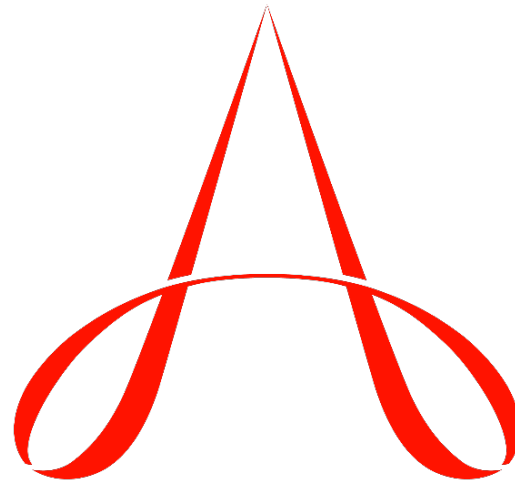




Supplemental Guide: Otolaryngology – Head and Neck Surgery



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TABLE OF CONTENTS

INTRODUCTION	3
PATIENT CARE	4
Airway Emergency and Management	4
Facial Trauma	6
Head and Neck Neoplasm	8
Otologic Disease	10
Rhinologic Disease.....	13
Laryngologic Disease	15
Pediatric Otolaryngology	17
Facial Plastics and Reconstructive Surgery.....	19
Sleep	21
MEDICAL KNOWLEDGE.....	23
Anatomy	23
Allergy.....	24
Pathophysiology.....	26
SYSTEMS-BASED PRACTICE	27
Patient Safety and Quality Improvement.....	27
System Navigation for Patient-Centered Care	29
Physician Role in Health Care Systems.....	31
PRACTICE-BASED LEARNING AND IMPROVEMENT	34
Evidence-Based and Informed Practice.....	34
Reflective Practice and Commitment to Personal Growth	35
PROFESSIONALISM	37
Professional Behavior and Ethical Principles.....	37
Accountability/Conscientiousness.....	39
Knowledge of Systemic and Individual Factors of Well-Being	41
INTERPERSONAL AND COMMUNICATION SKILLS	45
Patient- and Family-Centered Communication	45
Interprofessional and Team Communication	48
Communication within Health Care Systems	50
MAPPING OF MILESTONES 1.0 TO 2.0.....	52
RESOURCES	53

Milestones Supplemental Guide

This document provides additional guidance and examples for the Otolaryngology – Head and Neck Surgery Milestones. This is not designed to indicate any specific requirements for each level, but to provide insight into the thinking of the Milestone Work Group.

Included in this document is the intent of each Milestone and examples of what a Clinical Competency Committee (CCC) might expect to be observed/assessed at each level. Also included are suggested assessment models and tools for each subcompetency, references, and other useful information.

Review this guide with the CCC and faculty members. As the program develops a shared mental model of the Milestones, consider creating an individualized guide (Supplemental Guide Template available) with institution/program-specific examples, assessment tools used by the program, and curricular components.

Additional tools and references, including the Milestones Guidebook, Clinical Competency Committee Guidebook, and Milestones Guidebook for Residents and Fellows, are available on the [Resources](#) page of the Milestones section of the ACGME website.

Patient Care 1: Airway Emergency and Management

Overall Intent: To efficiently and safely obtain and synthesis history, patient presentation

Milestones	Examples
<p>Level 1 <i>Identifies potential airway emergencies as part of an evaluation team</i></p> <p><i>Escalates care of emergency airway (e.g., alerts airway team)</i></p>	<ul style="list-style-type: none"> • Recognizes the initial presentation of acute airway compromise from infectious or neoplastic etiology • Appropriately calls for additional supervisory and patient care support
<p>Level 2 <i>Performs airway assessment and focused history and physical</i></p> <p><i>Describes the airway management algorithm from least to most invasive</i></p>	<ul style="list-style-type: none"> • Differentiates between upper airway and lower airway sounds on presentation and auscultation • Performs airway assessment to include identification of potential airway compromise • Describes nasal cannula and mask ventilation as least invasive for airway management
<p>Level 3 <i>Assists in straightforward airway emergency procedures</i></p> <p><i>Initiates the airway management algorithm from least to most invasive</i></p>	<ul style="list-style-type: none"> • Assists in straightforward airway emergency procedures including awake fiberoptic intubation or awake tracheostomy in a stable patient with normal anatomy
<p>Level 4 <i>Performs straightforward airway emergency procedures</i></p> <p><i>Implements airway management plan</i></p>	<ul style="list-style-type: none"> • Performs straightforward airway emergency procedures including awake fiberoptic intubation or an awake tracheostomy in a stable patient with normal anatomy
<p>Level 5 <i>Performs complex airway emergency procedures</i></p> <p><i>Develops anticipatory airway management plan</i></p>	<ul style="list-style-type: none"> • Performs complex airway emergency procedures including any procedure performed in an acutely decompensating patient or a patient with complex comorbidities to include significantly altered anatomy, obesity, or bleeding comorbidities
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Ears, Nose, and Throat (ENT) Boot Camps • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • Mitchell RB, Hussey HM, Setzen G, et al. Clinical consensus statement: tracheostomy care. <i>Otolaryngol Head Neck Surg.</i> 2013;148(1):6-20. https://journals.sagepub.com/doi/10.1177/0194599812460376?url_ver=Z39.88-2003&rfr_id=ori:rid:crossref.org&rfr_dat=cr_pub%20%20pubmed. 2021.

- Nguyen LHP, Bank I, Fisher R, Mascarella M, Young M. Managing the airway catastrophe: longitudinal simulation-based curriculum to teach airway management. *J Otolaryngol Head Neck Surg.* 2019;48(1):10.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6381681/pdf/40463_2019_Article_332.pdf. 2021.

Patient Care 2: Facial Trauma

Overall Intent: To accurately assess patient with facial trauma, determine surgical plan, and execute surgical operation

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in patients with a facial trauma</i></p> <p><i>Assists with routine peri-operative care for facial trauma patients</i></p> <p><i>Recognizes common complications</i></p>	<ul style="list-style-type: none"> • Assesses facial numbness • Knows to order facial computerized tomography (CT) as that gives the best assessment of bony trauma • Recognizes complications such as numbness of the cheek/palate, double vision, numbness of the lower lip
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with facial trauma</i></p> <p><i>Provides routine peri-operative care for facial trauma patients</i></p> <p><i>Initiates work-up of common complications</i></p>	<ul style="list-style-type: none"> • Describes LeFort fracture patterns, knows that fractures must be treated with two points of fixation • Plans timing of surgery to await some resolution of facial swelling • To address complication of double vision, knows to do forced duction testing
<p>Level 3 <i>Explains the risks and benefits of treatment plans for facial trauma</i></p> <p><i>Assists with routine surgical management for facial trauma</i></p> <p><i>Manages common complications and recognizes uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Obtains informed consent • Knows surgical approaches for open reduction and internal fixation of facial fractures • Prescribes appropriate antibiotics for post-operative infections
<p>Level 4 <i>Describes typical treatment plan</i></p> <p><i>Performs routine surgical management for facial trauma, assists with complex facial trauma</i></p> <p><i>Manages uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Describes appropriate hardware and surgical approaches for surgery • Performs open reduction and internal fixation of malar complex fracture • Performs assessment of infected hardware
<p>Level 5 <i>Adapts standard treatment plans and techniques to special circumstances</i></p> <p><i>Performs operative management of complex facial trauma</i></p>	<ul style="list-style-type: none"> • Describes special considerations for edentulous patients • Performs open reduction and internal fixation if edentulous mandible

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Serves as a peer resource for managing uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Teaches more junior residents about how to manage complications
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Checklist evaluation of live or recorded performance • Direct observation • Objective structured clinical examination (OSCE) • Record review • Reflection • Simulations and models • Standardized oral examination • Standardized patient examination
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • AO CMF Foundation options (some free access, some members only) <ul style="list-style-type: none"> ○ AO CMF. Clinical Library & Tools. https://aocmf.aofoundation.org/clinical-library-and-tools. 2021. ○ AO CMF. AO CMF Classification System. https://aocmf.aofoundation.org/clinical-library-and-tools/classification. 2021.

Patient Care 3: Head and Neck Neoplasm

Overall Intent: To accurately assess patient with head and neck cancer, determine treatment plan, and execute surgical operation

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in patients with head and neck neoplasm</i></p> <p><i>Assists with routine peri-operative care for patients with head and neck neoplasm</i></p> <p><i>Recognizes common complications</i></p>	<ul style="list-style-type: none"> • Elicits pertinent information depending on the type of cancer being assessed • Executes nothing by mouth (NPO) orders prior to surgery • Identifies neck hematoma
<p>Level 2 <i>Formulates a diagnostic plan for a patient with head and neck neoplasm</i></p> <p><i>Provides routine peri-operative care for patients with head and neck neoplasm</i></p> <p><i>Initiates work-up of common complications</i></p>	<ul style="list-style-type: none"> • Explains which imaging modality to use • Describes appropriate anti-coagulation bridging in the peri-operative phase • Obtains correct labs to differentiate salivary fistula versus chyle leak
<p>Level 3 <i>Explains the risks and benefits of treatment plans for head and neck neoplasm</i></p> <p><i>Assists with routine surgical management for head and neck neoplasm</i></p> <p><i>Manages common complications and recognizes uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Describes common side effects of radiation therapy • Assists with laryngectomy and neck dissection • Assists with managing salivary fistula appropriately • Recognizes uncommon complication of Horner’s syndrome
<p>Level 4 <i>Describes typical treatment plan</i></p> <p><i>Performs routine surgical management for head and neck disease, assists with complex head and neck neoplasm</i></p> <p><i>Manages uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Correctly outlines surgical versus non-surgical plan for treatment of laryngeal cancer • Performs routine neck dissection • Manages chyle leak
<p>Level 5 <i>Adapts standard treatment plans and techniques to special circumstances</i></p>	<ul style="list-style-type: none"> • Describes treatment for recurrent disease; surgical salvage

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Performs operative management of complex head and neck neoplasm</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Performs maxillectomy • Teaches more junior residents about head and neck cancer management
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Checklist evaluation of live or recorded performance • Direct observation • OSCE • Record review • Reflection • Simulations and models • Standardized oral examination • Standardized patient examination
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • University of Iowa Hospitals & Clinics. Iowa Head and Neck Protocols. https://uihc.org/iowa-head-and-neck-protocols. 2021.

Patient Care 4: Otologic Disease

Overall Intent: To diagnose and treat otologic disease safely and effectively, using both medical and surgical management

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in patients with ear disease and/or hearing loss</i></p> <p><i>Assists with set-up, performs placement of ventilation tubes, and opens and closes postauricular incisions</i></p> <p><i>Interprets routine audiograms</i></p>	<ul style="list-style-type: none"> • Elicits a focused and systematic history of an otologic problem, within the framework of a differential diagnosis • Performs a thorough ear-focused physical exam such as eye movements, cranial nerve exam, basic vestibular testing (Romberg, Fukuda, Dix-Hallpike) • Properly uses an otoscope and tuning fork as well as beginning to use an otologic microscope • In the operating room, is actively involved in patient positioning, communication with the anesthesia and nursing teams, surgical prep and drape, and local injections; makes a postauricular incision and closes and dresses the incision at the conclusion of the case • Interprets patient audiograms either in the office setting or for a surgical case, and distinguishes pure tone audiometry, speech discrimination scores, and tympanometry; distinguishes between air and bone lines, left and right ear, and masked and unmasked conditions
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with ear disease and/or hearing loss</i></p> <p><i>Elevates tympanomeatal flap, performs cortical mastoidectomy</i></p> <p><i>Identifies surgical and disease-relevant anatomy on a computerized tomography (CT) scan</i></p>	<ul style="list-style-type: none"> • For a patient with presbycusis, discusses contributing factors (family history, noise exposure, ototoxicity/trauma, chronic illness) and discusses the role of hearing aids, further testing (if borderline aidable hearing or if asymmetric, for example), and appropriate follow-up • For an adult patient with chronic otitis media, discusses the role of allergies, eustachian tube dysfunction, and smoking, as well as the effects of treating these factors such as allergy medications/referrals, placement of ventilation tubes, cessation of smoking, and use of hearing aids and hearing devices (bone-anchored devices for conductive losses/draining ears) • For an acutely presenting patient with a draining ear, distinguishes between extratemporal and intratemporal complications, and discusses the role of prophylactic antibiotics, cultures, imaging, consults • Makes incisions and elevates a tympanomeatal or a vascular strip flap; gets through the Koerner’s septum and exposes the antrum safely in an ear with relatively normal anatomy (such as for most cochlear implants); may not be able to perform the same in a poorly developed mastoid for this level of dissection ability

	<ul style="list-style-type: none"> • Identifies structures in a normal temporal bone (such as when performing a cochlear implant) on a CT scan and some disease processes such as pericochlear lucency in otosclerosis, enlarged vestibular aqueduct, dehiscent semicircular canal, or atretic ear canal
<p>Level 3 <i>Orders routine diagnostic studies for ear disease and/or hearing loss</i></p> <p><i>Begins to perform middle ear dissection</i></p> <p><i>Identifies normal and disease-relevant anatomy on a magnetic resonance imaging (MRI)</i></p>	<ul style="list-style-type: none"> • For a patient with a draining ear, performs a culture before administering antibiotics • For a patient with otosclerosis, orders stapedial reflex testing before getting a CT scan and explains why a CT scan may not be necessary (if reflexes absent and patient has no symptoms of semicircular canal dehiscence syndrome and no other otologic history/ear trauma) • For a patient with an asymmetric sensorineural hearing loss, orders magnetic resonance imaging (MRI) or an auditory brainstem response and distinguishes the limitations of each (poor sensitivity of auditory brainstem response in small tumors and the relevance of such findings in an older patient) • In the operating room, elevates the annulus out of the tympanic sulcus, dissects the tympanic membrane off the chorda tympani nerve, and lyses a stapedial tendon • Identifies presence of fluid in the cochlea, vestibular schwannomas and meningiomas in the internal auditory canal/cerebellopontine angle (CPA), and a cochlear nerve/nerves of the internal auditory canal on a sagittal section of an MRI (as performed prior to some cochlear implants)
<p>Level 4 <i>Explains the risks, benefits, and alternatives of medical and surgical interventions for ear disease and/or hearing loss</i></p> <p><i>Dissects middle ear structures, performs a facial recess approach, and performs an ossicular reconstruction and cholesteatoma dissection</i></p> <p><i>Interprets specialized audiometric and vestibular testing</i></p>	<ul style="list-style-type: none"> • Discusses the risks and benefits of wearing versus not wearing a hearing aid in presbycusis; discusses ways to manage chronic ear disease including cholesteatoma with respect to controlling draining, preventing complications, surgical reconstruction of the ossicular chain for auditory rehabilitation, implantable bone anchored devices, and various hearing aids • Curettes the scutum without injuring the chorda tympani nerve, separates the incudostapedial joint, lasers/breaks off the stapedial suprastructure, removes an incus remnant in chronic ear disease, identifies and avoids the facial nerve before entering the middle ear for a facial recess approach, and performs a cochleostomy and/or drill the round window overhang/remove the round window membrane • Interprets a videonystagmography, vestibular evoked myogenic potential, auditory brainstem response, and otoacoustic emission testing
<p>Level 5 <i>Adapts standard treatment plans and interventions to special circumstances</i></p>	<ul style="list-style-type: none"> • Uses an obliteration of the ear canal as an option in a child with a significant developmental delay and chronically draining ear

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Skeletonizes facial nerve, sigmoid sinus, and dura, and begins to perform lateral temporal bone resection</i></p> <p><i>Leads an otology patient care conference</i></p>	<ul style="list-style-type: none"> • Suggests a cochlear implant may be indicated urgently for a six-month-old patient who is recovering from meningitis • Fully skeletonizes the facial nerve, such as in temporal bone resections or facial nerve decompression from trauma or tumor; skeletonizes dura such as for a translabyrinthine approach or in a contracted mastoid; performs a labyrinthectomy and begin skeletonizing the internal auditory canal • Leads a multidisciplinary and interdisciplinary conference for patients with internal auditory canal/CPA tumors, temporal bone and ear tumors, vestibular disorders, or cochlear implant conference
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Checklist evaluation of live or recorded performance • Direct observation • OSCE • Record review • Reflection • Simulations and models • Standardized oral examination • Standardized patient examination
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • Mowry SE, Woodson E, Gubbels S, Carfrae M, Hansen MR. A simple assessment tool for evaluation of cadaveric temporal bone dissection. <i>Laryngoscope</i>. 2018;128(2):451-455. https://onlinelibrary.wiley.com/doi/abs/10.1002/lary.26578. 2021.

Patient Care 5: Rhinologic Disease

Overall Intent: To safely and effectively diagnose and treat rhinologic disease, using both medical and surgical management

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in a patient with rhinologic disease</i></p> <p><i>Assists with routine perioperative care for patients with rhinologic disease</i></p> <p><i>Recognizes common complications associated with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Performs routine peri-operative care including nasal endoscopy, topical decongestant • Performs routine sinus care (maxillary, ethmoid, sphenoid) • Performs routine epistaxis management • Understands the importance of identifying high-risk patients (neoplasm, skull base defect, cerebrospinal fluid rhinorrhea, impending suppurative complications) and differentiates from routine low-risk disease (chronic rhinosinusitis with polyps, recurrent acute rhinosinusitis) • Recognizes periorbital cellulitis, orbital cellulitis, and epistaxis
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with rhinologic disease</i></p> <p><i>Provides routine perioperative care for patients with rhinologic disease</i></p> <p><i>Initiates work-up of common complications associated with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Creates a diagnostic and treatment plan including history, physical examination, and judicious use of imaging and endoscopy; treatment plan includes both medical and surgical management • Knows diagnostic definitions of sinusitis subtypes (chronic rhinosinusitis with polyps, chronic rhinosinusitis without polyps, recurrent acute rhinosinusitis, acute bacterial rhinosinusitis) • Identifies high-risk patients (neoplasm, skull base defect, cerebrospinal fluid rhinorrhea, impending suppurative complications, etc.) and differentiates from low-risk patients • Identifies indications for CT
<p>Level 3 <i>Explains the risks and benefits of treatment plans for rhinologic disease</i></p> <p><i>Assists with routine surgical management for patients with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Knows a unilateral nasal mass is cause for concern • Identifies risks including surgical risks and those of commonly used medications (e.g., steroids) • Identifies that benefits of surgery include limitations (e.g., surgery does not cure sinusitis) • Discusses risks relating to surgical complications and risks of continuing to observe • Identifies high-risk conditions: neoplasm, skull base defect, cerebrospinal fluid rhinorrhea, impending suppurative complications • Identifies low-risk conditions: chronic rhinosinusitis with polyps, chronic rhinosinusitis without polyps, recurrent acute rhinosinusitis, acute sinusitis • Assists with maxillary, ethmoid, and sphenoid surgery

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Manages common complications and recognizes uncommon/infrequent complications associated with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Manages periorbital cellulitis, orbital cellulitis, and epistaxis • Recognizes meningitis, cavernous sinus thrombosis, and cerebrospinal fluid rhinorrhea
<p>Level 4 <i>Identifies when typical treatment plans should be modified</i></p> <p><i>Performs routine surgical management and assists with complex surgical management for patients with rhinologic disease</i></p> <p><i>Manages uncommon/infrequent complications associated with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Identifies modifications to medical therapy when first-line treatments are not successful • Assists with frontal and revision sinus surgery • Performs maxillary, ethmoid, and sphenoid surgery • Manages meningitis, cavernous sinus thrombosis, and cerebrospinal fluid rhinorrhea
<p>Level 5 <i>Adapts standard treatment plans and techniques to special circumstances</i></p> <p><i>Performs complex surgical management for patients with rhinologic disease</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications associated with rhinologic disease</i></p>	<ul style="list-style-type: none"> • Performs surgery in the setting of orbital exposure or skull base erosion • Manages a patient with aspirin exacerbated respiratory disease (AERD) • Performs frontal and revision sinus surgery • Teaches more junior residents to manage meningitis, cavernous sinus thrombosis, and cerebrospinal fluid rhinorrhea
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Checklist evaluation of performance • Direct observation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021.

Patient Care 6: Laryngologic Disease

Overall Intent: To safely and effectively diagnose and treat the range of laryngologic conditions including voice, neoplastic, and pediatric conditions or disease, using both medical and surgical management

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in patients with laryngologic disease</i></p> <p><i>Assists with routine perioperative care for patients with laryngologic disease</i></p> <p><i>Recognizes common complications associated with laryngologic disease</i></p>	<ul style="list-style-type: none"> • Obtains a history and physical exam for a patient with hoarseness; identifies risk factors and determines what additional work-up is needed • Evaluates for post-operative airway concerns • Identifies neck hematoma
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with laryngologic disease</i></p> <p><i>Provides routine perioperative care for patients with laryngologic disease, including both direct and indirect laryngoscopy</i></p> <p><i>Initiates work-up of common complications associated with laryngologic disease</i></p>	<ul style="list-style-type: none"> • Creates initial working diagnosis and treatment plan for voice complaint including incorporation of speech therapy in plan • Describes appropriate anti-coagulation bridging in the peri-operative phase • Initiates evaluation of airway edema
<p>Level 3 <i>Explains the risks and benefits of treatment plans for laryngologic disease</i></p> <p><i>Assists with routine surgical management for patients with laryngologic disease, including direct laryngoscopy, microlaryngeal techniques, and vocal fold injections</i></p> <p><i>Manages common complications and recognizes uncommon/infrequent complications associated with laryngologic disease</i></p>	<ul style="list-style-type: none"> • Performs pre-operative counseling for operative management of benign vocal cord lesion such as vocal fold cyst including a discussion of possible perioperative and post-operative complications • Assists with set-up for and approach to removal of benign vocal cord lesion • Recognizes uncommon complication of pneumothorax
<p>Level 4 <i>Identifies when typical treatment plans should be modified</i></p>	<ul style="list-style-type: none"> • Identifies special patient populations including professional voice patients, high-risk surgical patients, or other specific patient populations as appropriate to the institution

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Performs routine surgical management and assists with complex surgical management for patients with laryngologic disease</i></p> <p><i>Manages uncommon/infrequent complications associated with laryngologic disease</i></p>	<ul style="list-style-type: none"> • Performs elevation of laryngeal microflap • Manages pneumothorax in conjunction with consulting services
<p>Level 5 <i>Adapts standard treatment plans and techniques to special circumstances</i></p> <p><i>Performs complex surgical management for patients with laryngologic disease, including laryngotracheal reconstruction and arytenoid procedures</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications associated with laryngologic disease</i></p>	<ul style="list-style-type: none"> • Describes changes to proposed management plans in the setting of professional voice, high surgical risk, or other patient populations as appropriate to the institution • Performs cricotracheal resection • Teaches more junior residents about management of pneumothorax
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • OSCE • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • Rosen CA, Simpson CB. <i>Operative Techniques in Laryngology</i>. Springer, 2008. ISBN:978-3540258063.

Patient Care 7: Pediatric Otolaryngology

Overall Intent: To evaluate and manage otolaryngologic disorders safely and effectively in children, taking into account the effect of developmental stage, congenital and genetic disorders, and family/caregiver concerns and values in their care

Milestones	Examples
<p>Level 1 <i>Performs an age-appropriate history and physical examination with developmental assessment</i></p> <p><i>Assists with pediatric otolaryngology procedures</i></p> <p><i>Provides routine peri-operative care for pediatric otolaryngology procedures</i></p>	<ul style="list-style-type: none"> • Gathers age-appropriate history including gestational age at birth, assessment of developmental milestones (gross motor, speech-language), history of hearing screening tests (newborn, preschool, primary care physician- or school-based), or educational achievement or special education • Assists with open pediatrics procedures: neck cysts, thyroid disease, tracheotomy, but does not include endoscopic airway or tonsillectomy • Performs pre-operative history and physical and post-operatively checks for bleeding, pain, airway distress, and drainage
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a pediatric patient</i></p> <p><i>Performs routine pediatric procedures on typical patients (e.g., ear tube placement, tonsillectomy, adenoidectomy)</i></p> <p><i>Recognizes and initiates work-up of routine complications of treatment</i></p>	<ul style="list-style-type: none"> • Uses Clinical Practice Guidelines from the American Society of Pediatric Otolaryngology to recommend common pediatric procedures like tympanostomy tubes and tonsillectomy • Identifies situations where sedation may improve the quality of care of the patient, such as CT/MRI, repair of lacerations, or auditory brainstem response testing • Recognizes routine complications such as post-tonsillectomy bleeding, post-operative wound infection
<p>Level 3 <i>Explains the risks and benefits of pediatric procedures; adapts diagnoses to age-related variations</i></p> <p><i>Performs routine pediatric procedures on atypical patients (e.g., syndromic), and airway and soft tissue pediatric otolaryngology procedures (e.g., bronchoscopy, branchial cleft excision)</i></p> <p><i>Manages routine complications and recognizes complex complications of treatment</i></p>	<ul style="list-style-type: none"> • Explains risks and benefits of common pediatric procedures: congenital cyst excisions, direct laryngoscopy with rigid bronchoscopy, removal of foreign bodies, repair of lacerations and facial bony trauma, tonsillectomy and adenoidectomy, tympanostomy tubes, tympanoplasty or tympanomastoidectomy • Performs routine pediatric procedures on atypical patients including children with Down syndrome, craniofacial syndromes, morbid obesity, and/or skeletal dysplasia • Manages post-tonsillectomy bleeding and post-operative wound infection • Recognizes recurrences after thyroglossal duct excision

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p>Level 4 <i>Adapts standard treatment plans to special circumstances (e.g., syndromic children and infants)</i></p> <p><i>Performs airway and soft tissue pediatric procedures; assists with complex pediatric procedures</i></p> <p><i>Manages uncommon complications of treatment</i></p>	<ul style="list-style-type: none"> • Adapts standard treatment plans to special circumstances including children with syndromes, genetic disorders, prematurity, or neurodevelopmental delay • Performs airway and soft tissue procedures that include tracheotomy, direct laryngoscopy with rigid bronchoscopy with other endoscopic procedures (e.g., balloon dilation, removal of airway foreign bodies), excision of congenital cysts, and repair of lacerations • Assists with complex pediatric procedures including ex-utero intrapartum treatment procedures, laryngotracheal reconstructions, revision tympanomastoidectomy, and repair of facial trauma • Manages recurrences after thyroglossal duct excision
<p>Level 5 <i>Actively participates in discussion at an interdisciplinary pediatric case conference or specialty clinic</i></p> <p><i>Performs complex pediatric otolaryngology procedures</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications associated with pediatric procedures</i></p>	<ul style="list-style-type: none"> • Actively participates in interdisciplinary pediatric care conferences that may include: cleft/craniofacial, aerodigestive, cochlear implant, fetal care, long-term home ventilation, palliative care, sleep, vascular anomalies, care of children with specific genetic syndromes (e.g., Down syndrome, chromosome 22q11 deletion) • Performs Complex pediatric procedures include ex-utero intrapartum treatment procedures, laryngotracheal reconstructions, revision tympanomastoidectomy for cholesteatoma, repair of facial trauma • Teaches more junior residents how to manage recurrences after thyroglossal duct excision
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • ENT Boot Camps • Record review • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • American Society of Pediatric Otolaryngology (ASPO). Clinical Practice Guidelines. https://aspo.us/page/readinglist. 2021.

Patient Care 8: Facial Plastic and Reconstructive Surgery

Overall Intent: To accurately assess patient with an aesthetic or functional defect, determine treatment plan, and execute surgical operation

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in patients with aesthetic/functional concerns</i></p> <p><i>Assists with routine peri-operative care for patients receiving head and neck aesthetic/functional surgery</i></p> <p><i>Recognizes common complications</i></p>	<ul style="list-style-type: none"> • Obtains pertinent history regarding symptoms or concerns • Executes plan developed by attending or more senior resident • Explains saddle nose deformity and why it occurs
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with aesthetic/functional concerns</i></p> <p><i>Provides routine peri-operative care for patients receiving head and neck aesthetic/functional surgery</i></p> <p><i>Initiates work-up of common complications</i></p>	<ul style="list-style-type: none"> • Describes correct anti-coagulation bridging in the peri-operative phase • Explains different uses for cosmetic fillers • Assesses for a septal hematoma
<p>Level 3 <i>Explains the risks and benefits of treatment plans for aesthetic/functional surgery</i></p> <p><i>Assists with routine surgical management for head and neck aesthetic/functional surgery</i></p> <p><i>Manages common complications and recognizes uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Obtains informed consent • Assists with the steps of the operation/treatment • Manages a septal hematoma
<p>Level 4 <i>Identifies best treatment plan to address patient concerns</i></p> <p><i>Performs routine surgical management for patients requiring head and neck aesthetic/functional surgery</i></p> <p><i>Manages uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Recommends appropriate surgery or non-surgical aesthetic treatment • Performs functional rhinoplasty • Manages tip ptosis

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p>Level 5 <i>Adapts standard treatment plans and techniques to special circumstances</i></p> <p><i>Performs operative management of complex head and neck aesthetic/functional surgery</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Knows how to approach revision surgery • Performs pectoralis myocutaneous flap • Teaches more junior residents how to reconstruct a pharyngeal defect
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Checklist evaluation of live or recorded performance • Direct observation • OSCE • Record review • Reflection • Simulations and models • Standardized oral examination • Standardized Patient Examination
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021.

Patient Care 9: Sleep

Overall Intent: To accurately identify, evaluate and manage patients with sleep disorders

Milestones	Examples
<p>Level 1 <i>Performs a history and physical examination in a patient with sleep concerns</i></p> <p><i>Assists with routine peri-operative care for sleep surgery patients</i></p> <p><i>Recognizes common complications of sleep surgery and sleep disorders</i></p>	<ul style="list-style-type: none"> • Performs a history and physical and identifies sleep related signs and symptoms • Identifies “at-risk” patient in need of more immediate attention (e.g., tracheostomy) • Orders a sleep study • Recognizes neck hematoma and intolerance of continuous positive airway pressure (CPAP)
<p>Level 2 <i>Formulates a diagnostic and treatment plan for a patient with sleep concerns</i></p> <p><i>Provides routine peri-operative care for sleep surgery patients</i></p> <p><i>Initiates work-up of common complications associated with sleep surgery and sleep disorders</i></p>	<ul style="list-style-type: none"> • Understands that there are different levels of sleep studies • Interprets a sleep study report • Identifies a patient that would benefit from sleep surgery versus CPAP titration
<p>Level 3 <i>Explains the risks and benefits of treatment plans for sleep disorders</i></p> <p><i>Assists with routine surgical management of sleep disorders</i></p> <p><i>Manages common complications and recognizes uncommon/infrequent complications associated with sleep surgery and sleep disorders</i></p>	<ul style="list-style-type: none"> • Performs routine surgical management of sleep disorders e.g., tonsillectomy • Recognizes morbid obesity as contraindication to multiple sleep surgeries • Understands bleeding risk of various surgeries
<p>Level 4 <i>Identifies when standard sleep interventions should be modified</i></p> <p><i>Performs common surgical management of sleep disorders</i></p>	<ul style="list-style-type: none"> • Appropriately refers patient for bariatric surgery • Performs lingual tonsillectomy, midline posterior glossectomy, palate suspension, pharyngoplasty

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Manages uncommon/infrequent complications associated with sleep surgery and sleep disorders</i></p>	<ul style="list-style-type: none"> • Manages velopharyngeal insufficiency
<p>Level 5 <i>Adapts standard treatment plans for sleep disorders to individual circumstances</i></p> <p><i>Performs complex surgical management of sleep disorders</i></p> <p><i>Serves as a peer resource for managing uncommon/infrequent complications</i></p>	<ul style="list-style-type: none"> • Considers comorbidities of neurologic disorders • Identifies criteria for hypoglossal nerve stimulator placement • Performs hypoglossal nerve stimulator or hyoid sling • Teaches more junior residents how to manage velopharyngeal insufficiency
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • OSCE • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021.

Medical Knowledge 1: Anatomy

Overall Intent: To develop knowledge of surgically and pathophysiologic relevant anatomy to safely and effectively diagnose and treat otolaryngology — head and neck surgery patients

Milestones	Examples
<p>Level 1 <i>Identifies normal anatomy during common operations</i></p> <p><i>Articulates the steps of common operations</i></p>	<ul style="list-style-type: none"> Recognizes common operations including tonsillectomy, adenoidectomy, myringoplasty, and direct laryngoscopy
<p>Level 2 <i>Identifies variations in anatomy during common operations</i></p> <p><i>Articulates the implications of varying anatomy on the steps of common operations</i></p>	<ul style="list-style-type: none"> Recognizes submucosal clefting or bifid uvula while performing tonsillectomy and adenoidectomy Describes the implications of non-recurrent laryngeal nerve on performance of thyroidectomy
<p>Level 3 <i>Identifies normal anatomy during complex operations</i></p> <p><i>Articulates the steps of complex operations</i></p>	<ul style="list-style-type: none"> Recognizes complex operations such as tympanomastoidectomy, flap harvest and reconstruction, endoscopic sinus procedures, neck dissections, facial trauma repair, and thyroidectomy
<p>Level 4 <i>Identifies variations in anatomy during complex operations</i></p> <p><i>Articulates the implications of varying anatomy on the steps of complex operations</i></p>	<ul style="list-style-type: none"> Describes anatomic variation in temporal bone anatomy and the impact on the surgical approach and view Describes oncologic resection based on tumor size/location and the options available for repair of the defect based on the anatomy impacted
<p>Level 5 <i>Leads anatomy instruction for students and co-residents</i></p> <p><i>Teaches complex variations of anatomy and implications for surgical approaches</i></p>	<ul style="list-style-type: none"> Teaches surgical approaches in anatomy lab for specific procedures Leads case-based teaching sessions with surgical anatomy topics
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> Cadaver or similar labs Direct observation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none">
<p>Notes or Resources</p>	<ul style="list-style-type: none"> American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. Netter FH. <i>Atlas of Human Anatomy</i>. 7th Edition. Philadelphia, PA: Elsevier; 2018. ISBN:978-0323393225

Medical Knowledge 2: Allergy

Overall Intent: To develop knowledge of the evaluation and management of patients with allergic disease

Milestones	Examples
<p>Level 1 <i>Demonstrates knowledge of allergic hypersensitivity and resulting clinical manifestations</i></p> <p><i>Explains common clinical manifestations of hypersensitivity and allergic disease</i></p> <p><i>Describes the potential severity of severe allergic responses</i></p>	<ul style="list-style-type: none"> • Understands common clinical manifestations of atopic disease including rhinorrhea, ocular symptoms, and dermatologic sensitivity • Understands the immunologic principles underlying allergic sensitization and reaction • Knows that potential severity includes anaphylaxis
<p>Level 2 <i>Discusses pathophysiology of immunoglobulin E (IgE) –mediated hypersensitivity and roles of exposure and sensitization</i></p> <p><i>Explains common complications and comorbid conditions associated with allergic disease</i></p> <p><i>Demonstrates knowledge of risk factors associated with systemic reaction to allergen exposure</i></p>	<ul style="list-style-type: none"> • Understands immunology underlying allergic sensitization, antigen recognition, and degranulation • Understands early-phase and late-phase response • Describes comorbid conditions including asthma, airway remodeling, and implication of the allergic march • Lists risk factors for systemic reaction such as beta-blocker, uncontrolled asthma, and active upper airway infection
<p>Level 3 <i>Demonstrates knowledge of interventions, including avoidance, pharmacotherapy, and antigen-specific immunotherapy</i></p> <p><i>Articulates a treatment plan for clinical manifestations of allergic rhinitis</i></p> <p><i>Describes the early signs of anaphylaxis and/or systemic reaction</i></p>	<ul style="list-style-type: none"> • Understands interventions including avoidance, topical nasal steroids, oral antihistamines, topical antihistamines, and leukotriene inhibitors • Initiates treatment with antigen-specific immunotherapy such as antigen selection, initiating dose, escalation, or maintenance dosing • Lists early signs of anaphylaxis such as pruritis, urticaria, flushing, tachycardia, wheezing, shortness of breath, hypotension, and/or sense of doom
<p>Level 4 <i>Interprets data from allergy in-vitro or skin testing</i></p>	<ul style="list-style-type: none"> • Recognizes basic interventions and treatment of anaphylaxis including epinephrine, IV access, and/or airway management (Note: the only intervention with direct correlation to survival is early use of epinephrine; this is a critical threshold)

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Determines appropriateness of antigen-specific immunotherapy</i></p>	<ul style="list-style-type: none"> • Determines if and when to use antigen-specific immunotherapy noting indications for testing, methods of testing, and interpretation of results • Understands the contraindications to immunotherapy such as known anaphylaxis and beta-blockers
<p><i>Describes the basic intervention and treatment of anaphylaxis</i></p>	<ul style="list-style-type: none"> • Initiates use of antigen-specific immunotherapy (antigen selection, initiating dose, escalation, maintenance, duration of therapy)
<p>Level 5 <i>Reliably resolves discrepancies between testing results and clinical findings</i></p>	<ul style="list-style-type: none"> • Understands advanced treatment of anaphylaxis including glucagon for patients on beta-blockers, antihistamines (H1, H2), bronchodilators, glucocorticoids, treatment of late phase response, vasopressin, etc. • Troubleshoots inadequate response to immunotherapy and determines need for retesting
<p><i>Synthesizes data to modify testing strategies and treatment for difficult/high-risk patients</i></p>	<ul style="list-style-type: none"> • Implements changes in immunotherapy based upon interval testing
<p><i>Describes advanced treatment of anaphylaxis</i></p>	<ul style="list-style-type: none"> • Evaluates local reactions to immunotherapy
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Otolaryngology training exam (i.e., in-service scores)
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021.

Medical Knowledge 3: Pathophysiology

Overall Intent: To understand normal physiology and pathophysiology to provide effective patient care

Milestones	Examples
Level 1 <i>Demonstrates knowledge of normal physiology, pathophysiology, and clinical findings for otolaryngologic conditions routinely managed by non-otolaryngologists</i>	<ul style="list-style-type: none"> • Relates basics of Eustachian tube function and sequelae of dysfunction (e.g., otitis media) • Recalls mucociliary clearance mechanism in paranasal sinuses and sequelae of dysfunction (e.g., sinusitis)
Level 2 <i>Demonstrates basic knowledge of pathophysiology and clinical findings for common otolaryngologic conditions</i>	<ul style="list-style-type: none"> • Describes the pathophysiology and typical clinical findings for conditions routinely encountered (e.g., sensorineural hearing loss, chronic sinusitis)
Level 3 <i>Demonstrates advanced knowledge of pathophysiology and clinical findings for commonly encountered otolaryngologic conditions</i>	<ul style="list-style-type: none"> • Describes in detail the pathophysiology and clinical findings for conditions routinely encountered (e.g., sensorineural hearing loss, chronic sinusitis) • Labels subtypes of disease and associated findings (e.g., delineates chronic rhinosinusitis with or without polyps and allergic fungal sinusitis)
Level 4 <i>Demonstrates knowledge of pathophysiology and clinical findings for uncommon otolaryngologic conditions</i>	<ul style="list-style-type: none"> • Describes the pathophysiology and clinical findings for conditions infrequently encountered (e.g., auditory neuropathy spectrum disorder, immotile cilia syndrome)
Level 5 <i>Contributes new knowledge for pathophysiology and clinical findings for otolaryngologic conditions (e.g., publication, curriculum development)</i>	<ul style="list-style-type: none"> • Publishes original research related to pathophysiology in otolaryngology • Develops curricula to teach primary care physicians about otolaryngologic conditions
Assessment Models or Tools	<ul style="list-style-type: none"> • Direct observation • Otolaryngology training exam (i.e., in-service scores)
Curriculum Mapping	<ul style="list-style-type: none"> •
Notes or Resources	<ul style="list-style-type: none"> • American Academy of Otolaryngology. OTOSource. https://www.otosource.org/. 2021. • American Board of Otolaryngology. Head and Neck Surgery Exam Blueprints and Guidelines. https://www.aboto.org/pdf/Exam%20blueprints.pdf. 2021.

Systems-Based Practice 1: Patient Safety and Quality Improvement

Overall Intent: To engage in the analysis and management of patient safety events, including relevant communication with patients, families, and health care professionals; to conduct a QI project

Milestones	Examples
<p>Level 1 <i>Demonstrates knowledge of common patient safety events</i></p> <p><i>Demonstrates knowledge of how to report patient safety events</i></p> <p><i>Demonstrates knowledge of basic quality improvement methodologies and metrics</i></p>	<ul style="list-style-type: none"> • Lists patient misidentification or medication errors as common patient safety events • Describes how to report errors in your environment • Describes fishbone tool
<p>Level 2 <i>Identifies system factors that lead to patient safety events</i></p> <p><i>Reports patient safety events through institutional reporting systems (simulated or actual)</i></p> <p><i>Describes local quality improvement initiatives</i></p>	<ul style="list-style-type: none"> • Identifies lack of hand sanitizer dispenser at each clinical exam room may lead to increased infection rates • Reports lack of hand sanitizer dispenser at each clinical exam room to the medical director • Summarizes protocols resulting in decreased spread of hospital acquired <i>C. diff</i>
<p>Level 3 <i>Participates in analysis of patient safety events (simulated or actual)</i></p> <p><i>Participates in disclosure of patient safety events to patients and families (simulated or actual)</i></p> <p><i>Participates in local quality improvement initiatives</i></p>	<ul style="list-style-type: none"> • Participates in morbidity and mortality conference • Participates in a family discussion regarding a patient safety events • Participates in project identifying root cause of patient flow delays
<p>Level 4 <i>Conducts analysis of patient safety events and offers error prevention strategies (simulated or actual)</i></p> <p><i>Discloses patient safety events to patients and families (simulated or actual)</i></p>	<ul style="list-style-type: none"> • Collaborates with a team to conduct the analysis of medication administration errors and can effectively communicate with patients/families about those events • Participates in the completion of a QI project to improve human papillomavirus (HPV) vaccination rates within the practice, including assessing the problem, articulating a broad goal, developing a SMART (Specific, Measurable, Attainable, Realistic, Time-bound) objective plan, and monitoring progress and challenges

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Demonstrates the skills required to identify, develop, implement, and analyze a quality improvement project</i></p>	
<p>Level 5 <i>Actively engages teams and processes to modify systems to prevent patient safety events</i></p> <p><i>Role models or mentors others in the disclosure of patient safety events</i></p> <p><i>Creates, implements, and assesses quality improvement initiatives at the institutional or community level</i></p>	<ul style="list-style-type: none"> • Assumes a leadership role at the departmental or institutional level for patient safety • Conducts a simulation for disclosing patient safety events • Initiates and completes a QI project to improve county HPV vaccination rates in collaboration with the county health department and shares results with stakeholders
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • E-module multiple choice tests • Medical record (chart) audit • Multisource feedback • Portfolio • Reflection • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • Institute of Healthcare Improvement. http://www.ihl.org/Pages/default.aspx. 2021.

Systems-Based Practice 2: System Navigation for Patient-Centered Care

Overall Intent: To effectively navigate the health care system, including the interdisciplinary team and other care providers, to adapt care to a specific patient population to ensure high-quality patient outcomes

Milestones	Examples
<p>Level 1 <i>Demonstrates knowledge of care coordination</i></p> <p><i>Identifies key elements for safe and effective transitions of care and hand-offs</i></p> <p><i>Demonstrates knowledge of population and community health needs and disparities</i></p>	<ul style="list-style-type: none"> • For a patient with oropharyngeal cancer, identifies medical and radiation oncologist, speech therapist, home health nurse, and social workers as members of the team • Lists the essential components of a standardized sign-out tool for care transition and hand-offs • Identifies that patients in rural areas may have different needs than urban patients
<p>Level 2 <i>Coordinates care of patients in routine clinical situations effectively using the roles of the interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care/hand-offs in routine clinical situations</i></p> <p><i>Identifies specific population and community health needs and inequities for their local population</i></p>	<ul style="list-style-type: none"> • Coordinates care with radiation oncology at the time of discharge from the hospital • Routinely uses a standardized sign-out tool for a stable patient during night float sign-out • Identifies that limited transportation options may be a factor in rural patients getting to multiple chemotherapy or radiation therapy appointments
<p>Level 3 <i>Coordinates care of patients in complex clinical situations effectively using the roles of their interprofessional teams</i></p> <p><i>Performs safe and effective transitions of care/hand-offs in complex clinical situations</i></p> <p><i>Uses local resources effectively to meet the needs of a patient population and community</i></p>	<ul style="list-style-type: none"> • Works with the social worker to coordinate care for a homeless patient that will ensure follow-up to a radiation oncology after discharge from the hospital • Routinely uses a standardized sign-out tool when transferring a patient to the intensive care unit (ICU) • Refers patients to a local pharmacy which provides a sliding fee scale option and prints pharmacy coupons for patients in need
<p>Level 4 <i>Role models effective coordination of patient-centered care among different disciplines and specialties</i></p> <p><i>Role models and advocates for safe and effective transitions of care/hand-offs within and</i></p>	<ul style="list-style-type: none"> • During inpatient rotations, leads team members in approaching consultants to review cases/recommendations and arranges radiology rounds for the team • Prior to going on vacation, proactively informs the covering resident about a plan of care for a post-operative thyroidectomy patient with transient hypocalcemia being treated as an outpatient for interval parathyroid hormone or calcium level checks

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>across health care delivery systems including outpatient settings</i></p> <p><i>Participates in changing and adapting practice to provide for the needs of specific populations</i></p>	<ul style="list-style-type: none"> • Assists to design post-operative pain management protocols for prescribing standard regimens to patients to reduce variations in opioid prescribing habits
<p>Level 5 <i>Analyzes the process of care coordination and leads in the design and implementation of improvements</i></p> <p><i>Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes</i></p> <p><i>Leads innovations and advocates for populations and communities with health care inequities</i></p>	<ul style="list-style-type: none"> • Leads a program to create standardized tracheostomy teaching for family members of pediatric airway patients. • Develops a protocol to improve transitions to long term care facilities • Leads development of telehealth diagnostic services for a rural ENT clinic
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Medical record (chart) audit • Multisource feedback • OSCE • Quality metrics and goals mined from electronic health records (EHR) • Review of sign-out tools, use and review of checklists
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • CDC. Population Health Training. https://www.cdc.gov/pophealthtraining/whatis.html. 2021. • Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan J, Gonzalo JD. <i>Health Systems Science</i>. 1st ed. Philadelphia, PA: Elsevier; 2016. ISBN:9780702070372.

Systems-Based Practice 3: Physician Role in Health Care Systems

Overall Intent: To understand the physician’s role in the complex health care system and how to optimize the system to improve patient care and the health system’s performance

Milestones	Examples
<p>Level 1 <i>Identifies key components of the complex health care system (e.g., hospital, skilled nursing facility, finance, personnel, technology)</i></p> <p><i>Describes basic health payment systems, including government, private, public, uninsured care, and practice models</i></p> <p><i>Identifies basic knowledge domains for effective transition to practice (e.g., information technology, legal, billing and coding, financial, personnel)</i></p>	<ul style="list-style-type: none"> • Articulates differences between skilled nursing and long-term care facilities • Understands the impact of health plan coverage on prescription drugs for individual patients • Identifies that notes must meet coding requirements
<p>Level 2 <i>Describes how components of a complex health care system are interrelated, and how this impacts patient care</i></p> <p><i>Delivers care with consideration of each patient’s payment model (e.g., insurance type)</i></p> <p><i>Describes core administrative knowledge needed for transition to practice (e.g., contract negotiations, malpractice insurance, government regulation, compliance)</i></p>	<ul style="list-style-type: none"> • Explains improving patient satisfaction impacts patient adherence and payment to the health system • Takes into consideration patient’s prescription drug coverage when choosing an allergy regimen for chronic rhinitis • Recognizes that appropriate documentation can influence the severity of illness determination upon discharge
<p>Level 3 <i>Discusses how individual practice affects the broader system (e.g., length of stay, readmission rates, clinical efficiency)</i></p> <p><i>Engages with patients in shared decision making, informed by each patient’s payment models</i></p> <p><i>Demonstrates use of information technology required for medical practice (e.g., electronic</i></p>	<ul style="list-style-type: none"> • Ensures that patient comorbidities are addressed at time of discharge to reduce readmission rate • Discusses risks and benefit of repeat surveillance thyroid ultrasound in the setting of multinodular goiter or previous benign fine needle aspiration findings • Understands the core elements of insurance deductibles

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p>health record, documentation required for billing and coding)</p>	
<p>Level 4 <i>Manages various components of the complex health care system to provide efficient and effective patient care and transition of care</i></p> <p><i>Advocates for patient care needs (e.g., community resources, patient assistance resources) with consideration of the limitations of each patient’s payment model</i></p> <p><i>Analyzes individual practice patterns and professional requirements in preparation for practice</i></p>	<ul style="list-style-type: none"> • Ensures proper documentation of three-day qualifying hospital stay prior to discharging a patient to a skilled nursing facility for physical therapy • Works collaboratively to improve patient assistance resources for a patient with tracheostomy and limited resources • Proactively compiles procedure log in anticipation of applying for hospital privileges
<p>Level 5 <i>Advocates for or leads systems change that enhances high-value, efficient, and effective patient care and transition of care</i></p> <p><i>Participates in health policy advocacy activities</i></p> <p><i>Educates others to prepare them for transition to practice</i></p>	<ul style="list-style-type: none"> • Works with community or professional organizations to advocate for no smoking ordinances • Improves informed consent process for non-English-speaking patients requiring interpreter services
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Medical record (chart) audit • Patient satisfaction data • Portfolio
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • Agency for Healthcare Research and Quality (AHRQ). Measuring the Quality of Physician Care. https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/challenges.html. 2021. • AHRQ. Major Physician Measurement Sets: https://www.ahrq.gov/professionals/quality-patient-safety/talkingquality/create/physician/measurementsets.html. 2021. • The Commonwealth Fund. Health System Data Center. https://datacenter.commonwealthfund.org/#ind=1/sc=1. 2021. • Dzau VJ, McClellan M, Burke S, et al. Vital directions for health and health care: priorities form a national academy of medicine initiative. <i>JAMA</i>. 2017;317(14):1461-1470. https://nam.edu/vital-directions-for-health-health-care-priorities-from-a-national-academy-of-medicine-initiative/. 2021.

- The Kaiser Family Foundation. www.kff.org. 2021.
- The Kaiser Family Foundation. Topic: health reform. <https://www.kff.org/topic/health-reform/>. 2021.

Practice-Based Learning and Improvement 1: Evidence-Based and Informed Practice

Overall Intent: To incorporate evidence and patient values into clinical practice

Milestones	Examples
Level 1 <i>Demonstrates how to access available evidence, and incorporate patient preferences and values to take care of a routine patient</i>	<ul style="list-style-type: none"> Identifies evidence-based guidelines for acute sinusitis from American Academy of Otolaryngology – Head and Neck Surgery (AAO-HNSF)
Level 2 <i>Articulates clinical questions and elicits patient preferences and values to guide evidence-based care</i>	<ul style="list-style-type: none"> In a patient with subacute sinusitis, appropriately selects antibiotic regimen
Level 3 <i>Locates and applies the best available evidence, integrated with patient preference, to the care of complex patients</i>	<ul style="list-style-type: none"> Obtains, discusses, and applies evidence for the treatment of a patient with chronic sinusitis and multiple medication allergies Understands and appropriately uses clinical practice guidelines in guiding decisions for surgical intervention while eliciting patient preferences
Level 4 <i>Critically appraises and applies evidence even in the face of uncertainty and conflicting evidence to guide care to the individual patient</i>	<ul style="list-style-type: none"> Evaluates the primary literature to identify biologic and topical treatments for refractory sinus disease
Level 5 <i>Coaches others to critically appraise and apply evidence for complex patients; and/or participates in the development of guidelines</i>	<ul style="list-style-type: none"> Leads clinical teaching on application of best practices in critical appraisal of balloon sinuplasty criteria
Assessment Models or Tools	<ul style="list-style-type: none"> Direct observation Oral or written examinations Presentation evaluation Research portfolio
Curriculum Mapping	<ul style="list-style-type: none">
Notes or Resources	<ul style="list-style-type: none"> Institutional IRB guidelines National Institutes of Health. Write Your Application. https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/write-your-application.htm. 2021. U.S. National Library of Medicine. PubMed Tutorial. https://www.nlm.nih.gov/bsd/disted/pubmedtutorial/cover.html. 2021. Various journal submission guidelines

Practice-Based Learning and Improvement 2: Reflective Practice and Commitment to Personal Growth

Overall Intent: To seek clinical performance information with the intent to improve care; reflects on all domains of practice, personal interactions, and behaviors, and their impact on colleagues and patients (reflective mindfulness); develop clear objectives and goals for improvement in some form of a learning plan

Milestones	Examples
<p>Level 1 <i>Accepts responsibility for personal and professional development by establishing goals</i></p> <p><i>Identifies the factors which contribute to gap(s) between expectations and actual performance</i></p> <p><i>Actively seeks opportunities to improve</i></p>	<ul style="list-style-type: none"> • Sets a personal practice goal of documenting appropriate American Joint Committee on Cancer (AJCC) oropharyngeal cancer staging • Identifies gaps in knowledge of AJCC oropharyngeal cancer staging • Asks for feedback from patients, families, and patient care team members
<p>Level 2 <i>Demonstrates openness to performance data (feedback and other input) to inform goals</i></p> <p><i>Analyzes and reflects on the factors which contribute to gap(s) between expectations and actual performance</i></p> <p><i>Designs and implements a learning plan, with prompting</i></p>	<ul style="list-style-type: none"> • Integrates feedback to adjust the documentation of AJCC oropharyngeal cancer staging • Assesses time management skills and how they impact timely completion of clinic notes and literature reviews • When prompted, develops individual education plan to improve their evaluation of oropharyngeal cancer
<p>Level 3 <i>Seeks performance data episodically, with adaptability</i></p> <p><i>Analyzes, reflects on, and institutes behavioral change(s) to narrow the gap(s) between expectations and actual performance</i></p> <p><i>Independently creates and implements a learning plan</i></p>	<ul style="list-style-type: none"> • Conducts a chart audit to determine the percent of patients with accurate oropharyngeal cancer staging • Completes a comprehensive literature review to address gaps in knowledge in pharmacology • Using web-based resources, creates a personal curriculum to improve personal evaluation of oropharyngeal cancer
<p>Level 4 <i>Intentionally seeks performance data consistently with adaptability</i></p> <p><i>Challenges assumptions and considers alternatives in narrowing the gap(s) between expectations and actual performance</i></p>	<ul style="list-style-type: none"> • Completes a quarterly chart audit to ensure documentation of the appropriate AJCC staging for oropharyngeal cancer • After patient encounter, debriefs with the attending and other patient care team members to optimize future collaboration in the care of the patient and family

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Uses performance data to measure the effectiveness of the learning plan and when necessary, improves it</i></p>	<ul style="list-style-type: none"> • Performs a chart audit on personal documentation of their evaluation of oropharyngeal cancer
<p>Level 5 <i>Role models consistently seeking performance data with adaptability</i></p> <p><i>Coaches others on reflective practice</i></p> <p><i>Facilitates the design and implementing learning plans for others</i></p>	<ul style="list-style-type: none"> • Models practice improvement and adaptability • Develops educational module for collaboration with other patient care team members • Assists first-year residents in developing individualized learning plans
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Review of learning plan
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • Burke AE, Benson B, Englander R, Carraccio C, Hicks PJ. Domain of competence: Practice-based learning and improvement. <i>Acad Pediatr.</i> 2014;14:S38-S54. https://linkinghub.elsevier.com/retrieve/pii/S1876-2859(13)00333-1. 2021. • Hojat M, Veloski JJ, Gonnella JS. Measurement and correlates of physicians' lifelong learning. <i>Academic Medicine.</i> 2009;84(8):1066-1074. https://journals.lww.com/academicmedicine/fulltext/2009/08000/Measurement_and_Correlates_of_Physicians_Lifelong.21.aspx. 2021. • Lockspeiser TM, Schmitter PA, Lane JL, Hanson JL, Rosenberg AA, Park YS. Assessing residents' written learning goals and goal writing skill: validity evidence for the learning goal scoring rubric. <i>Academic Medicine.</i> 2013;88(10):1558-1563. https://journals.lww.com/academicmedicine/fulltext/2013/10000/Assessing_Residents_Written_Learning_Goals_and.39.aspx. 2021.

Professionalism 1: Professional Behavior and Ethical Principles

Overall Intent: To recognize and address lapses in ethical and professional behavior, demonstrates ethical and professional behaviors, and use appropriate resources for managing ethical and professional dilemmas

Milestones	Examples
<p>Level 1 <i>Identifies and describes potential triggers for professionalism lapses</i></p> <p><i>Demonstrates knowledge of the ethical principles underlying patient care, including informed consent, surrogate decision making, advance directives, confidentiality, error disclosure, stewardship of limited resources, and related topics</i></p>	<ul style="list-style-type: none"> • Identifies fatigue as a potential cause for a lapse in professionalism • Understands being late to sign-out has adverse effect on patient care and on professional relationships • Articulates how the principle of “do no harm” applies to a patient who may not need a central line even though the training opportunity exists
<p>Level 2 <i>Demonstrates insight into professional behavior in routine situations and how to appropriately report professionalism lapses</i></p> <p><i>Analyzes straightforward situations using ethical principles</i></p>	<ul style="list-style-type: none"> • Respectfully approaches a resident who is late to sign-out about the importance of being on time • Notifies appropriate supervisor when a resident is routinely late to sign-out • Identifies and applies ethical principles involved in informed consent when the resident is unclear of all the risks
<p>Level 3 <i>Demonstrates professional behavior in complex or stressful situations</i></p> <p><i>Analyzes complex situations using ethical principles and recognizes need to seek help in managing and resolving complex ethical situations</i></p>	<ul style="list-style-type: none"> • Appropriately responds to a distraught family member following an unsuccessful resuscitation attempt of a relative • After noticing a colleague’s inappropriate social media post, reviews policies related to posting of content and seeks guidance • Offers treatment options for a terminally ill patient, while recognizing own limitations, and consistently honoring the patient’s choice
<p>Level 4 <i>Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in self and others</i></p> <p><i>Recognizes and uses appropriate resources for managing and resolving ethical dilemmas as needed</i></p>	<ul style="list-style-type: none"> • Actively considers the perspectives of others • Models respect for patients and promotes the same from colleagues, when a patient has been waiting an excessively long time to be seen • Recognizes and uses ethics consults, literature, risk-management/legal counsel in order to resolve ethical dilemmas
<p>Level 5 <i>Coaches others when their behavior fails to meet professional expectations</i></p>	<ul style="list-style-type: none"> • Coaches others when their behavior fails to meet professional expectations and creates a performance improvement plan to prevent recurrence

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution</i></p>	<ul style="list-style-type: none"> • Engages stakeholders to address excessive wait times in the clinic to decrease patient and provider frustrations that lead to unprofessional behavior
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Global evaluation • Multisource feedback • Oral or written self-reflection • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • American Medical Association. Ethics. https://www.ama-assn.org/delivering-care/ama-code-medical-ethics. 2021. • ABIM Foundation. American Board of Internal Medicine. Medical professionalism in the new millennium: a physician charter. <i>Annals of Internal Medicine</i>. 2002;136(3):243-246. https://annals.org/aim/fullarticle/474090/medical-professionalism-new-millennium-physician-charter. 2021. • Bynny RL, Paauw DS, Papadakis MA, Pfeil S, Alpha Omega Alpha. <i>Medical Professionalism Best Practices: Professionalism in the Modern Era</i>. Menlo Park, CA: Alpha Omega Alpha Honor Society; 2017. https://alphaomegaalpha.org/pdfs/Monograph2018.pdf. 2021. • Levinson W, Ginsburg S, Hafferty FW, Lucey CR. <i>Understanding Medical Professionalism</i>. 1st ed. New York, NY: McGraw-Hill Education; 2014. https://accessmedicine.mhmedical.com/book.aspx?bookID=1058. 2021.

Professionalism 2: Accountability/Conscientiousness

Overall Intent: To take responsibility for one’s own actions and the impact on patients and other members of the health care team

Milestones	Examples
<p>Level 1 <i>Takes responsibility for failure to complete tasks and responsibilities, identifies potential contributing factors, and describes strategies for ensuring timely task completion in the future</i></p> <p><i>Responds promptly to requests or reminders to complete tasks and responsibilities</i></p>	<ul style="list-style-type: none"> • Responds to pages and emails in a timely fashion • Responds promptly to reminders from program administrator to complete work hour logs • Has timely attendance at conferences • Completes pre-rounding lists
<p>Level 2 <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in routine situations</i></p> <p><i>Recognizes situations that may impact own ability to complete tasks and responsibilities in a timely manner</i></p>	<ul style="list-style-type: none"> • Completes administrative tasks, documents safety modules, procedure review, and licensing requirements by specified due date • Before going out of town, completes tasks in anticipation of lack of computer access while traveling
<p>Level 3 <i>Performs tasks and responsibilities in a timely manner with appropriate attention to detail in complex or stressful situations</i></p> <p><i>Proactively implements strategies to ensure that the needs of patients, teams, and systems are met</i></p>	<ul style="list-style-type: none"> • Notifies attending of multiple competing demands on call, appropriately triages tasks, and asks for assistance from other residents or faculty members as needed • In preparation for being out of town, forwards patient care notifications to another resident
<p>Level 4 <i>Recognizes situations that may impact others’ ability to complete tasks and responsibilities in a timely manner</i></p>	<ul style="list-style-type: none"> • Takes responsibility for inadvertently omitting key patient information during sign-out
<p>Level 5 <i>Leads system outcomes</i></p>	<ul style="list-style-type: none"> • Sets up a meeting with the nurse manager to streamline patient discharges and leads team to find solutions to the problem
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Compliance with deadlines and timelines • Direct observation • Global evaluations • Multisource feedback • Self-evaluations and reflective tools

Otolaryngology — Head and Neck Surgery Supplemental Guide

	<ul style="list-style-type: none">• Simulation
Curriculum Mapping	<ul style="list-style-type: none">•
Notes or Resources	<ul style="list-style-type: none">• Code of conduct from fellow/resident institutional manual• Expectations of residency program regarding accountability and professionalism

Professionalism 3: Knowledge of Systemic and Individual Factors of Well-Being Overall Intent: To identify, use, manage, improve, or seek help for personal and professional growth within self and others	
Milestones	Examples
Level 1 <i>Recognizes the importance of getting help when needed to address personal and professional well-being</i>	<ul style="list-style-type: none"> • After concerns are expressed by a program leader regarding well-being or burnout, is receptive to considering options for assistance • When a concerned chief resident or supervising physician reaches out about possible burnout due to changes in their mood or professional function, acknowledges the expression of concern as a form of professional support
Level 2 <i>Lists resources to support personal and professional well-being</i> <i>Recognizes that institutional factors affect well-being</i>	<ul style="list-style-type: none"> • In annual advisor meeting, discusses institutional resources that support personal and professional well-being • In setting goals for the next year, identifies and lists resources to help improve in-training exam scores and incorporates those resources into the learning plan • After completion of learning modules, can clearly articulate how institutional factors may impact resident well-being • Identifies aspects of the clinical learning environment seem to impact personal well-being, including when having to work more than four nights in a row on night float • Identifies “microaggressions” or bias as factors affecting learner well-being when the resident sees a medical student become disengaged after an encounter with the attending
Level 3 <i>With prompting, reflects on how personal and professional well-being may impact one’s clinical practice</i> <i>Describes institutional factors that affect well-being</i>	<ul style="list-style-type: none"> • After hearing a speaker discuss physician well-being at a retreat, writes a brief reflection on the impact of well-being on own current and future practice of medicine • After several months of a challenging schedule, responds to feedback from a nurse by recognizing that a recent patient interaction lacked necessary empathy, and seeks support and advice from the attending physician • At semiannual review, identifies specific institutional factors that positively or negatively affect personal well-being including lack of access to healthy food in the cafeteria and insufficient social work support for complex discharges • Describes mistreatment and microaggressions committed by the interprofessional team and patients as negatively impacting well-being • Identifies the need for additional mentorship to enhance personal and professional development after discussion with the associate program director reveals that initial career plans do not align with personal goals

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p>Level 4 <i>Reflects on actions in real time to proactively respond to the inherent emotional challenges of physician work</i></p> <p><i>Suggests potential solutions to institutional factors that affect well-being</i></p>	<ul style="list-style-type: none"> • Develops action plans for job search prioritizing lifestyle and family goals • Prepares a robust board study schedule to minimize undue stress and anxiety • Recognizing increased anxiety when performing certain procedures, arranges practice sessions with the simulation lab • Proactively reaches out to program leadership for support when the resident grieves a personal loss of a family member, including requesting resources for psychological support • Identifies fear of leading codes as a “stress point” in education and seeks advice from an experienced physician • After snapping at a nurse after a stressful interaction with a patient, approaches nurse and apologizes; takes a few minutes to process the interaction with the patient with the care team <ul style="list-style-type: none"> • Participates in graduate medical education (GME) round table discussion on the experience of imposter syndrome particularly felt by women and black, indigenous, and people of color (BIPOC) learners in medicine and its association with burnout in residency and offers constructive feedback on mitigating burnout • Gives feedback to program leadership on issues with identifying appropriate case managers to assist with patient discharge • Recommends schedule adjustments while on the medical intensive care unit rotation to improve compliance with clinical and educational work hours
<p>Level 5 <i>Participates in institutional changes to promote personal and professional well-being</i></p>	<ul style="list-style-type: none"> • Develops a plan that incorporates personal wellness goals for the next few months • Recognizes that an upcoming rotation in critical care may be emotionally draining, so schedules restorative activities on off days • When pandemic conditions limit options for communication and socialization with peers, actively explores new approaches such as telecommunication and distanced socializing to build and maintain relationships that offer peer emotional support • When important future personal or religious events are anticipated, works with program leadership to develop a plan that balances personal and professional responsibilities • Leads a resident committee to address inefficiencies in the EHR • Advocates with hospital leadership as a Well-Being Committee leader to provide educational interventions and mental health services to address experiences of shame during residency education
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Group interview or discussions for team activities • Individual interview

	<ul style="list-style-type: none"> • Institutional online training modules • Reflective writing • Self-assessment and personal learning plan • Semi-annual evaluation
Curriculum Mapping	<ul style="list-style-type: none"> •
Notes or Resources	<ul style="list-style-type: none"> • This subcompetency is not intended to evaluate a resident’s well-being. Rather, the intent is to ensure each resident has the fundamental knowledge of factors that affect well-being, the mechanism by which those factors affect well-being, and available resources and tools to improve well-being. • ACGME. “Well-Being Tools and Resources.” https://dl.acgme.org/pages/well-being-tools-resources. Accessed 2022. • American College of Physicians (ACP). Imposter Syndrome: Break on Through to the Other Side. https://www.acponline.org/about-acp/about-internal-medicine/career-paths/residency-career-counseling/impower/imposter-syndrome-break-on-through-to-the-other-side. 2021. (Need Login) • ACP. Know Your Colleagues, Know Yourself: Checking in on Mental Health. https://www.acponline.org/about-acp/about-internal-medicine/career-paths/residency-career-counseling/impower/know-your-colleagues-know-yourself-checking-in-on-mental-health. 2021. • ACP. Physician Well-being for Residents and Fellows. https://www.acponline.org/meetings-courses/acp-courses-recordings/acp-leadership-academy/acp-leadership-academy-webinars/physician-well-being-for-residents-and-fellows. 2021. • ACP. Physician Well-Being and Professional Fulfillment. https://www.acponline.org/practice-resources/physician-well-being-and-professional-fulfillment. 2021. • Bynum WE 4th, Artino AR Jr, Uijtdehaage S, Webb AMB, Varpio L. Sentinel emotional events: The nature, triggers, and effects of shame experiences in medical residents. <i>Acad Med</i>. 2019;94(1):85-93. https://journals.lww.com/academicmedicine/fulltext/2019/01000/sentinel_emotional_events_the_nature_triggers.28.aspx. 2021. • Cook AF, Arora VM, Rasinski KA, Curlin FA, Yoon JD. The prevalence of medical student mistreatment and its association with burnout. <i>Acad Med</i>. 2014;89(5):749-754. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4401419/pdf/nihms-650423.pdf. 2021. • Hicks PJ, Schumacher D, Guralnick S, Carraccio C, Burke AE. Domain of competence: personal and professional development. <i>Acad Pediatr</i>. 2014;14(2)

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- Journal of Graduate Medical Education. Hot Topics: Remediation.

<https://jgme.org/page/hottopics/remediation>. 2021.

- Journal of Graduate Medical Education. Hot Topics: Resident Well-Being.

https://jgme.org/page/hottopics/resident_well_being. 2021.

- Local resources, including Employee Assistance

- Thomas LR, Ripp JA, West CP. Charter on physician well-being. *JAMA*. 2018;319(15):1541-1542. <https://jamanetwork.com/journals/jama/article-abstract/2677478>. 2021.

Interpersonal and Communication Skills 1: Patient- and Family-Centered Communication	
Overall Intent: To use language and behaviors deliberately to form constructive relationships with patients, to identify communication barriers including self-reflection on personal biases, and minimize them in the doctor-patient relationships; organize and lead communication around shared decision making	
Milestones	Examples
<p>Level 1 <i>Uses language and nonverbal behavior to demonstrate respect and establish rapport</i></p> <p><i>Identifies common barriers to effective communication (e.g., language, disability) while accurately communicating own role within the health care system</i></p> <p><i>Identifies the need to adjust communication strategies based on assessment of patient/family expectations and understanding of their health status and treatment options</i></p>	<ul style="list-style-type: none"> • Introduces self and faculty member, identifies patient and others in the room, and engages all parties in health care discussion • Identifies need for trained interpreter with non-English-speaking patients • Uses age-appropriate language when discussing procedures/surgery with pediatric patients
<p>Level 2 <i>Establishes a therapeutic relationship in straightforward encounters using active listening and clear language</i></p> <p><i>Identifies complex barriers to effective communication (e.g., health literacy, cultural)</i></p> <p><i>Organizes and initiates communication with patient/family by introducing stakeholders, setting the agenda, clarifying expectations, and verifying understanding of the clinical situation</i></p>	<ul style="list-style-type: none"> • Avoids medical jargon and restates patient perspective when discussing tobacco cessation • Recognizes the need for handouts with diagrams and pictures to communicate information to a patient who is unable to read • Assesses patient’s understanding of their diagnosis and treatment plan
<p>Level 3 <i>Establishes a therapeutic relationship in challenging patient encounters</i></p> <p><i>When prompted, reflects on personal biases while attempting to minimize communication barriers</i></p>	<ul style="list-style-type: none"> • Acknowledges patient’s request for an MRI for new dizziness or hearing loss without red flags and arranges timely follow-up visit to align diagnostic plan with goals of care • In a discussion with the faculty member, acknowledges discomfort in caring for a patient with head and neck cancer who continues to smoke

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>With guidance, sensitively and compassionately delivers medical information, elicits patient/family values, goals, and preferences, and acknowledges uncertainty and conflict</i></p>	<ul style="list-style-type: none"> • Organizes a family meeting to determine a plan for withdrawal of treatment in a terminally ill patient
<p>Level 4 <i>Easily establishes therapeutic relationships, with attention to patient/family concerns and context, regardless of complexity</i></p> <p><i>Independently recognizes personal biases while attempting to proactively minimize communication barriers</i></p> <p><i>Independently, uses shared decision making to align patient/family values, goals, and preferences with treatment options to make a personalized care plan</i></p>	<ul style="list-style-type: none"> • Continues to engage representative family members with disparate goals in the care of a patient with recurrent head and neck cancer • Reflects on personal bias related to cancer treatment of resident's family member • Uses patient and family input to engage pastoral care and develop a plan for home hospice in the terminally ill patient, aligned with the patient's values
<p>Level 5 <i>Mentors others in situational awareness and critical self-reflection to consistently develop positive therapeutic relationships</i></p> <p><i>Role models self-awareness while identifying a contextual approach to minimize communication barriers</i></p> <p><i>Role models shared decision making in patient/family communication including those with a high degree of uncertainty/conflict</i></p>	<ul style="list-style-type: none"> • Leads a discussion group on personal experience of moral distress • Develops a residency curriculum on social justice which addresses unconscious bias • Serves on a hospital bioethics committee
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Kalamazoo Essential Elements Communication Checklist (Adapted) • OSCE • Self-assessment including self-reflection exercises • Skills needed to Set the state, Elicit information, Give information, Understand the patient, and End the encounter (SEGUE) • Standardized patients
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • Laidlaw A, Hart J. Communication skills: an essential component of medical curricula. Part I: Assessment of clinical communication: AMEE Guide No. 51. <i>Med Teach.</i> 2011;33(1):6-8.

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Interpersonal and Communication Skills 2: Interprofessional and Team Communication Overall Intent: To communicate effectively with the health care team, including consultants, in both straightforward and complex situations	
Milestones	Examples
<p>Level 1 <i>Respectfully requests/receives a consultation</i></p> <p><i>Uses language that values all members of the health care team</i></p>	<ul style="list-style-type: none"> • When asking for a cardiology consultation for a patient with elevated troponin post-operation, respectfully relays the diagnosis and need for assistance in management • Receives consult request for a patient with Down syndrome and snoring, asks clarifying questions politely, and expresses gratitude for the consult • Acknowledges the contribution of each member of the ICU team to the patient
<p>Level 2 <i>Clearly and concisely requests/responds to a consultation</i></p> <p><i>Communicates information effectively with all health care team members</i></p> <p><i>Respectfully receives feedback on performance as a member of the health care team</i></p>	<ul style="list-style-type: none"> • Communicates diagnostic evaluation recommendations clearly and concisely in an organized and timely manner • Performs debrief in the post-anesthesia care unit • Sends a message in EHR to the dietician of a patient on tube feeds in the ICU • Makes correction in surgical technique based on feedback from the attending
<p>Level 3 <i>Receives follow-up and feedback on the outcome of the consultation</i></p> <p><i>Uses active listening to adapt communication style to fit team needs</i></p> <p><i>Solicits feedback on performance as a member of the health care team</i></p>	<ul style="list-style-type: none"> • Asks if the consult addressed the needs of the primary team • When receiving treatment recommendations from an attending physician, repeats back the plan to ensure understanding • Asks for feedback from operating room nurses or anesthesiologists on communication in the operating room
<p>Level 4 <i>Coordinates recommendations from different members of the health care team to optimize patient care</i></p> <p><i>Communicates feedback and constructive criticism to superiors</i></p> <p><i>Communicates concerns and provides feedback to peers and learners</i></p>	<ul style="list-style-type: none"> • Initiates a multidisciplinary meeting to developed shared care plan for a patient with new head and neck cancer • States that family members were hoping to meet with attending surgeon after the surgery ended • Asks other members of the health care team to repeat back recommendations to ensure understanding
<p>Level 5 <i>Role models flexible communication strategies that value input from all health care team members, resolving conflict when needed</i></p>	<ul style="list-style-type: none"> • Mediates a conflict resolution between different members of the health care team

Otolaryngology — Head and Neck Surgery Supplemental Guide

<p><i>Facilitates health care team-based feedback in complex situations</i></p> <p><i>Facilitates teaching of team-based communication and feedback</i></p>	<ul style="list-style-type: none"> • Runs debrief after performance of emergency tracheotomy in a code
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Global assessment • Medical record (chart) audit • Multisource feedback • Simulation
<p>Curriculum Mapping</p>	<ul style="list-style-type: none"> •
<p>Notes or Resources</p>	<ul style="list-style-type: none"> • Braddock CH, Edwards KA, Hasenberg NM, Laidley TL, Levinson W. Informed decision making in outpatient practice: time to get back to basics. <i>JAMA</i> 1999;282(24):2313-2320. https://jamanetwork.com/journals/jama/fullarticle/192233. 2021. • Dehon E, Simpson K, Fowler D, Jones A. Development of the faculty 360. <i>MedEdPORTAL</i>. 2015;11:10174. https://www.mededportal.org/doi/10.15766/mep_2374-8265.10174. 2021. • Fay D, Mazzone M, Douglas L, Ambuel B. A validated, behavior-based evaluation instrument for family medicine residents. <i>MedEdPORTAL</i>. 2007. https://www.mededportal.org/doi/10.15766/mep_2374-8265.622. 2021. • François, J. Tool to assess the quality of consultation and referral request letters in family medicine. <i>Can Fam Physician</i>. 2011;57(5):574–575. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3093595/pdf/0570574.pdf. 2021. • Green M, Parrott T, Cook G. Improving your communication skills. <i>BMJ</i>. 2012;344:e357. https://www.bmj.com/content/344/bmj.e357. 2021. • Henry SG, Holmboe ES, Frankel RM. Evidence-based competencies for improving communication skills in graduate medical education: a review with suggestions for implementation. <i>Med Teach</i>. 2013;35(5):395-403. https://www.tandfonline.com/doi/full/10.3109/0142159X.2013.769677. 2021. • Lane JL, Gottlieb RP. Structured clinical observations: a method to teach clinical skills with limited time and financial resources. <i>Pediatrics</i>.2000;105:973-7. https://pediatrics.aappublications.org/content/pediatrics/105/Supplement_3/973.full.pdf. 2021. • Roth CG, Eldin KW, Padmanabhan V, Freidman EM. Twelve tips for the introduction of emotional intelligence in medical education. <i>Med Teach</i>. 2018:1-4. https://www.tandfonline.com/doi/full/10.1080/0142159X.2018.1481499. 2021.

Interpersonal and Communication Skills 3: Communication within Health Care Systems

Overall Intent: To communicate effectively using a variety of methods

Milestones	Examples
<p>Level 1 <i>Accurately records information in the patient record</i></p> <p><i>Safeguards patient personal health information</i></p>	<ul style="list-style-type: none"> • Documentation is accurate but may include extraneous information • Shreds patient list after rounds; avoids talking about patients in the elevator
<p>Level 2 <i>Demonstrates organized diagnostic and therapeutic reasoning through notes in the patient record</i></p> <p><i>Documents required data in formats specified by institutional policy</i></p>	<ul style="list-style-type: none"> • Creates organized and accurate documentation outlining clinical reasoning supporting the treatment plan • Uses approved institutional templates to capture all required data elements
<p>Level 3 <i>Concisely reports diagnostic and therapeutic reasoning in the patient record</i></p> <p><i>Appropriately selects direct (e.g., telephone, in-person) and indirect (e.g., progress notes, text messages) forms of communication based on context</i></p>	<ul style="list-style-type: none"> • Concisely documents complex clinical thinking but may not contain anticipatory guidance at discharge • Communicates with patient’s care team immediately about potentially critical test result
<p>Level 4 <i>Communicates clearly, concisely, timely, and in an organized written form, including anticipatory guidance</i></p> <p><i>Achieves written or verbal communication (e.g., patient notes, email) that serves as an example for others to follow</i></p>	<ul style="list-style-type: none"> • Creates consistently accurate, organized, and concise documentation and frequently incorporates anticipatory guidance at discharge • Creates exemplary notes that are used by the chief resident to teach others • Speaks directly to referring physicians and ensures recommendations are clear and understood
<p>Level 5 <i>Models feedback to improve others’ written communication</i></p> <p><i>Guides departmental or institutional communication around policies and procedures</i></p>	<ul style="list-style-type: none"> • Coaches other residents on written communication • Leads a task force established by the hospital QI committee to develop a plan to improve house staff hand-offs
<p>Assessment Models or Tools</p>	<ul style="list-style-type: none"> • Direct observation • Medical record (chart) audit • Multisource feedback

Otolaryngology — Head and Neck Surgery Supplemental Guide

Curriculum Mapping	•
Notes or Resources	<ul style="list-style-type: none"> • Bierman JA, Hufmeyer KK, Liss DT, Weaver AC, Heiman HL. Promoting responsible electronic documentation: validity evidence for a checklist to assess progress notes in the electronic health record. <i>Teach Learn Med.</i> 2017;29(4):420-432. https://www.tandfonline.com/doi/full/10.1080/10401334.2017.1303385. 2021. • Haig KM, Sutton S, Whittington J. SBAR: a shared mental model for improving communication between clinicians. <i>Jt Comm J Qual Patient Saf.</i> 2006;32(3)167-175. https://www.ncbi.nlm.nih.gov/pubmed/16617948. 2021. • Starmer AJ, Spector ND, Srivastava R, et al. I-PASS, a mnemonic to standardize verbal handoffs. <i>Pediatrics.</i> 2012;129(2):201-204. https://ipassinstitute.com/wp-content/uploads/2016/06/I-PASS-mnemonic.pdf. 2021.

To help programs transition to the new version of the Milestones, the ACGME has mapped the original Milestones 1.0 to the new Milestones 2.0. Indicated below are where the subcompetencies are similar between versions. These are not exact matches, but are areas that include similar elements. Not all subcompetencies map between versions. Inclusion or exclusion of any subcompetency does not change the educational value or impact on curriculum or assessment.

Milestones 1.0	Milestones 2.0
PC1: Salivary Disease	PC3: Head and Neck Neoplasm
PC2: Aerodigestive Tract Lesions	PC6: Laryngologic Disease
PC3: Sleep Disordered Breathing	PC9: Sleep
PC4: Facial Trauma	PC2: Facial Trauma
PC5: Rhinosinusitis	PC5: Rhinologic Disease
PC6: Nasal Deformity	PC8: Facial Plastics and Reconstructive Surgery
PC7: Chronic Ear	PC4: Otologic Disease
PC8: Pediatric Otitis Media	PC7: Pediatric Otolaryngology
	PC1: Airway Emergency and Management
MK1: Upper Aerodigestive Tract Malignancy	PC3: Head and Neck Neoplasm
MK2: Hearing Loss	PC4: Otologic Disease
MK3: Dysphagia-Dysphonia	PC6: Laryngologic Disease
MK4: Inhalant Allergy	MK2: Allergy
	MK1: Anatomy
	MK3: Pathophysiology
SBP1: Patient Safety	SBP1: Patient Safety and Quality Improvement
SBP2: Resource Utilization	SBP3: Physician Role in Health Care Systems
	SBP2: System Navigation for Patient-Centered Care
PBLI: The ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning	PBLI1: Evidence-Based and Informed Practice PBLI2: Reflective Practice and Commitment to Personal Growth
PROF: Professionalism	PROF1: Professional Behavior and Ethical Principles PROF2: Accountability/Conscientiousness
	PROF3: Knowledge of Systemic and Individual Factors of Well-Being
ICS: Interpersonal Communication Skills	ICS1: Patient- and Family-Centered Communication ICS2: Interprofessional and Team Communication
	ICS3: Communication within Health Care Systems

Available Milestones Resources

Milestones 2.0: Assessment, Implementation, and Clinical Competency Committees Supplement, 2021 - <https://meridian.allenpress.com/jgme/issue/13/2s>

Milestones Guidebooks: <https://www.acgme.org/milestones/resources/>

- *Assessment Guidebook*
- *Clinical Competency Committee Guidebook*
- *Clinical Competency Committee Guidebook Executive Summaries*
- *Implementation Guidebook*
- *Milestones Guidebook*

Milestones Guidebook for Residents and Fellows: <https://www.acgme.org/residents-and-fellows/the-acgme-for-residents-and-fellows/>

- *Milestones Guidebook for Residents and Fellows*
- *Milestones Guidebook for Residents and Fellows Presentation*
- *Milestones 2.0 Guide Sheet for Residents and Fellows*

Milestones Research and Reports: <https://www.acgme.org/milestones/research/>

- *Milestones National Report*, updated each fall
- *Milestones Predictive Probability Report*, updated each fall
- *Milestones Bibliography*, updated twice each year

Developing Faculty Competencies in Assessment courses - <https://www.acgme.org/meetings-and-educational-activities/courses-and-workshops/developing-faculty-competencies-in-assessment/>

Assessment Tool: Direct Observation of Clinical Care (DOCC) - <https://dl.acgme.org/pages/assessment>

Assessment Tool: Teamwork Effectiveness Assessment Module (TEAM) - <https://team.acgme.org/>

Improving Assessment Using Direct Observation Toolkit - <https://dl.acgme.org/pages/acgme-faculty-development-toolkit-improving-assessment-using-direct-observation>

Remediation Toolkit - <https://dl.acgme.org/courses/acgme-remediation-toolkit>

Learn at ACGME has several courses on Assessment and Milestones - <https://dl.acgme.org/>