This Neurotology Fellowship Educational Program/Curriculum is intended for use together with the Graduate Medical Education Institution Policy Manual, available online at http://www.gme.umn.edu/InstitutionPolicyManual2013/index.htm. The Institution Policy Manual contains information about benefits, policies and procedures that apply to all residents and fellows in a training program at the University of Minnesota. Should information in the Program Manual conflict with the Institution Manual, the Institution Manual takes precedence.

It is also intended for use with the Department of Otolaryngology Program Policy and Procedure Manual, available online at: http://www.ent.umn.edu/education/fellowships. The Department Policy Manual contains information about policies and procedures that apply to all residents and fellows in a training program in the Department of Otolaryngology at the University of Minnesota.
The goals of the Neurotology Fellowship are to enable the fellow to develop expertise in the diagnosis and medical/surgical management of conditions relating to the discipline of Otology-Neurotology, and to develop the skill set to contribute as a teacher and researcher in the field of Otology-Neurotology.
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Neurotology Fellowship Mission Statement i

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A. EDUCATIONAL PROGRAM/CURRICULUM

ACCREDITATION

The Neurotology Fellowship Program at University of Minnesota is accredited by the Accreditation Council for Graduate Medical Education (ACGME). Accreditation status is included in Appendix 1, page 15. Current requirements for accreditation are included in Appendix 2, page 17. For the most up-to-date information visit ACGME's web site, www.acgme.org.

ACGME Case Log

Neurotology fellows must maintain a record of their surgical procedures on the Resident Case Log System provided by the Accreditation Council for Graduate Medical Education (ACMG) at www.acgme.org. If you don’t receive initial login and password directly from ACGME, contact Faith Courchane, 612-625-7692 or courc002@umn.edu.

Include procedures performed in clinic as well as in the operating room.

ACGME’s Otolaryngology Residency Review Committee highly recommends that residents/fellows log their cases on a weekly, or more frequent, basis, so that procedures don’t become lost or forgotten. Residents/fellows are able to view their case logs at any time, and can correct entries as needed. The Program Director is able to, at any time, review the operative data submitted by the fellows. A number of statistics regarding operative data are available on the ACGME web site (password protected) for access by residents/fellows and program directors, including cumulative national medians, means and standard deviations for each procedure category, subdivided by year of otolaryngology training. Program Directors are able to scan the case logs of each of their residents/fellows, tagged for procedure experiences 1 standard deviation or more below the national norms per fellow year of training, so they can tailor rotations accordingly.

Residents/fellows will be able to print out their cumulative operative experiences.

ACGME will provide the American Board of Otolaryngology with the operative experience report it requires when the resident/fellow applies for examination.

Resident/fellow logging of procedures relies solely on the AMA’s CPT coding system. The opportunity to use the CPT codes prepares the residents/fellows for coding procedures after the completion of training.

The one, and significant, deviation from CPT coding rules allows for “unbundling” so that all procedures or significant segments of such done by each resident/fellow can be captured. Ample samples of “unbundling” acceptable for resident/fellow reporting purposes have been placed as a link on the Resident Case Log web site.

Categories of resident/fellow involvement in a surgical procedure include “resident surgeon,” “assistant surgeon” and “resident supervisor.” Definitions of these categories are available on the resident case log web site.
AMERICAN BOARD OF OTOLARYNGOLOGY

Board certification, Otolaryngology: Fellows are expected to take the Otolaryngology certification exam during their fellowship. Fellows will be given time for preparation for and participation in this examination. Visit the American Board of Otolaryngology web site at www.aboto.org for the most up-to-date information on requirements and deadlines.

Board certification, Neurotology: This program is designed to prepare its graduates to sit for the neurotology certifying examinations offered by the American Board of Otolaryngology (ABOto). Requirements fellows must fulfill for certification are included in the American Board of Otolaryngology Booklet of Information. Fellows should visit the ABOto web site at www.aboto.org for the most up-to-date requirements for certification.

EDUCATIONAL GOALS AND OBJECTIVES

Introduction: The neurotology fellowship consists of a comprehensive course of study and surgical apprenticeship with inpatient and outpatient experience. The training program is based at the University of Minnesota Medical Center. At this center, virtually all cases are seen and evaluated. In some special cases, it may be necessary to operate at other facilities due to the cooperative nature of the neurotology fellowship. Because of the nature of the work, the program does not have specific rotations at each institution, but works at all in an integrated manner with program faculty. All institutions are less than 20 minutes apart. This allows for flexibility in scheduling. Clinical teaching faculty members are shared between the facilities and travel with the fellow. Insurance issues, community support and other issues seem to determine where a patient will receive care.

Fellowship Goals: The major goals of the neurotology fellowship are:

1. Develop expertise in the diagnosis and medical/surgical management of conditions relating to the discipline of Otology-Neurotology.
2. Develop the skill set to contribute as a teacher and researcher in the field of Otology and Neurotology.

ACGME Core Competencies:

See Appendix 3, “Otolaryngology-Head and Neck Surgery Resident – Short Evaluation Form” from the “Notable Practices” section of ACGME’s website, for an illustration of how the fellow will be evaluated on these competencies.

Patient Care: Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical Knowledge: Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care.

Practice-based Learning and Improvement: Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Fellows are expected to develop skills and habits to be able to meet the following goals:

Interpersonal and Communication Skills: Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.
Professionalism: Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Systems-based Practice: Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care.

NEUROTOLOGY FELLOWSHIP CLINICAL/SURGICAL GOALS: GRADED RESPONSIBILITY

Fellows are assigned incrementally increasing responsibility and independence during their training appropriate for their demonstrated level of competency and professional development as illustrated on pages 4-5.
Neurotology Clinical/Surgical Goals/Objectives

**GRADED RESPONSIBILITY**

Fellows are assigned incrementally increasing responsibility and independence during their training appropriate for their demonstrated level of competency and professional development (as assessed by the supervising physician), according to a three-tiered format as shown below. Performance expectations, by quarter, for each learning objective, as detailed below, are indicated by B, D, and P.

<table>
<thead>
<tr>
<th>Function/ activity</th>
<th>Level of responsibility/ independence by proficiency level*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical data collection</td>
<td>Beginning (B) independent, with staff supplementation</td>
</tr>
<tr>
<td></td>
<td>Developing (D) independent, with staff confirmation</td>
</tr>
<tr>
<td></td>
<td>Proficient (P) independent, with selective staff confirmation</td>
</tr>
<tr>
<td>Formulation of clinical assessments/plans</td>
<td>Beginning (B) jointly with staff</td>
</tr>
<tr>
<td></td>
<td>Developing (D) independent, with staff confirmation</td>
</tr>
<tr>
<td></td>
<td>Proficient (P) independent, with selective staff confirmation</td>
</tr>
<tr>
<td>Procedural/surgical skills</td>
<td>Requires staff assistance for completion of many tasks. Fails to recognize problems until late.</td>
</tr>
<tr>
<td></td>
<td>Developing (D) Occasionally requires staff intervention. Recognizes problems early but may not avoid them or solve them</td>
</tr>
<tr>
<td></td>
<td>Proficient (P) Operates without staff involvement. Recognizes problems and avoids or solves them</td>
</tr>
<tr>
<td>Communication of recommendations to 1° teams/referring MDs</td>
<td>After discussion with staff preliminary, independent; final, after discussion with staff</td>
</tr>
<tr>
<td></td>
<td>Proficient (P) independent, with selective staff confirmation</td>
</tr>
</tbody>
</table>

*As assessed by supervising faculty based on observation of fellow’s performance. Clinical proficiency levels correspond approximately with the first, second, and third 4-month blocks of clinical experience, but individual fellows move through the levels at different rates depending on their rate of developing the relevant competencies.

<table>
<thead>
<tr>
<th>Skill/Competency/Objective</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>A. Diagnostic &amp; Assessment Procedures: Understand the indications, limitations, and normal pathological findings of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vestibular function testing including video vestibular oculography, vestibular ocular reflex, rotational chair, platform posturography, head shake test, visual acuity</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Facial nerve testing (e.g., electroneurography, electromyography)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Physical exam (e.g., cranial nerve, cerebellar, sensory, motor, posture, gait, VOR, oculomotor, electrophysiologic testing)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Imaging studies (e.g., computed tomography, magnetic resonance imaging with and without contrast, magnetic resonance angiography, nuclear medicine, angiography, interventional radiology, carotid artery balloon occlusion testing with SPECT scanning, PET scanning of the temporal bone, skull base and intracranial anatomy)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>B. Diseases, Disorders and Conditions: Understand the etiology, diagnostic criteria, historical features, differential diagnosis, prognosis, medical/surgical management, common and unusual complications, and impact on all spheres of functioning:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congenital (e.g., inner ear disorders, skull base tumors such as teratoma, congenital cholesteatoma (epidermoid) of petrous bone and skull base)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Genetic (e.g., neurofibromatosis type 2, familiar paraganglioma, familiar meningioma)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Infectious (e.g., Bell’s Palsy, petrosis, osteomyelitis or osteitis of skull base, neurosyphilis)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Idiopathic (e.g., spontaneous CSF leak into temporal bone)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Inflammatory (e.g., cholesterol granuloma of petrous apex)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skill/Competency/Objective</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q1</td>
<td>Q2</td>
</tr>
<tr>
<td>Neurologic disorders (e.g., multiple sclerosis, cerebral vascular accident syndromes, seizure disorders, migraines)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Neoplastic (e.g., squamous cell carcinoma of skull base, adenoid cystic carcinoma involving the temporal bone, acoustic neuroma, meningioma, glomus tumor of skull base,</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>Cranial nerve schwannoma (including V, VII, IX, X, XI, XII), clivus chordoma, aneuysmal bone cyst, hemangioma, chondroma, sarcoma, chondrosarcoma, rhabdomyosarcoma.</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Trauma</strong> (e.g., temporal bone trauma involving facial paralysis, CSF fistula, and/or encephalocele, arteriovenous malformation)</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Iatrogenic</strong> (e.g., facial nerve paralysis, labyrinthine fistual).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Metabolic</strong> (e.g. DI (Diabetes Incipitus), SIADH (Syndrome of Inappropriate Diuretic Hormone).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>C. Surgical Concepts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Anesthesia</strong> (e.g., neuroanesthesia, phenobarbital coma, hypocarbia, diuresis).</td>
<td>B</td>
<td>D</td>
</tr>
<tr>
<td><strong>Intraoperative monitoring</strong> (e.g., cranial nerves VII, VIII (BSER, EAP), IX, X, XI, XII).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Perform cerebrospinal fluid management</strong> (e.g., intraoperative and postoperative lumbar drains).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Construct flaps</strong> (e.g., regional muscle flaps, myocutaneous, free tissue transfer).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Perform management of complications</strong> (e.g., cerebrospinal fluid leak, dural repair, subdural hematoma, epidural hematoma, intracranial hemorrhage, hydrocephalus, stroke, intraoperative or postoperative seizure, hearing loss, dysequilibrium, oscillopsia, headache, cranial nerve paralysis, meningitis, diplopia, vertigo, steroid psychosis).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Basic techniques</strong> (e.g., harvest of nerve graft from neck or sural nerve, intracranial and intratemporal neural anastomoses, decompression of cranial nerve, ultrasonic aspiration, focused radiation therapy.</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Postoperative care</strong> (e.g., neuro-intensive care, neuronursing care, DI (Diabetes Incipitus).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>SIADH</strong> (Syndrome of Inappropriate Diuretic Hormone).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Multidisciplinary planning</strong> (e.g., neuroradiology, interventional radiology, neuroanesthesiology, neurology, neurosurgery).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Stereotactic radiosurgery for skull base neoplasms.</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>D. Indications, contraindications, risks/benefits, and complications of:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Middle cranial fossa approach</strong> (e.g., facial nerve decompression, vestibular nerve section, acoustic tumor excision, repair of spontaneous, traumatic, or iatrogenic CSF leak and/or encephalocele, drainage of petrous apex abscess, vestibular neurectomy, repair of superior semicircular canal dehiscence).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Excision of petrous apex tumor</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Transcochlear approach</strong> (e.g., acoustic tumor excision, other cranial nerve tumors, drainage of petrous apex abscess, drainage of cholesterol granuloma, meningioma).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Retrosigmoid/suboccipital approach</strong> (e.g., acoustic tumor and other CPA lesions, vestibular nerve section, vascular decompress V, VII, VIII, meningioma).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Infratemporal fossa approach</strong> (e.g., glomus jugulare, neuroma IX, X, XI, XII, meningioma).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Lateral skull base approach</strong> (e.g., clivus chordoma, petroclival meningioma, parasellar tumors, neuroma cranial nerve V, cavernous sinus lesions, chondrosarcoma).</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Cochlear implant/brainstem auditory implant.</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Total and lateral temporal bone resection.</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Labyrinthectomy.</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Endolympathic sac surgery.</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Subtotal petrosectomy</strong></td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td><strong>Posterior lateral cranietomy</strong></td>
<td>B</td>
<td>B</td>
</tr>
</tbody>
</table>
OBJECTIVES:

The learning objectives for the fellowship are outlined below. Each objective is referenced to the ACGME core competency or competencies it addresses. Patient Care=PC, Medical Knowledge=MK, Professionalism=Prof, Communication Skills=CS, Practice Based learning and Improvement=PBLI, and Systems-based practice=SBP.

Year One: The objectives for the first year of the fellowship are outlined below.

Initial Six Months: To ensure development of a sound foundation of clinical skills and knowledge the fellow will work closely with Dr. Levine. Upon completion of the first six months of training the fellow is expected to:

- Conduct a thorough neurotologic history (PC, CS).
- Perform a basic neurotologic physical examination (PC).
- Display a systems approach to their practice of neurotology (MK, PC).
- Develop an understanding of the need to control medical systems (MK, PC).
- Demonstrate a basic knowledge of neurotologic pathophysiology (MK).
- Demonstrate skill in temporal bone surgery (PC)
- Effectively teach residents basic skills in ear surgery (PBLI, CS)

A. Neurotologic history and physical exam:

Year 1: Basic neurotologic history and physical exam principles that were taught in residency will be refined and improved. The fellow is expected to refine skills and to work in the clinic and OR with the faculty and to reinforce skills through direct observation, hands-on experience and teaching students

- Increase skill in use of otoscope and clinic microscope (PC)
- Learn proper use of tuning forks (PC)
- Demonstrate proficiency in the cranial nerve exam (MK, PC)
- Demonstrate proficiency in cerebellar testing (PC, MK)
- Demonstrate appropriate history-taking skills for patients with chronic ear disease, hearing loss, various causes of vertigo, acoustic neuromas and skull base tumors (PC, MK, CS).
- Effectively differentiate between various causes of vertigo (PC, MK)
- Develop differential diagnosis for the vertiginous patient (PC, MK)
- Understand the spectrum of physical findings for chronic ear disease (MK)

B. Understanding vestibular systems: Basic understanding of the anatomy and physiology of the vestibular system that was learned in residency is enhanced through lecture, hands on experience and reading

Year 1 Objectives:

- Understand anatomy and physiology of the vestibular apparatus – function of utricle, saccule, and semicircular canals (MK).
- Understand pathologic conditions of the vestibular system and their clinical presentations: Ménière’s disease, benign positional vertigo, labyrinthitis, stroke, multiple sclerosis and aging (MK, PC).
• Understand the central vestibular pathways and their connections in the brainstem, cerebellum, cerebral cortex and spinal tracts (MK)
• Understand physiologic basis for postural control, visual tracking via the vestibulo-ocular reflex (MK)
• Understand the components and relevance of electronystagmogram (videonystagmogram): caloric testing, test of vestibulo-ocular reflex, positional testing (MK, PC).

Year 2 Objectives: During the second year of training the fellow will participate in once a week sessions at the balance center to gain understanding of vestibular rehabilitation. This will be didactic and hands-on learning of the appropriate evaluation of the dizzy patient from the perspective of the physical therapist.

- Understand major vestibular rehabilitation strategies
- Learn major techniques of vestibular rehabilitation.
- Understand the utility and execution of various rehabilitation exercises.
- Understand falls prevention and associated patient safety issues
- Demonstrate an understanding of the basics of vestibular testing including ENG tests, rotational chair testing and posturography.
- Demonstrate the ability to interpret ENG, rotational chair and posturography raw data
- Interpret data from advanced vestibular including: bilateral vestibular weakness, measurements and mechanisms of central compensation, natural history of the manifestations of vestibular weakness

C. Indications and contraindications for otological and neurotological surgical procedures:

Objectives:

• Describe surgical options for tympanic membrane perforation without cholesteatoma (PC, MK).
• Understand the risks, benefits and alternatives of differing surgical techniques including wall up and wall down (PC, MK, SBP).
• Understand surgical options for cholesteatoma (PC, MK)
• Understand indications for ossicular chain reconstruction, mastoidectomy, staging vs. single-stage repair (PC, MK).
• Discuss recurrence rates, graft failure rates, prosthesis extrusion rates and complication rates (PC, MK).
  o Understanding of the cholesteatoma literature will be expected (PBLI)
• Understand indications and contraindications for stapes surgery
  o Demonstrate an understanding of risks and benefits of surgery will be including complication rates, benefits of surgical techniques and prosthesis choice (PC, SBP).
  o Understand the indications for hearing aids vs. surgery will be (PC, SBP).
  o Understand the risks and benefits of revision stapes surgery (PC, SBP)
  o Understand the use of lasers in stapes surgery, particularly, laser choice and safety (PC, SBP).
• Demonstrate appropriate decision making for patients who have Ménière’s disease (PC, MK, PBLI).
This will include indications and contraindications for endolymphatic sac decompression, vestibular nerve section, transtympanic dexamethasone and gentamicin perfusion, labyrinthectomy and Meniett® device.

Risks of hearing loss, vertigo control rates and other complications will be understood.

In-depth knowledge of the Ménière’s literature is expected

- Understand natural history, medical and surgical management of acoustic neuroma patients (PC, MK).
  - This will include understanding of suboccipital, translabyrinthine and middle fossa approaches.
  - Facial nerve function and hearing preservation rates for each of the above-mentioned surgical procedures will be understood.
  - Indications for each approach will be mastered. Indications for observation of tumors will be understood.
  - Indications for stereotactic radiation therapy will be discussed. Participate fully in Gamma Knife use with the staff
    - Stereotactic radiation literature will be reviewed
    - Cranial nerve outcomes following stereotactic radiation will be understood
    - Tumor control rates will be understood
    - Dosimetry and treatment planning introduced through reading and hands-on experience with the staff
  - Indications and contraindications taught

D. Indications and contraindications for skull base tumors: The fellows will attend the Craniofacial Skull Base Clinic with neurosurgery and neurotology services (CFSB) to develop understand in the surgical approaches to treatment of glomus tumors, meningiomas, temporal bone malignancies and other tumors.

Year 1 Objectives:

- Demonstrate a basic understanding of surgical approaches including infratemporal fossa approach, transpetrosal approaches.

Year 2 Objectives:

- Demonstrate proficiency in skull base reconstruction options and techniques including:
  - prevention of CSF leak with vascularized grafts,
  - speech and swallowing rehabilitation with various vocal cord mobilization techniques, and
  - velopharyngeal insufficiency correction
- Perform thorough patient examination and appropriate evaluation of patients presenting in clinic (PC, MK, CS, Prof)
- Demonstrate the ability to conduct appropriate pre-operative planning (PC, SBP)
- Work effectively as a member of the clinic team and the surgical team (PC, SBP, Prof).

E. Perioperative care of the neurotologic patient:

- Outline the expected perioperative course for all neurotologic cases
- Recognize indicators of postoperative complications such as mental status change, headache, poor eye closure
Manage postoperative complications including:
  - CSF leak, meningitis, wound infection, facial weakness with special attention to eye care, hematoma, pseudomeningocele,

F. Neurotologic diseases and pertinent anatomy: Further understanding is developed through reading medical journals, textbooks and work in the temporal bone lab. Otology/neurotology journal club will be held on a regular basis (see conference schedule). Current and classic articles will be discussed. Fellows are expected to participate in article selection and lead discussions with the residents.

Year 1 Objectives: Fellows are expected to use the temporal bone lab on an ongoing basis and will be given lab assignments which will be signed off on by faculty. When a task is mastered, the fellows will be assigned more advanced techniques.

- Demonstrate mastery of a simple mastoidectomy (PC)
- Perform a facial recess approach (PC)
- Perform a canal wall down dissection (PC).
- Perform a labyrinthectomy and translabyrinthine approach to the IAC (PC).
- Perform infratemporal fossa dissection, middle fossa and suboccipital approaches will be progressively learned (PC).

Year 2 Objectives: Fellows will participate in a supervised advanced temporal bone dissection. This dissection will emphasize infratemporal fossa approaches for glomus tumors and lateral skull base tumors.

- Demonstrate the ability to appropriately expose the internal carotid artery (PC).
- Perform management techniques of the internal carotid artery (PC).
- Demonstrate proficiency in the Translabyrinthine, middle fossa and suboccipital approaches to the internal auditory canal and posterior fossa (PC, MK)
- Effectively teach anatomy as instructors in the class offered to residents, neurosurgeons and audiologists during the year (PBLI, MK, Prof).

Research Rotation

The research time is protected depending on the project requirements. One day of every week will be allocated to research. Flexibility in devoting time to research is important on both the scientific side and clinical side. At the start of the fellowship, fellows will be discussing projects with staff and this might not require a full day. Later, it might be necessary to allow for several half day lab experiences if the projects require that. If the Otology/Neurotology fellow becomes interested and involved in a more extensive research project, more time can be protected and allocated under the authorization of the Program Director and Departmental Chairman. This might include the training grant or other grants that might be available. Fellows may also be interested in the PhD offered by the department of otolaryngology. The graduate school’s requirements could add a considerable amount of time to the fellowship. The various otology research laboratories are always available and the fellow may call on the expertise of the laboratory personnel and facilities to complete basic science projects and for mentoring. There are constant ongoing clinical (prospective and retrospective) research projects especially in the cochlear implant, basic auditory and vestibular physiology areas. All projects will be supervised by a member of the faculty.
The fellow will formulate research proposals for approval by the Research Committee as required by the department and medical school. Institutional Review Board or the University and Laboratory Animal Medicine committee rules must be followed and appropriate approvals sought and obtained prior to initiation of research. The goals and objectives of the research rotation are as follows:

- Gain the scientific knowledge base and laboratory skills needed to prepare for and complete the research project (MK, PBLI).
- Perform a clinical or basic science research project of scientific significance, which contributes meaningfully to the advancement of the fund of knowledge in otology-neurotology (PBLI).
- Prepare a manuscript with research collaborators and pursue publication in a suitable peer-reviewed subspecialty journal MK, PBLI, CS).
- Present at least one major meeting per year (MK, PBLI, CS)
- Understand basic principles of epidemiology, statistics and data evaluations and organization (MK, PBLI).
- Prepare a grant proposal to an extramural funding source (PBLI, CS, MK).

**Interactions with Other Related Disciplines**

The fellow will participate in an educational program during the two years to include elective time in those disciplines that overlap meaningfully with neurotology. This elective time will absolutely include several days spent participating at the vestibular rehabilitation unit, several days with audiology observing and participating in testing procedures, attending neurology conferences that overlap with otology-neurotology and several days in neuropathology and surgical pathology. The fellow is also expected to spend some time in the Cochlear Implant Center observing cochlear implant and auditory brainstem implant patient intake evaluations, programming visits, and counseling. This is not meant to exclude the freedom to potentially pursue other elective rotations with special relevance to clinical or research interests that will be pursued during the fellow’s future academic career.

**Neurosurgery:** Fellows are to attend CFSB clinic for formal interaction with the skull base teams.

- Develop expertise in the neurologic evaluation (PC, MK).
- Understand clinical presentations, radiographic features, and surgical implications of diseases affecting the cerebellum and brainstem (PC, MK).
- Understand techniques for scalp and skull opening and closure (PC).
- Understand neurosurgical approaches to handling brain tissue, with special emphasis on the cerebellum and brainstem (PC, MK).
- Understand aftercare following neurosurgical procedures, including the indications for neuropharmacologic management such as the use of corticosteroids, hormonal replacement, antiemtics, fluid management, and anticonvulsant therapy (PC).
- Demonstrate ability to recognize CSF leak, subarachnoid hemorrhage, intraparenchymal hemorrhage, subdural hematoma, epidural hematoma, thromboembolic stroke, and brainstem infarction (PC, MK).
- Understand dynamics of CSF production and reabsorption, including their implications for preventing or managing spinal fluid leaks (MK, PC).
- Understand the management of lumbar drains and the surgical repair of spontaneous or postoperative spinal fluid leaks related to the temporal bone (PC).
Neuroradiology: While this is not a specific rotation however the fellow is expected to spend significant time reviewing films with the Neuro-radiologist as well attend the weekly Cancer/Head and Neck conference if cases of malignant skull base tumors are presented.

- Advance knowledge and understanding of disorders affecting the temporal bone, skull base, brain and brainstem from a neuroradiographic imaging perspective (MK, PC).
- Demonstrate advanced knowledge of neuro-anatomic structures and their function (MK, PC).
- Demonstrate special expertise in the interpretation of CT and MRI as they intersect the subspecialty of otology-neurotology (PC, MK).
- Recognize the potential contributions of imaging modalities such at SPECT, PET and Functional MRI to the diagnosis of neurotologic disorders (PC, MK).

Neurology/Gait Disorders: Fellows will interact with neurology at the Balance center and during the research months.

- Demonstrate additional expertise in the neurologic evaluation (PC).
- Improve understanding of migraine management, with particular emphasis on vestibular manifestations of migraine (MK, PC).
- Understand presentation, diagnosis, and management of movement and gait disorders, including pertinent findings in the vestibular testing environment (PC, MK).
- Understand and perform appropriate evaluation and management of neurologic conditions that may present with otologic symptoms (PC, MK).

Neuro-ophthalmology

- Demonstrate a thorough understanding of the diagnosis of eye movement disorders (PC, MK).
- Understand diagnostic techniques utilized by the neuro-ophthalmologist in evaluating patients with eye movement disorders, particularly those that might present with a complaint of dizziness or unsteadiness (PC).
- Demonstrate the ability to clinically document oscillopsia (PC, CS).
- Demonstrate an understanding and the ability to manage ophthalmologic issues related to facial paralysis (PC, MK).
- Review pre and post operative neuro-ophthalmologic consultations on Neurotology patients (SBP, Prof, PC).

PM&R/Vestibular Rehabilitation:

- Understand the role of the physical therapist in evaluating, treating, and counseling the acute and chronic patient with vestibular symptoms or balance disturbance (PC, SBP).
- Understand the systems approach to evaluating the unstable patient (PC, MK).
- Learn to delineate which semicircular canal is affected by benign positional vertigo, and to perform the appropriate particle-repositioning maneuver for each canal (PC, MK).
- Understand appropriate exercise therapies for treating chronic disequilibrium from aging and/or uncompensated vestibular lesions (PC, SBP, MK).
- Understand the role of multidisciplinary management in treating the patient with multiple cranial neuropathies (SBP, CS).
Pathology:
- The fellow is expected to routinely review the surgical specimens with the neuropathologists and otolaryngologic-pathologists. Pathology slide presentations will be a part of every Wednesday conference where cases are presented.
- Demonstrate knowledge of the pathological basis of disease processes related to the ear and temporal bone (PC, MK)

Audiology:
The department of otolaryngology has a regular didactic series on the subject of audiology and vestibular physiology. It is taught by the faculty of the university and by guest lecturers. It is a didactic series and this is followed by a practicum with the clinic staff. This lecture series is offered on Monday evening for approximately two hours per session. This covers most textbook issues including air and bone thresholds, masking, tympanometry, word recognition testing, EcoG, ABR, Evoked emissions and covers the interpretation of these tests. The vestibular sections cover classic ENG, VEMP, Rotary chair testing, and Platform testing.

Other Responsibilities and Expectations:
The fellow will keep a surgical case log. This will be reviewed with the program director at the quarterly intervals. Deficiencies will be identified and corrected by altering case coverage assignments. Every effort will be made to maximize exposure to lateral skull base procedures by altering case coverage assignments at the three institutions.

The teaching responsibilities include:
- Coverage of the University Otology/Neurotology Clinic with the Otolaryngology residents.
- Coverage of Hospital consultations related to Otology/Neurotology, (i.e., reviewing the consultations with the housestaff and attendings)
- Daily rounds at the hospital where Otology/Neurotology patients are located and communicating with and teaching the residents.
- Organizing scheduled Otology-Neurotology Journal Club

CONFERENCES
New residents/fellows are required to attend University of Minnesota Medical School Resident/Fellow Orientation.

Neurotology fellows are expected to help organize the Otology Conference and to help ensure that it covers the field of otology over the two year fellowship. Residents will be guided to present talks that summarize the state of knowledge and give an overview of that knowledge. Neurotology fellows are also required to participate in Otology Journal Club, as well as in Morbidity and Mortality Conferences. Fellows should become familiar with the UMConnect web system. The Neurotology fellow also participates in teaching the Temporal Bone Dissection course. There is a quarterly neurology, neurosurgery and neurotology education conference and the fellow is expected to participate in selecting topics, cases, and leading discussion.
EVALUATION


Quarterly Performance Review

The Program Director and select faculty conducts a face to face performance review with each fellow on a quarterly basis. A written summary of each meeting is maintained in the permanent record of the fellow.

Fellow Portfolio

Fellows are encouraged to maintain a portfolio to serve as an archive of educational and research activities. Portfolios include such documents as:

- Curriculum vitae
- Up-to-date operative experience report from ACGME web site
- Handouts prepared for conference presentations/patient presentations
- Documentation of quality assurance activities
- Research proposals and progress reports
- Reprints of published scholarly work, including clinical studies, scientific articles, clinical reviews, editorials, or letters to the editor
- Unpublished manuscripts of clinical studies, scientific articles, or clinical reviews
- Evaluations of oral presentations
- Documentation of coding meetings
- Teaching experience
- Administrative experience, including participation in department/medical school/hospital committees

The following information is from the ACGME/ABMS Joint Initiative Toolbox of Assessment Methods, Version 1.1, September 2000, Page 11:

“Description - A portfolio is a collection of products prepared by the fellow that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audio-recordings, photographs, and other forms of information. Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met. In graduate medical education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of the results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients.

Components/Principles of the Review

Review will consider progress toward the goals and objectives of the program, and will include:

- Clinical and surgical performance and progress: Faculty submit written evaluations of each clinical rotation using online evaluation system
- Research progress
- Administrative skill and experience
- Teaching skill and experience
- Publication progress
- Mock Oral Exam scores
- Attitude
- Punctuality
- Conference attendance, participation and presentation

The faculty assume a resident's/fellow's performance will mature as the resident gains greater education and experience. Therefore, expectations for the fourth-quarter fellow are different from those for the first-quarter fellow.

Possible Outcomes

Positive outcomes of the Resident/Fellow Review include:
- Affirmation of good clinical progress
- Advancement to the next year of training
- Recommendation for graduation from the program
- Information becomes part of the residents'/fellows’ permanent file

Negative outcomes of the Resident Review include:
- A reprimand related to concern about performance
- Meetings at six-week intervals to evaluate improved performance until the next scheduled evaluation
- Probation for a period of six months to allow performance to improve
- Expulsion, conducted according to the University of MN appeals process
- Information becomes part of the residents'/fellows’ permanent file

Resident/Fellow Evaluation of Faculty, Rotations, Training Program

At the end of each clinical rotation, fellows have the opportunity to evaluate the rotation and the faculty using the confidential, online evaluation system. Residents will receive email reminders when evaluations are due. This information is valuable to improving our program and residents are encouraged to complete it.

Fellows can also review evaluations of their own progress submitted by faculty and nurses through the evaluation system.

New Innovations Residency Management Suite (RMS) is located at www.new-innov.com.

If you don't know your user name or password, contact Faith Courchane, 612-625-7692 or courc002@umn.edu. You may use the "NET" (not enough time) feature to delete evaluations that have been inappropriately assigned to you.
2862631019 - UNIVERSITY OF MINNESOTA PROGRAM
Neurotology - Minneapolis, MN

Original Accreditation Date:
July 01, 2009
Accreditation Status:
Continued Accreditation
Accreditation Effective Date:
February 06, 2015
Accredited Length of Training:
2 Year(s)
Program Format:
Standard

Total Approved Resident Positions:
1
Total Filled Resident Positions*:
1

Complement Breakdown: Approved

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Complement Breakdown: Filled

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*Total filled will reflect the previous academic year until the annual update is completed for the current academic year.

Last Site Visit Date:
July 12, 2012
Date of Next Site Visit (Approximate):
No Information Currently Present
Self Study Date (Approximate):
August 01, 2020

Program Requires Prior or Additional Accredited GME Training:
Yes
Number of Prior or Additional Accredited GME Training Years:
5
Program Requires Dedicated Research Year Beyond Accredited Program Length:
No
University of Minnesota Medical School  
Otolaryngology Department, MMC 396  
420 Delaware St SE  
Minneapolis, MN 55455  

http://www.ent.umn.edu/education/neurotology-fellowship/index.htm

**Specialty:**  
Neurotology  

**Sponsoring Institution:**  
University of Minnesota Medical School [269501]

**DIO Name:**  
John S Andrews MD (andrews@umn.edu)

**Public Contact Email/Director's External Email:**  
levin001@umn.edu

**Core Programs:**  
[ 2802631055 ] University of Minnesota Program (Otolaryngology)

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### Program Leadership

<table>
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<tr>
<th>Role</th>
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<tbody>
<tr>
<td>Program Director</td>
<td>Samuel C Levine MD</td>
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<tr>
<td>Department Chair</td>
<td>Bevan Yueh MD, MPH</td>
</tr>
<tr>
<td>Program Coordinator</td>
<td>Faith Courchane</td>
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© 2015 Accreditation Council for Graduate Medical Education (ACGME)
ACGME Program Requirements for Graduate Medical Education in Neurotology

ACGME-approved: June 10, 2012; effective: July 1, 2013
ACGME approved categorization: June 9, 2013; effective: July 1, 2014
ACGME approved focused revision: February 3, 2014; effective: July 1, 2014
Revised Common Program Requirements effective: July 1, 2015
ACGME Program Requirements for Graduate Medical Education in Neurotology

Common Program Requirements are in BOLD

Introduction

Int.A. Residency is an essential dimension of the transformation of the medical student to the independent practitioner along the continuum of medical education. It is physically, emotionally, and intellectually demanding, and requires longitudinally-concentrated effort on the part of the resident.

The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident physician to assume personal responsibility for the care of individual patients. For the resident, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept--graded responsibility and progressive responsibility--is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

Int.B. Neurotology relates to the diagnosis and management of disorders of the temporal bone, lateral skull base, and related anatomical structures, as well as advanced diagnostic expertise and advanced medical and surgical management skills beyond those attained in otolaryngology residency.

Int.C. The educational program in neurotology must be 24 months in length. (Core)*

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to fellow assignments at all participating sites. (Core)*

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program. (Core)

I.A.1. The sponsoring institution must also sponsor an Accreditation Council for Graduate Medical Education (ACGME)-accredited otolaryngology

Neurotology 1
I.B. Participating Sites
I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.

The PLA should:

I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for fellows;
I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in this document;
I.B.1.c) specify the duration and content of the educational experience; and,
I.B.1.d) state the policies and procedures that will govern fellow education during the assignment.

I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all fellows, of one month full time equivalent (FTE) or more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS).

II. Program Personnel and Resources
II.A. Program Director
II.A.1. There must be a single program director with authority and accountability for the operation of the program. The sponsoring institution’s GMEC must approve a change in program director.

II.A.1.a) The program director must submit this change to the ACGME via the ADS.

II.A.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

II.A.3. Qualifications of the program director must include:

II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee.
II.A.3.b) current certification in the subspecialty by the American Board of Otolaryngology, or subspecialty qualifications that are acceptable to the Review Committee; and, (Core)

II.A.3.b).(1) The Review Committee only accepts certification in neurotology by the American Board of Otolaryngology. (Core)

II.A.3.c) current medical licensure and appropriate medical staff appointment. (Core)

II.A.4. The program director must administer and maintain an educational environment conducive to educating the fellows in each of the ACGME competency areas. (Core)

The program director must:

II.A.4.a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program; (Core)

II.A.4.b) approve a local director at each participating site who is accountable for fellow education; (Core)

II.A.4.c) approve the selection of program faculty as appropriate; (Core)

II.A.4.d) evaluate program faculty; (Core)

II.A.4.e) approve the continued participation of program faculty based on evaluation; (Core)

II.A.4.f) monitor fellow supervision at all participating sites; (Core)

II.A.4.g) prepare and submit all information required and requested by the ACGME; (Core)

II.A.4.g).(1) This includes but is not limited to the program application forms and annual program updates to the ADS, and ensure that the information submitted is accurate and complete. (Core)

II.A.4.h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution; (Detail)

II.A.4.i) provide verification of fellowship education for all fellows, including those who leave the program prior to completion; (Detail)

II.A.4.j) implement policies and procedures consistent with the institutional and program requirements for fellow duty hours and the working environment, including moonlighting; (Core)

Neurotology 3
and, to that end, must:

II.A.4.j).(1) distribute these policies and procedures to the fellows and faculty; (Detail)

II.A.4.j).(2) monitor fellow duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements; (Core)

II.A.4.j).(3) adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and, (Detail)

II.A.4.j).(4) if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue. (Detail)

II.A.4.k) monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged; (Detail)

II.A.4.l) comply with the sponsoring institution’s written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of fellows, disciplinary action, and supervision of fellows; (Detail)

II.A.4.m) be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures; (Detail)

II.A.4.n) obtain review and approval of the sponsoring institution’s GMEC/DIO before submitting information or requests to the ACGME, including: (Core)

II.A.4.n).(1) all applications for ACGME accreditation of new programs; (Detail)

II.A.4.n).(2) changes in fellow complement; (Detail)

II.A.4.n).(3) major changes in program structure or length of training; (Detail)

II.A.4.n).(4) progress reports requested by the Review Committee; (Detail)

II.A.4.n).(5) requests for increases or any change to fellow duty hours; (Detail)

II.A.4.n).(6) voluntary withdrawals of ACGME-accredited programs; (Detail)

II.A.4.n).(7) requests for appeal of an adverse action; and, (Detail)
II.A.4.n).(8) appeal presentations to a Board of Appeal or the ACGME. (Detail)

II.A.4.o) obtain DIO review and co-signature on all program application forms, as well as any correspondence or document submitted to the ACGME that addresses: (Detail)

II.A.4.o).(1) program citations, and/or, (Detail)

II.A.4.o).(2) request for changes in the program that would have significant impact, including financial, on the program or institution, (Detail)

II.A.4.p) coordinate combined interdisciplinary educational conferences that emphasize cooperative diagnostic efforts and surgical team approaches to operative therapy with neurological surgeons, and combined approaches to rehabilitative efforts with physical medicine and rehabilitation physicians; and, (Detail)

II.A.4.q) prepare and implement a supervision policy that specifies lines of responsibility for fellows and faculty members, as well as residents and other learners. (Core)

II.B. Faculty

II.B.1. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows at that location. (Core)

The faculty must:

II.B.1.a) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of fellows, and (Core)

II.B.1.b) administer and maintain an educational environment conducive to educating fellows in each of the ACGME competency areas. (Core)

II.B.2. The physician faculty must have current certification in the subspecialty by the American Board of Otolaryngology, or possess qualifications judged acceptable to the Review Committee. (Core)

II.B.2.a) The Review Committee for Otolaryngology does not accept alternate qualifications for core physician faculty. (Core)

II.B.3. The physician faculty must possess current medical licensure and appropriate medical staff appointment. (Core)
II.B.4. The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments. (Core)

II.B.5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component. (Core)

II.B.5.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences. (Detail)

II.B.5.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.5.b).(1) peer-reviewed funding; (Detail)

II.B.5.b).(2) publication of original research or review articles in peer-reviewed journals, or chapters in textbooks; (Detail)

II.B.5.b).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or, (Detail)

II.B.5.b).(4) participation in national committees or educational organizations. (Detail)

II.B.5.c) Faculty should encourage and support fellows in scholarly activities. (Core)

II.B.6. There must be at least one FTE core physician faculty member, in addition to the program director. (Core)

II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program. (Core)

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for fellow education, as defined in the specialty program requirements. (Core)

II.D.1. Additional educational resources must be available for the neurotology program, including a temporal bone dissection laboratory and testing facilities for complete auditory and vestibular evaluation and cranial nerve monitoring. (Core)

II.D.2. The available volume and variety of cases must enable fellows to achieve competence in all key procedures. (Core)

II.E. Medical Information Access
Fellows must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III. Fellow Appointments

III.A. Eligibility Criteria

The program director must comply with the criteria for fellow eligibility as specified in the Institutional Requirements.

III.A.1. Prior to appointment in the program, fellows must have successfully completed a residency in otolaryngology accredited by the ACGME or an otolaryngology residency located in Canada and accredited by the Royal College of Physicians and Surgeons of Canada.

III.B. Number of Fellows

The program’s educational resources must be adequate to support the number of fellows appointed to the program.

III.B.1. The program director may not appoint more fellows than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements.

III.C. Fellow Transfers

III.C.1. Before accepting a fellow who is transferring from another program, the program director must obtain written or electronic verification of previous educational experiences and a summative competency-based performance evaluation of the transferring fellow.

III.C.2. A program director must provide timely verification of fellowship education and summative performance evaluations for fellows who may leave the program prior to completion.

III.D. Appointment of Fellows and Other Learners

The presence of other learners (including, but not limited to, residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners) in the program must not interfere with the appointed fellows’ education.

III.D.1. The program director must report the presence of other learners to the DIO and GMEC in accordance with sponsoring institution guidelines.

IV. Educational Program

IV.A. The curriculum must contain the following educational components:
IV.A.1. Overall educational goals for the program, which the program must make available to fellows and faculty; (Core)

IV.A.2. Competency-based goals and objectives for each assignment at each educational level, which the program must distribute to fellows and faculty at least annually, in either written or electronic form; (Core)

IV.A.3. Regularly scheduled didactic sessions; (Core)

IV.A.3.a) Clinical, basic science, and research conferences and seminars, as well as the review of critical knowledge about the subspecialty, must be conducted regularly and as scheduled. (Core)

IV.A.3.a).(1) Fellows must participate in both planning and conducting conferences. (Detail)

IV.A.3.a).(2) Both faculty members and fellows must attend and participate in multidisciplinary conferences. (Detail)

IV.A.3.b) There must be advanced didactic sessions, beyond the scope of otolaryngology residency education, in the basic sciences related to neurotology, including allergy and immunology, audiology and rehabilitative audiology, genetics, neuroanatomy, neurophysiology, neuropathology, neuropharmacology, neuroophthalmology, physical medicine and rehabilitation, temporal bone histopathology, and vestibular pathophysiology. (Detail)

IV.A.3.c) The course of study must also include the following content areas:

IV.A.3.c).(1) auditory and speech rehabilitation of the hearing-impaired; (Detail)

IV.A.3.c).(2) the diagnosis and therapy of advanced neurotologic disorders, including advanced audilogic and vestibular testing; the evaluation of cranial nerves and related structures; the interpretation of imaging techniques of the temporal bone and lateral skull base; and the electrophysiologic monitoring of cranial nerves VII, VIII, X, XI, and XII; (Detail)

IV.A.3.c).(3) the management and rehabilitation cranial nerve defects; and, (Detail)

IV.A.3.c).(4) vestibular rehabilitation. (Detail)

IV.A.4. Delineation of fellow responsibilities for patient care, progressive responsibility for patient management, and supervision of fellows over the continuum of the program; and, (Core)

IV.A.5. ACGME Competencies

Neurotology 8
The program must integrate the following ACGME competencies into the curriculum: (Core)

**IV.A.5.a)**  Patient Care and Procedural Skills

**IV.A.5.a).(1)** Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. (Outcome)

**IV.A.5.a).(2)** Fellows must be able to competently perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. Fellows: (Outcome)

**IV.A.5.a).(2).(a)** must demonstrate competence in performing key procedures, including: (Outcome)

**IV.A.5.a).(2).(a).(i)** lateral skull base approach to the jugular fossa; (Outcome)

**IV.A.5.a).(2).(a).(ii)** middle cranial fossa craniotomy; (Outcome)

**IV.A.5.a).(2).(a).(iii)** retrosigmoid approach to the cerebellopontine angle; and, (Outcome)

**IV.A.5.a).(2).(a).(iv)** translabyrinthine approach to the cerebellopontine angle. (Outcome)

**IV.A.5.a).(2).(b)** must demonstrate diagnostic expertise and competence in medical and surgical management strategies, including intracranial exposure, as well as the post-operative care necessary to treat congenital, inflammatory, neoplastic, idiopathic, and traumatic diseases of the petrous apex, internal auditory canal, cerebellopontine angle, cranial nerves, and lateral skull base, including the occipital bone, temporal bone, craniovertebral junction, and vascular neoplasms of the lateral and posterior fossa skull base; and, (Outcome)

**IV.A.5.a).(2).(c)** must demonstrate competence in the habilitation and rehabilitation of the vertiginous patient, and the treatment of intracranial and intratemporal facial nerve disorders. (Outcome)

**IV.A.5.b)**  Medical Knowledge

Fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-
behavioral sciences, as well as the application of this knowledge to patient care. Fellows: *(Outcome)*

IV.A.5.b).(1) must demonstrate knowledge of neurotology to a level appropriate for unsupervised practice, as defined by the required didactic curriculum. *(Outcome)*

IV.A.5.c) Practice-based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. *(Outcome)*

Fellows are expected to develop skills and habits to be able to meet the following goals:

IV.A.5.c).(1) identify strengths, deficiencies, and limits in one’s knowledge and expertise; *(Outcome)*

IV.A.5.c).(2) set learning and improvement goals; *(Outcome)*

IV.A.5.c).(3) identify and perform appropriate learning activities; *(Outcome)*

IV.A.5.c).(4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; *(Outcome)*

IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice; *(Outcome)*

IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems; *(Outcome)*

IV.A.5.c).(7) use information technology to optimize learning; and, *(Outcome)*

IV.A.5.c).(8) participate in the education of patients, families, students, fellows and other health professionals. *(Outcome)*

IV.A.5.d) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. *(Outcome)*
Fellows are expected to:

IV.A.5.d).(1) communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds. (Outcome)

IV.A.5.d).(2) communicate effectively with physicians, other health professionals, and health related agencies. (Outcome)

IV.A.5.d).(3) work effectively as a member or leader of a health care team or other professional group. (Outcome)

IV.A.5.d).(4) act in a consultative role to other physicians and health professionals; and, (Outcome)

IV.A.5.d).(5) maintain comprehensive, timely, and legible medical records, if applicable. (Outcome)

IV.A.5.e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. (Outcome)

Fellows are expected to demonstrate:

IV.A.5.e).(1) compassion, integrity, and respect for others; (Outcome)

IV.A.5.e).(2) responsiveness to patient needs that supersedes self-interest; (Outcome)

IV.A.5.e).(3) respect for patient privacy and autonomy; (Outcome)

IV.A.5.e).(4) accountability to patients, society and the profession; and, (Outcome)

IV.A.5.e).(5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation. (Outcome)

IV.A.5.f) Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. (Outcome)

Fellows are expected to:
IV.A.5.f).(1) work effectively in various health care delivery settings and systems relevant to their clinical specialty; (Outcome)

IV.A.5.f).(2) coordinate patient care within the health care system relevant to their clinical specialty; (Outcome)

IV.A.5.f).(3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate; (Outcome)

IV.A.5.f).(4) advocate for quality patient care and optimal patient care systems; (Outcome)

IV.A.5.f).(5) work in interprofessional teams to enhance patient safety and improve patient care quality; and, (Outcome)

IV.A.5.f).(6) participate in identifying system errors and implementing potential systems solutions. (Outcome)

IV.A.6. Curriculum Organization and Fellow Experiences

IV.A.6.a) Fellow experiences must include:

IV.A.6.a).(1) graduated responsibility for patients in both inpatient and outpatient environments; (Core)

IV.A.6.a).(2) performing advanced surgical techniques, including reconstructive repair of deficits, and managing diseases and disorders of the auditory and vestibular systems and the lateral skull base, including the occipital bone, sphenoid bone, and temporal bone; (Core)

IV.A.6.a).(2).(a) Neurotology and lateral skull base surgery with intracranial exposures should be performed jointly with neurosurgery. (Detail)

IV.A.6.a).(3) documenting, in the ACGME Case Log System, experience as both assistant surgeon and surgeon in surgical procedures for the following: (Core)

IV.A.6.a).(3).(a) congenital inflammatory, neoplastic, idiopathic, and traumatic disorders of the temporal bone, occipital bone, sphenoid bone, and related structures; (Core)

IV.A.6.a).(3).(b) facial nerve disorders; and, (Core)

IV.A.6.a).(3).(c) middle cranial fossa, posterior cranial fossa, and lateral skull base surgical procedures for the treatment of disorders of the auditory and vestibular system. (Core)
IV.A.6.a). (4) audiometric testing, including auditory brainstem responses and otoacoustic emissions, as well as vestibular testing, facial nerve testing, electrophysiologic monitoring strategies, and neuroradiologic procedures used to evaluate the temporal bone, skull base, and related structures; and, (Core)

IV.A.6.a). (5) experiences in related specialties, including neurological surgery, neurology, neuropathology, neuroradiology and, physical medicine and rehabilitation. (Detail)

IV.B. Fellows' Scholarly Activities

IV.B.1. The curriculum must advance fellows’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. (Core)

IV.B.1.a) The curriculum must include research methodology. (Detail)

IV.B.1.b) Fellows should study epidemiology, statistical methods, experimental design, and manuscript preparation. (Detail)

IV.B.2. Fellows should participate in scholarly activity. (Core)

IV.B.2.a) During the course of the fellowship, each fellow should prepare and submit, at minimum, one paper for publication in a peer-reviewed journal. (Outcome)

IV.B.3. The sponsoring institution and program should allocate adequate educational resources to facilitate fellow involvement in scholarly activities. (Detail)

IV.B.3.a) This must include protected time, not to exceed six months, for the pursuit of scholarly activities and research. (Core)

V. Evaluation

V.A. Fellow Evaluation

V.A.1. The program director must appoint the Clinical Competency Committee. (Core)

V.A.1.a) At a minimum the Clinical Competency Committee must be composed of three members of the program faculty. (Core)

V.A.1.a).(1) The program director may appoint additional members of the Clinical Competency Committee.

V.A.1.a).(1).(a) These additional members must be physician faculty members from the same program or
other programs, or other health professionals who have extensive contact and experience with the program’s fellows in patient care and other health care settings. (Core)

V.A.1.a).(1).(b) Chief residents who have completed core residency programs in their specialty and are eligible for specialty board certification may be members of the Clinical Competency Committee. (Core)

V.A.1.b) There must be a written description of the responsibilities of the Clinical Competency Committee. (Core)

V.A.1.b).(1) The Clinical Competency Committee should:

V.A.1.b).(1).(a) review all fellow evaluations semi-annually; (Core)

V.A.1.b).(1).(b) prepare and ensure the reporting of Milestones evaluations of each fellow semi-annually to ACGME; and, (Core)

V.A.1.b).(1).(c) advise the program director regarding fellow progress, including promotion, remediation, and dismissal. (Detail)

V.A.2. Formative Evaluation

V.A.2.a) The faculty must evaluate fellow performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment. (Core)

V.A.2.b) The program must:

V.A.2.b).(1) provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific Milestones; (Core)

V.A.2.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff); (Detail)

V.A.2.b).(3) document progressive fellow performance improvement appropriate to educational level; and, (Core)

V.A.2.b).(4) provide each fellow with documented semiannual evaluation of performance with feedback. (Core)
V.A.2.c) The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy. (Detail)

V.A.2.d) The program director must review each fellow’s cumulative operative experience in person with the fellow at least semiannually, to ensure his or her progress towards gaining experience with the required variety and complexity of surgical procedures. (Core)

V.A.3. Summative Evaluation

V.A.3.a) The specialty-specific Milestones must be used as one of the tools to ensure fellows are able to practice core professional activities without supervision upon completion of the program. (Core)

V.A.3.b) The program director must provide a summative evaluation for each fellow upon completion of the program. (Core)

This evaluation must:

V.A.3.b).(1) become part of the fellow’s permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy; (Detail)

V.A.3.b).(2) document the fellow’s performance during the final period of education; and, (Detail)

V.A.3.b).(3) verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision. (Detail)

V.B. Faculty Evaluation

V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program. (Core)

V.B.2. These evaluations should include a review of the faculty’s clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities. (Detail)

V.B.3. This evaluation must include at least annual written confidential evaluations by the fellows. (Detail)

V.C. Program Evaluation and Improvement

V.C.1. The program director must appoint the Program Evaluation Committee (PEC). (Core)
V.C.1.a) The Program Evaluation Committee:

V.C.1.a).(1) must be composed of at least two program faculty members and should include at least one fellow; (Core)

V.C.1.a).(2) must have a written description of its responsibilities; and, (Core)

V.C.1.a).(3) should participate actively in:

V.C.1.a).(3).(a) planning, developing, implementing, and evaluating educational activities of the program; (Detail)

V.C.1.a).(3).(b) reviewing and making recommendations for revision of competency-based curriculum goals and objectives; (Detail)

V.C.1.a).(3).(c) addressing areas of non-compliance with ACGME standards; and, (Detail)

V.C.1.a).(3).(d) reviewing the program annually using evaluations of faculty, fellows, and others, as specified below. (Detail)

V.C.2. The program, through the PEC, must document formal, systematic evaluation of the curriculum at least annually, and is responsible for rendering a written, annual program evaluation. (Core)

The program must monitor and track each of the following areas:

V.C.2.a) fellow performance; (Core)

V.C.2.b) faculty development; (Core)

V.C.2.c) graduate performance, including performance of program graduates on the certification examination; (Core)

V.C.2.c).(1) 80 percent of the program’s eligible graduates from the preceding six years taking the American Board of Otolaryngology certifying examination in neurotology for the first time must pass. (Outcome)

V.C.2.c).(1).(a) If fewer than 10 fellows graduated in the preceding six years, then 80 percent of the program’s 10 most recent graduates taking the American Board of Otolaryngology certifying examination in neurotology for the first time must pass. (Outcome)

V.C.2.d) program quality; and, (Core)
V.C.2.d).(1) Fellow s and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and  

V.C.2.d).(2) The program must use the results of fellows’ and faculty members’ assessments of the program together with other program evaluation results to improve the program.  

V.C.2.d).(2).(a) This must include review of each fellow’s cumulative Case Log data.  

V.C.2.e) progress on the previous year’s action plan(s).  

V.C.3. The PEC must prepare a written plan of action to document initiatives to improve performance in one or more of the areas listed in section V.C.2., as well as delineate how they will be measured and monitored.  

V.C.3.a) The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.  

VI. Fellow Duty Hours in the Learning and Working Environment  

VI.A. Professionalism, Personal Responsibility, and Patient Safety  

VI.A.1. Programs and sponsoring institutions must educate fellows and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.  

VI.A.2. The program must be committed to and responsible for promoting patient safety and fellow well-being in a supportive educational environment.  

VI.A.3. The program director must ensure that fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.  

VI.A.4. The learning objectives of the program must:  

VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,  

VI.A.4.b) not be compromised by excessive reliance on fellows to fulfill non-physician service obligations.  

VI.A.5. The program director and institution must ensure a culture of professionalism that supports patient safety and personal
VI.A.6. Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:

VI.A.6.a) assurance of the safety and welfare of patients entrusted to their care; (Outcome)

VI.A.6.b) provision of patient- and family-centered care; (Outcome)

VI.A.6.c) assurance of their fitness for duty; (Outcome)

VI.A.6.d) management of their time before, during, and after clinical assignments; (Outcome)

VI.A.6.e) recognition of impairment, including illness and fatigue, in themselves and in their peers; (Outcome)

VI.A.6.f) attention to lifelong learning; (Outcome)

VI.A.6.g) the monitoring of their patient care performance improvement indicators; and, (Outcome)

VI.A.6.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data. (Outcome)

VI.A.7. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. They must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider. (Outcome)

VI.B. Transitions of Care

VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care. (Core)

VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety. (Core)

VI.B.3. Programs must ensure that fellows are competent in communicating with team members in the hand-over process. (Outcome)

VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and fellows currently responsible for each patient’s care. (Detail)

VI.C. Alertness Management/Fatigue Mitigation
VI.C.1. The program must:

VI.C.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation; (Core)

VI.C.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and, (Core)

VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules. (Detail)

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a fellow may be unable to perform his/her patient care duties. (Core)

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for fellows who may be too fatigued to safely return home. (Core)

VI.D. Supervision of Fellows

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient’s care. (Core)

VI.D.1.a) This information should be available to fellows, faculty members, and patients. (Detail)

VI.D.1.b) Fellows and faculty members should inform patients of their respective roles in each patient’s care. (Detail)

VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all fellows who care for patients. (Core)

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or fellow physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback as to the appropriateness of that care. (Detail)

VI.D.3. Levels of Supervision

To ensure oversight of fellow supervision and graded authority and
responsibility, the program must use the following classification of supervision: (Core)

VI.D.3.a) Direct Supervision – the supervising physician is physically present with the fellow and patient. (Core)

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision. (Core)

VI.D.3.b).(2) with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision. (Core)

VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered. (Core)

VI.D.4. The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members. (Core)

VI.D.4.a) The program director must evaluate each fellow’s abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria. (Core)

VI.D.4.b) Faculty members functioning as supervising physicians should delegate portions of care to fellows, based on the needs of the patient and the skills of the fellows. (Detail)

VI.D.4.c) Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow. (Detail)

VI.D.5. Programs must set guidelines for circumstances and events in which fellows must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions. (Core)

VI.D.5.a) Each fellow must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence. (Outcome)
VI.D.5.a)(1) In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available. (Core)

VI.D.6. Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each fellow and delegate to him/her the appropriate level of patient care authority and responsibility. (Detail)

VI.E. Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY-level, patient safety, fellow education, severity and complexity of patient illness/condition and available support services. (Core)

VI.E.1. The workload associated with optimal clinical care of surgical patients is a continuum from the moment of admission to the point of discharge. (Detail)

VI.E.2. During the fellowship education process, surgical teams should be made up of attending surgeons, fellows, residents at various PGY levels, medical students (when appropriate), and other health care providers. (Detail)

VI.E.3. The work of the caregiver team should be assigned to team members based on each fellow’s level of education, experience, and competence. (Detail)

VI.F. Teamwork

Fellows must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty. (Core)

VI.F.1. Effective surgical practices entail the involvement of members with a mix of complementary skills and attributes (physicians, nurses, and other staff). Success requires both an unwavering mutual respect for those skills and contributions, and a shared commitment to the process of patient care. (Detail)

VI.F.2. Members of the interprofessional team should include audiologists, speech language pathologists, electrophysiologists, head and neck surgeons, neurologists, neuroradiologists, neurological surgeons, neuropathologists, and neurotologists, as necessary to meet the needs of each patient. (Detail)

VI.F.3. Fellows must collaborate with fellow surgical residents, and especially with faculty, other physicians outside of their specialty, and non-traditional health care providers to best formulate treatment plans for an increasingly diverse patient population. (Detail)
VI.F.4. Fellows must assume personal responsibility to complete all tasks to which they are assigned (or which they voluntarily assume) in a timely fashion. These tasks must be completed within the hours assigned, or, if that is not possible, fellows must learn and utilize the established methods for handing off remaining tasks to another member of the fellow team so that patient care is not compromised.

VI.G. Fellow Duty Hours

VI.G.1. Maximum Hours of Work per Week

Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities and all moonlighting.

VI.G.1.a) Duty Hour Exceptions

A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.

The Review Committee for Otolaryngology will not consider requests for exceptions to the 80-hour limit to the fellows’ work week.

VI.G.1.a).(1) In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.

VI.G.1.a).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution’s GMEC and DIO.

VI.G.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by fellows in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.2.c) PGY-1 residents are not permitted to moonlight.

VI.G.3. Mandatory Time Free of Duty

Fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot
be assigned on these free days.  

VI.G.4. Maximum Duty Period Length

VI.G.4.a) Duty periods of PGY-1 residents must not exceed 16 hours in duration.

VI.G.4.b) Duty periods of PGY-2 residents and above may be scheduled to a maximum of 24 hours of continuous duty in the hospital.

VI.G.4.b).(1) Programs must encourage fellows to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.b).(2) It is essential for patient safety and fellow education that effective transitions in care occur. Fellows may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.b).(3) Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.b).(4) In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.b).(4).(a) Under those circumstances, the fellow must:

VI.G.4.b).(4).(a).(i) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.b).(4).(a).(ii) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.b).(4).(b) The program director must review each submission of additional service, and track both individual fellow and program-wide Neurotology 23
episodes of additional duty. (Detail)

VI.G.5. Minimum Time Off between Scheduled Duty Periods

VI.G.5.a) PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods. (Core)

VI.G.5.b) Intermediate-level residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty. (Core)

Neurotology fellows are considered to be in the final years of education.

VI.G.5.c) Residents in the final years of education must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods. (Outcome)

Neurotology fellows are considered to be in the final years of education.

VI.G.5.c).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances when these fellows must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty. (Detail)

VI.G.5.c).(1).(a) Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education must be monitored by the program director. (Detail)

VI.G.5.c).(1).(b) The Review Committee defines such circumstances as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the fellow has been involved; events of exceptional educational value; or, humanistic attention to the needs of a patient or family. (Detail)

VI.G.6. Maximum Frequency of In-House Night Float

Fellows must not be scheduled for more than six consecutive nights of night float. (Core)

VI.G.6.a) The Review Committee for Otolaryngology will not permit night float.
VI.G.7. Maximum In-House On-Call Frequency

PGY-2 residents and above must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period). (Core)

VI.G.8. At-Home Call

VI.G.8.a) Time spent in the hospital by fellows on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks. (Core)

VI.G.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each fellow. (Core)

VI.G.8.b) Fellows are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”. (Detail)

***

*Core Requirements: Statements that define structure, resource, or process elements essential to every graduate medical educational program.

Detail Requirements: Statements that describe a specific structure, resource, or process, for achieving compliance with a Core Requirement. Programs and sponsoring institutions in substantial compliance with the Outcome Requirements may utilize alternative or innovative approaches to meet Core Requirements.

Outcome Requirements: Statements that specify expected measurable or observable attributes (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their graduate medical education.

Osteopathic Principles Recognition
For programs seeking Osteopathic Principles Recognition for the entire program, or for a track within the program, the Osteopathic Recognition Requirements are also applicable. (http://www.acgme.org/acgmeweb/Portals/0/PFAssets/ProgramRequirements/Osteopathic_Recognition_Requirements.pdf)
### Otolaryngology-Head and Neck Surgery Resident – Short Evaluation Form

**Resident's Name _____________________  Rotation Period __/__/___ to __/__/___  Year of Training ___________________**

I. Patient Care

<table>
<thead>
<tr>
<th>Below Expectations</th>
<th>Expected Level</th>
<th>Exceeds Expectations</th>
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<tbody>
<tr>
<td>A. Clinical Skills</td>
<td></td>
<td></td>
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<tr>
<td>Incomplete, inaccurate medical interviews; poor exam skills &amp; differential diagnoses; inefficient or disorganized evaluation plans; analysis of data &amp; problem solving deficient; ineffective counseling of patients &amp; families.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td>Accurate, comprehensive &amp; efficient medical interviews with subsequent exams &amp; formulations of differential diagnoses &amp; evaluation plans; data analysis &amp; problem solving superb; excellent counseling of families.</td>
</tr>
<tr>
<td>B. Surgical Skills</td>
<td></td>
<td></td>
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<tr>
<td>Poor pre-operative preparations &amp; decision-making re. intended interventions; technically inadequate surgical skills; inefficient progression of operations; inadequate or inappropriate post-operative care &amp; recognition of problems or their solutions.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td>Excellent pre-operative decision-making and preparations, superb surgical skills with efficient &amp; safe progression of operations; personal &amp; appropriate post-operative care with recognition of problems &amp; prompt, efficient treatments.</td>
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Comments:__________________________________________________________________________________________________
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II. Medical Knowledge

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<tr>
<th>Below Expectations</th>
<th>Expected Level</th>
<th>Exceeds Expectations</th>
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<tbody>
<tr>
<td>Lacks knowledge of general medical &amp; / or current specialty literature, fails to investigate pertinent topics re. clinical assignments, &amp; inadequate preparation for presentations; does not demonstrate analytical thinking or understand complex disease relationships.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td>Exceptional knowledge of general &amp; current specialty literature; fully prepared for clinical assignments &amp; presentations; analyzes patient in eclectic fashion with understanding of complex disease relationships.</td>
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Comments:__________________________________________________________________________________________________
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III. Professionalism

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<th>Below Expectations</th>
<th>Expected Level</th>
<th>Exceeds Expectations</th>
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<tbody>
<tr>
<td>Lacks compassion, integrity &amp; / or honesty; disregards advice &amp; fails to acknowledge errors; satisfied with mediocre performance; is tardy; does not fulfill clinical responsibilities; unreliable; does not demonstrate respect for patients / families, or sensitivity to cultural / age / gender / religious differences.</td>
<td>1 2 3 4 5 6 7 NA</td>
<td>Demonstrates compassion, integrity &amp; ethical behavior at all times; frequently self-evaluates &amp; readily acknowledges errors; exhibits high performance standards &amp; excels in clinical responsibilities; highly reliable &amp; punctual; respects patients / families &amp; is sensitive to cultural / age / gender / religious differences.</td>
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Comments:__________________________________________________________________________________________________
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### IV. Practice-Based Learning and Improvement

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<td>1 2 3 4 5 6 7 NA</td>
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Fails to utilize information technology to enhance patient care; never analyzes effectiveness of own practices or feedback on such from others; does not engage in self-improvement; deficient teaching of students, peers & other healthcare personnel.

Habitually applies information technology in patient care; regularly analyzes results of own practices & input from others to achieve continuous improvement; enthusiastically teaches students, peers & other healthcare personnel.

Comments: ____________________________________________________________________________
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### V. Interpersonal and Communication Skills

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Does not establish minimally therapeutic relationships with patients / families; poor listening, narrative & non-verbal skills; documents on-going medical care inadequately; interacts poorly with staff & peers.

Demonstrates rapport with patients / families; excellent verbal & non-verbal communication skills; full documentation of on-going medical care; superb, supportive relationship with staff & peers.

Comments: ____________________________________________________________________________
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### VI. Systems-Based Practice

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Inefficient & cost-ineffective patient care; fails to recognize & / or appropriately utilize resources within health care system towards patient care; not an advocate for patients; tardy & / or incomplete post-care paperwork such as discharge summaries & operative notes.

Consistently delivers efficient & cost-effective care; mobilizes all appropriate resources of health care system towards patient care; industrious patient advocate; prompt, accurate post-care paperwork trail including discharge summaries & operative reports.

Comments: ____________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Final Comments/Summation: ____________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Signature of Evaluator: ____________________________ Date: / /

Signature of Resident: _____________________________ Date: / /