PSO-HNS ADVISORY NO. 7

Advisory on Resuming Elective ORL-HNS Surgeries during the COVID-19 Pandemic

May 15, 2020

INTRODUCTION

This advisory, along with the series of advisories from the PSO-HNS, Inc., is geared primarily for areas with high rates of local COVID-19 transmission in the Philippines. It is encouraged that all Otolaryngologists adopt the strategies that are best suited to their respective local COVID-19 burden and in the context of medical, logistical and organizational considerations.

This advisory, together with the previous PSO-HNS COVID-19 Advisory No.5 on the "Recommendations to the Clinic Workflow During the COVID-19 Pandemic", is intended to address important concerns of the specialty as we transition back toward the delivery of basic and important healthcare while reducing the risk of COVID-19 transmission to everyone.

Considering the novel nature of COVID-19, these advisories are not intended to be interpreted as the "standard of care" and may be superseded, supplemented, or enhanced by the recommendations of government agencies, different hospital systems, and/or other local and international medical societies.

Furthermore, these advisories are not intended to define the clinical indications for diagnostic and surgical procedures across the diverse nature of our specialty. Clinical indications for any procedure, specially with surgical cases, remain to be the same except for the timing and stratification.

A. THE OPERATING ROOM

The ideal workplace in performing aerosol generating procedures (AGP) should maintain good air exchange and should be capable of achieving a minimum of 12 air changes per hour (ACH) for a small airborne infection isolation room (AIIR) to as high as 25 ACH for a large operating room theater.[1] This ideal negative-pressure set up recommended by the CDC is part of a built-in heating, ventilation and air-conditioning (HVAC) system where room air is exhausted directly to the outside or filtered through a high-efficiency particulate air (HEPA) filter before recirculation. (Please see PSO-HNS C-19A Appendix D1-3, "Other Strategies to Mitigate Aerosolization and Infection Risk")

In the absence of a negative pressure system at the operating room (OR), the room should be reconfigured to increase the ACH to a minimum of 12 ACH using portable HEPA filters. OR doors should be locked at all times during a procedure to minimize the spread of contaminated air and allow a single possible route of air entry and exit. A designated OR separated from the main OR complex may also reduce the risk of contaminating other rooms. Rescheduling of elective cases has been a universal policy since the pandemic started. However, the operating room should always be available and, at the very least, prepared to handle emergency cases regardless of one's COVID-19 status.

B. BEYOND ENGINEERING MEASURES

Other strategies that may help reduce the risk of COVID-19 transmission in the OR include, but are not limited to, the following:

1. **Proper PPE** for all personnel inside the OR theater. Level III-IV PPE, + PAPR or N95, for all otolaryngologic procedures.

2. **Administrative controls and protocols** individualized to the unique institutional set up
    a. Adequate training, regular evaluation, and education of the OR staff on the changes and policies implemented in response to the existing pandemic

b. Clear and regular coordination with the Anesthesiology Department and alignment of institutional protocols with their respective COVID-19 guidance (e.g. rapid inhalation induction protocol, anesthesia workstation disinfection, etc.). Take note that the majority of otolaryngologic surgeries are performed under general anesthesia, which on its own, is considered aerosol generating.
c. Proper and supervised donning, doffing and disposal of PPE in designated zones
d. Minimize the number of staff and personnel inside the OR
e. Use of the same room and equipment (e.g. anesthesia machine) for all COVID-19 patients
f. Proper decontamination, cleaning, disinfection and sterilization of the OR floor, surfaces, equipment and instruments immediately after each procedure
g. Suspension of postoperative visits inside the OR complex and Post-Anesthesia Care Units

3. **Modifications within the surgical field** to minimize droplet and aerosol spread without compromising the surgical team's movement and patient's safety:
    a. Confirm the compatibility of necessary accessory equipment (e.g. corrective lenses, surgical loupes, head light, etc.) with your PPE and operating equipment (e.g. endoscope, microscope)
    b. Verify the safety standards of your PPE and make the necessary adjustments especially when using non-medical grade equipment (e.g. reusable elastomeric respirators or full and half-face mask, sports goggles, etc.)
    c. Reduce aerosol particle distribution radius through surgical field coverage (e.g., draping, modified acrylic barriers, transparent plastic sheets, etc.), air evacuation (e.g., suction, plume evacuator), and limiting the use of high-powered instrumentation (e.g. oscillating saw, microdebrider, etc.) that theoretically may cause aerosolization.
    d. Lessen electrosurgical smoke. If applicable, consider using additional local vasoconstriction and cold techniques during soft tissue dissection. Plume smoke evacuators and closed suction circuits can be used if available.

C. SURGICAL PROCEDURES

Otolaryngologists may not be directly in the forefront of the pandemic but we do have a very important role to play in delivering complex services while preventing viral transmission. Otolaryngologists deal with areas with the highest viral load for COVID-19 and procedures on those sites create risks of aerosol transmission.

Surgical procedures must be limited and properly stratified based on time-sensitivity and urgency. Collaborative inter-departmental and hospital-specific policies suited to the unique framework of each institution must be established to create a "Priority Classification". Such classification may vary from one institution to another and is based primarily on the time-sensitivity and degree of urgency of the case. Moreover, decisions must also be individualized based on the complexity of the procedure, the risk of contamination, and the local COVID-19 burden, to guarantee the preparedness of the hospital and make sure that the capacity of the center and staff are not overstretched. Below is an example of a "Prioritization Classification of Patients" based on time-sensitivity and urgency:

1. **Group A:** Defines emergency cases and those who are deemed critical (unstable, unbearable suffering, and/or whose condition is immediately life threatening). There should be no policy conflict when dealing with these highly **time-sensitive and emergent cases** since these require immediate management and must be accommodated regardless of COVID-19 status. Under these circumstances, performing surgery on patients with unknown status may expose the entire healthcare team to infection and therefore must always be performed with the highest level of PPE and in a separate or designated OR. Examples of these cases include, but are not limited to, the following:
    a. Emergency airway (e.g. difficulty airway/failed intubation, severe tetanus with trismus, cervical trauma, etc.)
    b. Intractable bleeding (e.g. posterior epistaxis, tumor bleed, etc.)
    c. Foreign bodies (e.g. foreign body aspiration & ingestion)

d. Open facial injuries (e.g. maxillofacial trauma, exposed or avulsed soft tissue or bone)
e. Life-threatening infection (e.g. peritonsillar abscess, deep neck infection, Ludwigs 's angina, etc.)

2. **Group B:** Defines elective but urgent cases or those deemed to be initially non-life threatening who can be deferred temporarily with strict monitoring and surveillance. These cases require crucial decision-making and should involve a multidisciplinary team. The decision to proceed with surgery should be based on individual factors related to the specific disease and general health condition of the patient. Because these conditions vary, timing and risk stratification are very important factors in the decision-making process. If at any point their priority changes, they must be moved up to Group A. Examples of these cases include, but are not limited to, the following:
    a. Early-stage head & neck cancer (e.g. compatible with complete tumor resection with good functional status)
    b. Complicated infections (e.g. Meningitis or brain abscess, from a complicated acute otitis media, rhinosinusitis or pharyngitis)
    c. Cranio-maxillofacial trauma (e.g. Mandibular, zygomaticomaxillary complex fractures for ORIF)

    NOTE: Any delay in treatment of these cases may lead to critical, unstable or unbearable suffering, hence may may progress to a life-threatening situation (Group A)

3. **Group C:** Defines elective, non-urgent, and planned procedures. These cases can be delayed reasonably until the local COVID-19 burden is stable without causing worsened condition and risk to life. Various organizations have unanimously recommended rescheduling or delaying these cases. The decision, however, must still be individualized considering the unique set-up of the facility, the capability and availability of equipment and staff, and the local COVID-19 burden in the region or community concerned. Examples of these cases include, but are not limited to, the following:
    a. Facial plastic surgery (e.g. Rhinoplasty, blepharoplasty)
    b. Surgery for rehabilitation of Hearing (e.g. Tympanoplasty, cochlear implant)
    c. Sinus surgery for controlled inflammatory disease/s (e.g. ESS, polypectomy)
    d. Surgery for confirmed benign or low risk tumors (e.g. Parotidectomy, thyroidectomy for colloid goiter)
    e. Laryngeal procedures for benign lesions (e.g. Microlaryngeal surgery for vocal cyst)

    NOTE: Biopsy procedures for highly suspected malignancies must be moved up to either Group A or B depending on the comorbidities and patient's functional status. Since most head and neck cancers originate from the upper respiratory tract mucosa known to have the highest viral load for COVID-19 , full PPE and aerosol precautions must be strictly practiced all the time.

D. ROLE AND TYPES OF COVID TESTING

As of this writing, two (2) kinds of tests are locally available for COVID-19. The viral RT-PCR test that confirms the presence of infection, and the rapid serology antibody test that may confirm previous infection. Serology antibody tests may not be able to show an existing infection, because it can take 1-3 weeks after infection to develop antibodies.

1. AAO-HNS RECOMMENDATION

The American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) recommends that patients should be screened at least once with COVID-19 RT-PCR test prior to the surgical date of an elective procedure unless delay caused by testing will result in harm to the patient. They also recommend the following:

TESTING IN ELECTIVE & NON-URGENT CASES

a. The timing of the testing prior to a procedure should be dependent on how long it takes to obtain the results of the test. After the patient is tested negative for COVID-19, the patient should remain self-isolated until the procedure date.

b. In asymptomatic patients, the goal in pre-operative COVID-19 testing is to minimize elective and non-urgent and emergent surgery in patients who carry the infection.
c. It is ideal to defer non-emergent procedures until the results of the test are available if one has been obtained.
d. Correlation of chest CT and RT-PCR test may be necessary in symptomatic patients and must be cleared by an Infectious Disease Specialist.

TESTING IN URGENT & EMERGENCY CASES

a. In patients undergoing urgent and emergent surgery, COVID-19 testing is helpful for determining the appropriate peri-operative precautions necessary for the physician, staff, and facility (e.g. post-operative isolation room vs. regular room).
b. For life-threatening emergencies for which pre-operative COVID-19 testing is not an option or is not available, the patient should be presumed to be positive for purposes of PPE utilization and post-operative management.

2. DOH COVID-19 TESTING GUIDELINES

Locally, COVID-19 testing covers for all (1) suspect cases, (2) individuals with relevant history of travel and exposure (or contact), whether symptomatic or asymptomatic, and (3) health care workers with possible exposure, whether symptomatic or asymptomatic provided that they meet the following criteria for risk exposure provided on the DOH Memorandum No. 2020-0180 released on April 16, 2020, known as the **"Revised Interim Guidelines on Expanded Testing for COVID-19"** which states that:

a. The exposures should have happened two (2) days before or within 14 days from onset of symptoms of a confirmed or probable case: 1. face-to-face contact with a confirmed case within 1 meter and for more than 15 minutes, 2. direct physical contact with a confirmed case, or 3. direct care for a patient with probable or confirmed COVID-19 disease without using proper personal protective equipment

b. The following reflects the sub-groups of at-risk individuals arranged in order of greatest to least need for testing:
   i. Subgroup A: Patients or healthcare workers with severe/critical symptoms, relevant history of travel/contact
   ii. Subgroup B: Patients or healthcare workers with mild symptoms, relevant history of travel/contact, and considered vulnerable
   iii. *Subgroup C: Patients or healthcare workers with mild symptoms, relevant history of travel/contact
   iv. *Subgroup D: Patients or healthcare workers with no symptoms but relevant history of travel/contact
   (*not yet included in DOH Memorandum No. 2020-0180)

c. Due to the shortage of testing kits and limited capacity for local testing, DOH guidelines further state that:
   i. COVID-19 testing to any person who is beyond close contact to a confirmed COVID-19 case is considered indiscriminate and is not recommended by the DOH.
   ii. There is a need to rationalize available tests and prioritize subgroups A and B pending further expansion of testing capacity.
   iii. Rapid antibody-based test kits should not be used as stand alone tests to definitively diagnose or rule out COVID-19 infection. These must be used in conjunction with RT-PCR and care must be exercised not to unduly consume RT-PCR test kits for the sake of confirmation.

E. KEY POINTS

1. The clinical indications for any procedure remain to be the same except for the timing and urgency.

2. An OR with a proper HVAC and negative pressure system is recommended. In its absence, a separate OR, reconfigured to increase the ACH to a minimum of 12 ACH, along with other measures, should be assigned solely for suspected, high-risk, or confirmed COVID-19 cases.

3. Surgical procedures should be limited and properly stratified based on time sensitivity and urgency.

4. If possible, RT-PCR test and chest CT-scan should be performed less than 24-48 hours prior to surgery or based on the average RT-PCR test turn-around time in the specific institution or facility.

5. If RT-PCR test is not feasible or is not available (e.g. emergency airway, shortage of kits), individualized decision/s should be based on clinical and external factors (e.g. COVID-19 burden, capacity of the center and staff) and cases should be managed as if they are COVID-19 positive.

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