-guided procedures is heavily weighted on the operator's skill and interpretation of ultrasound.

Do you anticipate an increase in demand in Cook's minimally invasive sialendoscopy products?

I do anticipate an increase in the demand for certain Cook products, especially the disposable access catheters and wire guides. There also may be an increase demand for the use of the SialoCath® Salivary Duct Catheter, which may be considered for irrigation and washout procedures for chronic sialadenitis, radioactive iodine induced sialadenitis, and Sjogren's syndrome. Dilation followed by only irrigation with saline, or antibiotics or steroids, or a combination thereof may be a less-invasive alternative to endoscopy and pose a reduced risk of contamination to the salivary endoscope. For centres equipped with negative pressure clinics, the ability to perform these procedures may help reduce the demand for operating theatre time, which is already reduced due to the requirement for resource management and PPE conservation.

Do you anticipate an increase in the preference of disposable sialendoscopy devices over reusable devices?

There will definitely be a tendency to use disposable devices, especially when it comes to COVID-19-positive cases. However, in general, I do not think this will govern the ultimate decision making when it comes to selecting the type of intervention a patient needs and what would be the best option to help a patient with symptom control and gland preservation.

Dr Walvekar is a paid consultant of Cook Medical.

The opinions expressed by Dr Walvekar in this interview are his own, and not the opinions of Cook Medical, and represent his experience within his practice.

TO LEARN MORE ABOUT COOK'S PRODUCTS FOR SIALENDOSCOPY, **CLICK HERE.** ⟶