



Guidance for Return to Practice for Otolaryngology-Head and Neck Surgery

Part Two

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INTRODUCTION

While this document will address many important concerns, the environment is rapidly evolving, and new information and evidence may have become available since this version was completed. ***The intent is to consider this a living document and update it on a regular basis as new information becomes available and thusly the information contained herein is subject to change on an ongoing basis.***

Many concerns raised may be theoretical in nature or based on expert opinion rather than on scientific evidence. This guidance is not intended to be construed as the “standard of care,” and may be superseded, supplemented, or enhanced by guidance from local, state, and federal government agencies, local/regional hospital systems, and/or other medical societies. These recommendations are not intended to define clinical indications for diagnostic and surgical procedures across the breadth of our specialty. These have been already determined over many years and are updated regularly.

We recognize that there may be local conditions related to the extent of COVID-19 infections within a community, the type of practice/hospital system, the availability of effective personal protective equipment (PPE) and other supplies, the physical configuration of workspaces, practice economics, local rules and regulations, and other constraints that may affect the ability to follow every aspect of this guidance.

RATIONALE AND SCOPE

As we transition back toward more widespread delivery of healthcare, otolaryngologists and their patients are seeking consistent guidance and principles to reinstitute diagnostic and therapeutic interventions.

During this unprecedented time and with an abundance of caution, we recognize that physicians need guidance and that given the absence of evidence may not recognize the potential risks in the current environment. Patient, staff, and personal safety must receive the highest prioritization along with strategies to provide the highest quality care. The purpose of these documents is to provide guidance to healthcare professionals during this time of crisis.

There are two main documents that have been released:

- Part One, released May 7, 2020, contains general considerations for practice that apply across the specialty (<http://tiny.cc/ENTGuidance>).
- Part Two, released May 15, 2020, contains subspecialty specific recommendations. The recommendations within this document are intended to help guide surgeons with prioritization and triage given potentially resource limited environments. As noted in the first document: ***The urgency of a specific surgical intervention is determined by the clinical presentation, potential morbidity, independent surgical judgement, and the availability of appropriate resources. Procedures should be prioritized taking into account institutional policies, regional COVID-19 prevalence, facility capacity issues, PPE availability, COVID-19 testing availability and test sensitivity/specificity, local resource consumption, and relevant potential EMTALA considerations.***



Within this document, procedures are prioritized using the following categories:

- **Emergent:** There is an immediate impact on survival.
- **Urgent:** There is potential for permanent harm or permanent worsening of the medical condition if the procedure or surgery is not performed in a timely manner (two weeks) OR there is potential for exacerbations of pain, and/or chronic/acute medical conditions resulting in additional urgent/emergency care or inpatient care.
- **Time-sensitive:** Significant temporary impairment of ability to work or perform essential activities of daily living but not likely to result in permanent harm, hospitalization, or emergency/urgent care.
- **Routine priority:** Mild temporary interference of ability to work or perform essential activities of daily living but not likely to result in permanent harm, hospitalization, or emergency/urgent care.

These documents were prepared by the Future of Otolaryngology Task Force of the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS) with input from the AAO-HNS Board of Directors, the Infectious Disease Committee, and Patient Safety and Quality Improvement Committee. The AAO-HNS approached the specialty societies within otolaryngology to set up a collaborative process to produce guidance for otolaryngologists that would be consistent, practical, and implementable at the appropriate time, based on local conditions and regulatory guidance. The American Academy of Otolaryngic Allergy (AAOA), American Broncho-Esophagological Association (ABEA), American Laryngological Association (ALA), American Neurotology Society (ANS), American Otological Society (AOS), American Rhinologic Society (ARS), American Head and Neck Society (AHNS), American Society of Pediatric Otolaryngology (ASPO), and the International Surgical Sleep Society (ISSS) worked with the corresponding AAO-HNS Committee to submit recommendations from their respective areas of expertise. We are extremely grateful for the quick response and true collaborative spirit exhibited during this process.

SUBSPECIALTY SPECIFIC CONSIDERATIONS

ALLERGY

Immunotherapy Dosing

For patients on subcutaneous immunotherapy (SCIT), restarting after a prolonged absence can result in a serious systemic adverse event. Safety is paramount when restarting injections. Dosing can be reduced to allow for a more gradual introduction of SCIT. The time since the last injection is a major factor in determining how far back to reduce the dose in the escalation plan. While there is limited data on the exact dosing scheme, an example is provided in the below figure that is in line with expert opinion. Patients who are in the Maintenance Phase of SCIT are generally able to tolerate higher dosing schedules than those patients in the Escalation Phase of SCIT. The example below describes how many doses or dilution vials a practitioner can go back based on the time since the last injection. The time since the last injection is only one factor in deciding the appropriate restarting dose. Clinical features of each individual patient should also be examined, including the severity of allergic disease, prior systemic reaction, time of year for pollen allergies, health status including medications, and asthma severity and control. For patients who are at increased risk of adverse reaction due to any of the above factors, decrease in dosing can be instituted at the first injection beyond what the example in the figure describes. The escalation schedule will similarly depend on individual factors and tolerance of prior injections. The use of vial testing for the first injection can also provide a measure of safety to determine an individual's reaction and tolerability to a vial before proceeding with the SCIT escalation plan.



Resuming SCIT during COVID-19 Pandemic*

Evaluate each patient individually for the appropriate re-starting dose

Escalation (build-up) Phase**					Maintenance Phase**			
Missed Time Since Last Injection					Missed Time Since Last Injection			
2 weeks	3 weeks	4-8 weeks	2-3 mo.	3-6 mo.	1-4 weeks	4-8 weeks	2-3 mo.	3-6 mo.
↓	↓	↓	↓	↓	↓	↓	↓	↓
Go back 1 dose	Go back 2 doses	Go back to start of vial (>3 doses) and vial test	Go back 1 dilution vial and vial test	Go back 2 dilution vials and vial test	Repeat usual dose	Vial test Decrease dose by ½ volume re-escalate	Vial test Go back to start of vial (0.05ml) re-escalate	Go back 1 dilution vial, vial test re-escalate

** Consider Lower Dosing

- Severity of disease (highly allergic)
- Prior systemic reaction
- Co-seasonal administration (pollens)
- Changes in health status
- New medications (beta blockers)
- Asthma severity and control

* This example is based on expert opinion as there is a lack of scientific data. Treatment of individual patients will require analysis of their medical condition and individual dosing for immunotherapy.

Potential Aerosolization with PFTs and Nebulized Medications

Possible transmission of COVID-19 through potential aerosolization of viral particles is a concern. The use of pulmonary function testing, peak flow testing, and nebulized medications may promote aerosolization of viral particles. When possible, these procedures should be deferred or replaced with alternate options: Inhaled corticosteroids can be delivered by metered-dose inhaler rather than nebulizer, chest auscultation can be performed rather than peak flow testing, PFTs may be deferred until COVID restrictions are eased.

Allergy Clinic Logistics

Allergy clinics have the potential for transmission due to high volume of patients receiving injections if social distancing cannot be adequately maintained. While many clinics typically have open hours for patients to come in at their convenience, consider using appointments or other mechanisms to manage office occupancy and flow to maximize social distancing.

HEAD AND NECK SURGERY

The practice of head and neck surgery must evolve to meet the needs of our patients while balancing the challenges we face during the COVID-19 pandemic. Head and neck cancer care has fallen within the urgent group of patients who have continued to get care at many centers. However, clinic visits, surveillance of cancer patients, flexible endoscopy to diagnose tumors in clinics, and many non-mucosal tumors have been placed on hold in many centers that have been overwhelmed with COVID-19 positive patients. However, as the number of cases plateau, we must continue to prioritize care for our patients. The AAO-HNS Head and Neck Oncology Committee, together with the AHNS leadership (section leaders), have prioritized cases based on different subsites that are included below.



Stratification of common head and neck surgery cases by urgency.

Emergent – Proceed Immediately	Any tumor obstructing the airway, causing significant bleeding, or resulting in acute or impending neurological change Salivary gland or deep neck abscesses
Urgent – Proceed with Surgery	All HNSCC of the upper aerodigestive tract Benign tumors with impending complications or morbidity Thyroid <ul style="list-style-type: none">• Anaplastic thyroid carcinoma• Medullary thyroid carcinoma• Large (> 4 cm) nodules needed as Bethesda 3,4,5, or 6• DTC with identified or suspected regional or distant metastasis.• Locally aggressive DTCs demonstrated by fixation, posterior thyroid position, VC paresis/paralysis, hemoptysis• Revision DTC with bulky or progressive disease• Life-threatening or severely symptomatic Graves' that cannot be controlled medically Parathyroid <ul style="list-style-type: none">• HPT >13 mg/dL, with active cardiac, renal, or neuromuscular manifestations that cannot be controlled medically Endocrine disorders in pregnancy dangerous to the health of the mother or fetus that cannot be controlled medically Skull base malignancy Salivary cancer <ul style="list-style-type: none">• Salivary duct carcinoma• High-grade mucoepidermoid carcinoma• Adenoid cystic carcinoma• Carcinoma ex pleomorphic adenoma• Acinic cell carcinoma• Adenocarcinoma• Other aggressive, high-grade salivary histology Skin cancer <ul style="list-style-type: none">• Melanoma > 1 mm thickness• Merkel cell carcinoma• Advanced-stage, high risk squamous cell carcinoma• Basal cell carcinoma in critical area (i.e., orbit)
Time Sensitive – Consider Postpone > 30 days	Low-risk DTC lower volume without metastasis Low-grade salivary carcinoma Slower growing BCC



<p>Routine - Consider Postpone 30 - 90 days; Reassess after pandemic appears to be resolving</p>	<p>Thyroid</p> <ul style="list-style-type: none"> • Goiter without airway/respiratory compromise • Routine benign thyroid nodules and thyroiditis • Revision DTC with low volume, stable or slow rate of progression <p>Parathyroid</p> <ul style="list-style-type: none"> • HPT with calcium < 12 mg/dL, without active cardiac, renal, or neuromuscular manifestations <p>Benign salivary lesions and tumors</p> <p>Skin cancer</p> <ul style="list-style-type: none"> • Melanoma ≤ 1mm thickness • Basal cell carcinoma where cosmetic impact/morbidity is likely low with further growth • Low-risk squamous cell carcinoma <p>Post-treatment disorders</p> <ul style="list-style-type: none"> • Eustachian tube dysfunction • Velopharyngeal insufficiency • Oro-antral fistula
<p>Case-by-case basis</p>	<p>Rare histology with uncertain rate of progression</p> <p>Diagnostic procedures, such as direct laryngoscopy with biopsy</p>

HNSCC = head and neck squamous cell carcinoma; PTC = papillary thyroid carcinoma

LARYNGOLOGY

	EXAMPLES	PROCEDURES
<p>Emergent</p>	<p>Impending airway obstruction due to infection, neoplasm, stenosis, foreign body, bleeding, etc.</p>	<ul style="list-style-type: none"> • Laryngoscopy, flexible or rigid • Flexible laryngoscopy with intervention • Indirect laryngoscopy with intervention • Direct laryngoscopy • Bronchoscopy • Tracheostomy
<p>Urgent</p>	<ul style="list-style-type: none"> • Moderate or impending airway obstruction • Progressive dysphonia • Progressive dysphagia • Glottic incompetence causing aspiration or impaired pulmonary toilet 	<ul style="list-style-type: none"> • Procedures listed as emergent • Laryngoscopy and stroboscopy, flexible or rigid, with or without intervention • Flexible endoscopic evaluation of swallow • Esophagoscopy with or without intervention • Open airway procedures - cancer
<p>Time-sensitive</p>	<ul style="list-style-type: none"> • T1 glottic carcinoma or carcinoma in situ • Stable mild/moderate dysphonia • Stable dysphagia 	<ul style="list-style-type: none"> • Procedures listed as emergent and urgent • Transcervical laryngeal botulinum toxin injection



	<ul style="list-style-type: none">• Mild or potential airway obstruction• Spasmodic dysphonia• Glottic incompetence causing highly symptomatic dysphonia	
Routine	<ul style="list-style-type: none">• Mild/moderate dysplasia• Non obstructive, benign lesion of vocal fold• Gender affirmation surgery• Glottic incompetence causing mild to moderate dysphonia• Globus and cough without alarm signs	<ul style="list-style-type: none">• Procedures listed as emergent, urgent, and semi-urgent• Open airway procedures - not cancer• Tracheostomy care or change• Transtracheal injection

OTOLOGY/NEUROTOLOGY

Diagnoses Necessitating “Emergent” Operative Management (Tier 1)

These diagnoses have high associated morbidity or even mortality if not addressed immediately. Surgery may be undertaken regardless of COVID-19 status, although rapid testing, if available, may inform the use of appropriate PPE. Examples include:

- Coalescent mastoiditis with or without extra- or intracranial complications (sigmoid sinus thrombosis, epidural abscess, brain abscess, labyrinthitis, facial palsy)
- Cerebellopontine angle tumor with neurological deterioration and/or threatened brainstem herniation
- Temporal bone trauma with vascular or severe facial nerve injury

Diagnoses Necessitating “Urgent” Operative Management (Tier 2)

These are diagnoses where timely surgery is indicated but where surgery may be delayed for clarification or resolution of acute COVID-19 infection. Examples include:

- Chronic ear disease associated with acute facial nerve paresis or paralysis
- Temporal bone malignancy or adjacent malignancy requiring temporal bone resection
- Impending cochlear ossification (e.g., from bacterial meningitis) requiring cochlear implant surgery due to bilateral sensorineural hearing loss
- Postoperative infections or wound complications not responsive to conservative management
- Infection of auditory implant not responding to conservative management and requiring explanation
- Cerebrospinal fluid leak of the temporal bone deemed to have a high risk of meningitis
- Idiopathic facial paralysis amenable to surgical management
- Cholesteatoma with active infection not responding to otological and systemic antibiotics

Diagnoses Necessitating Time-Sensitive Operative Management (Tier 3)

These are diagnoses in COVID-19 negative or recovered patients that would indicate surgery as soon as feasible in the milieu of the practice/hospital. Examples include:

- Pediatric and adult chronic ear disease/cholesteatoma necessitating tympanomastoidectomy (but without urgent complications)
- Pediatric and adult severe to profound hearing loss meeting criteria for cochlear implantation
- Incapacitating vertigo amenable to surgery
- Growing cerebellopontine angle tumors without significant brainstem compression or intracranial sequelae



Diagnoses that warrant routine scheduling for surgical intervention (Tier 4)

These diagnoses in COVID-19 negative or recovered patients that would typically indicate the need for surgical scheduling. Examples include:

- Otosclerosis warranting stapedectomy
- Conductive hearing loss warranting ossiculoplasty or implantation of bone conduction device
- Tympanic membrane perforation or retraction without complication
- Chronic eustachian tube dysfunction patient that may benefit from eustachian tube balloon dilation

Special Considerations

- Staff and patients should wear masks during Dix-Hallpike testing or canalith repositioning procedures and as much distance as possible should be kept between the faces.
- Conditions that may require treatment with corticosteroids:
 - For idiopathic sudden sensorineural hearing loss, given the unknown risk of systemic steroids with COVID-19 outcomes, clinicians may consider intratympanic (IT) steroid therapy, which has non-inferior outcomes. Intratympanic injections should be done by the clinician without an assistant in the room if possible and with the patient wearing a mask to minimize risk of coughing. Clinicians should weigh the immunosuppressive risk of systemic steroids against the repeat visits and instrumentation necessary for IT steroid injections.
 - Treatment of Bell’s Palsy or other otologic conditions with oral steroids should be decided in the context of patient history, including COVID-19 status, and potential for exposures in the home or work environment.

PEDIATRIC OTOLARYNGOLOGY

Emergent	<ul style="list-style-type: none"> • I&D retropharyngeal abscess • I&D neck abscess • Airway foreign body • Penetrating neck injury • Nasal foreign body- button battery • Airway or esophageal foreign body-button battery
Urgent	<ul style="list-style-type: none"> • Cochlear implantation with risk of labyrinthitis ossificans • Congenital nasal pyriform aperture stenosis repair • Airway dilation • Tracheostomy • Anterior cricoid split w/wo thyroid alar graft • Lymph node excision • Oncologic surgery (thyroid, parotid, neck dissection) • Facial trauma • Tympanomastoidectomy for complications of otitis media • FESS for acute orbital/intracranial complication • Malignant sinus tumor resection • Supraglottoplasty • Recurrent Respiratory Papillomatosis treatment
Time-sensitive	<ul style="list-style-type: none"> • PE tubes • Tympanomastoidectomy for cholesteatoma without acute facial paralysis or non-responsive acute infection • Cochlear implantation w/o complicating factors • Implantable hearing devices



	<ul style="list-style-type: none"> • ABR • Nasal foreign body - other • Adenotonsillectomy - severe OSA • Lingual tonsillectomy • Drug-induced sleep endoscopy (DISE) • Oral cavity lesion • Frenotomy including z-plasty • VPI surgery • Microlaryngoscopy and bronchoscopy • Vocal cord injection • Laryngeal cleft repair • Laryngotracheoplasty • Cricotracheal resection • Slide tracheoplasty • Thyroidectomy (benign disease) • Cleft lip and palate repairs
Routine	<ul style="list-style-type: none"> • Tympanoplasty • Tympanomastoidectomy, no cholesteatoma • OCR • Otoplasty • Microtia repair • FESS without impending intracranial or extracranial complication • Septoplasty • Turbinate reduction • Unilateral choanal atresia repair • Adenotonsillectomy - uncomplicated • Excision of congenital masses (vascular anomalies, branchial cleft, or thyroglossal duct cyst) • Recurrent laryngeal nerve reinnervation • Botox injections • Salivary gland procedures (benign disease)

RHINOLOGY

Emergent/Urgent	<ul style="list-style-type: none"> • Endoscopic resection of sinonasal and anterior skull base malignancies • Endoscopic management of sinonasal and anterior skull base tumors • Endoscopic control of acute nasal hemorrhage • Endoscopic sinus surgery for acute and chronic sinusitis with orbital or intracranial complications • Endoscopic debridement invasive fungal sinusitis • Endoscopic repair of CSF leaks and encephaloceles
Time-sensitive	<ul style="list-style-type: none"> • Endoscopic sinus surgery for chronic sinusitis with nasal polyps • Endoscopic sinus surgery for chronic and recurrent sinusitis • Management for recurrent but uncomplicated epistaxis • Endoscopic resection of benign nasal or sinus tumors • Acute nasal fracture repair
Routine priority	<ul style="list-style-type: none"> • Septoplasty, including septorhinoplasty • Turbinate reduction • Nasal valve repair • Cryoablation procedures

In office sinonasal cases:

Given the potential risk of increased droplet formation with sinonasal procedures performed under local anesthesia in the office, consideration should be made for treating these procedures in a similar fashion to those performed in an ASC. Choice of PPE and pre-procedure COVID-19 testing should be considered based on local availability, loco-regional prevalence of COVID-19, and potential for droplet spread with any given procedure.

SLEEP SURGERY

Considerations

- The different phenotypes of OSA manifest with different levels of severity, both clinically and objectively.
- Greater baseline severity of OSA is associated with higher levels of postoperative monitoring.
- Patients requiring postoperative positive airway pressure (PAP) usage generate concerns for possible “field aerosolization” of upper airway secretions.
- Prolonged postoperative monitoring is recommended following invasive lower pharyngeal airway procedures or maxillomandibular advancement.

Recommendations

Given the heterogeneous patient population for any given procedure, we have designated all procedures with the same level of urgency. The classification “time-sensitive” has been given due to the insidious nature of obstructive sleep apnea. This subspecialty differs from other otolaryngology subspecialties that may treat cancer, trauma, infection, or other acute processes.

- Attempts should be made to reduce particle distribution radius with surgical field coverage (e.g., draping) and air evacuation (e.g., suction)
- Attempts should be made to minimize in-person post-operative appointments (phone or video appointments)
- Table 1 provides safety and resource consumption profile of each procedure

Drug-Induced Sleep Endoscopy (DISE)

- Popular diagnostic tool prior to sleep surgery intervention
- Avoid the use of sterile, disposable covers for flexible endoscopes
- High transmission risk as an aerosol-generating procedure
- Consider placement of full face mask with bronchoscope adapter to approach “closed system” during procedure

Nasal Surgery

- Isolated nasal surgery plays an adjunctive role in the management of OSA to facilitate PAP or oral appliance therapy
- Minimize powered instrumentation such as debriders and drills

Pharyngeal Surgery

- Lower pharyngeal surgery (specifically, tongue base surgery) is associated with greater potential for acute, postoperative care
- Consider use of technologies with decreased thermal transmission
- Consider procedure techniques without need for power drills (e.g., transpalatal advancement pharyngoplasty)
- Reduce power settings to minimum therapeutic levels



Laryngeal Surgery

- Supraglottoplasty is primary for infants with laryngomalacia and children with sleep-state dependent laryngomalacia with resolution rates of ~66%
- Consider using cold instruments and avoiding the microdebrider, laser, or other powered instruments to perform
- Airway surgery has an extremely higher risk to providers and staff

Hypoglossal Nerve Stimulation Surgery

- Extra-pharyngeal surgery for moderate-severe OSA

Skeletal Surgery

- Maxillomandibular advancement has consistently high surgical success rates
- Transmission and safety concerns given intraoperative use of powered instrumentation and intense post-operative management

Tracheostomy

- Historic gold standard of OSA surgical treatment
- Transmission (both to and from patient) concerns with creation of tracheostoma
- Safety concerns given intense post-operative management

Specific Pediatric Recommendations

- Severe laryngomalacia patients with failure to thrive may warrant urgent supraglottoplasty when not responding to medical management and/or oxygen support.
- Urgent sleep surgery may be considered in very severe OSA patients with hypoxemia not responding to positive pressure ventilation.
- Surgery should only be considered when adequate postoperative monitoring capacity is available for higher risk pediatric surgical patients including severe OSA patients with genetic predisposition to hypotonia or neuromuscular disorder, comorbidities, bleeding disorders, congenital cardiac anomalies or pulmonary hypertension.

Table 1

	Level of Urgency	Theoretical Transmission Risk	Resource Consumption
Drug-Induced Sleep Endoscopy (DISE)	Time-sensitive	Moderate	Moderate
Nasal Surgery	Routine Priority	Moderate	Moderate
Upper Pharyngeal Surgery	Time-sensitive	Moderate	Moderate
Lower Pharyngeal Surgery	Time-sensitive	Moderate	High
Laryngeal Surgery	Time-sensitive	High	High
Hypoglossal Nerve Stimulation	Time-sensitive	Low	Moderate
Skeletal Surgery	Time-sensitive	High	High
Tracheostomy	Time-sensitive	High	High

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