McMaster University SURGERY

McMaster Otolaryngology-Head and Neck Surgery
Goals & Objectives & Competencies
Otology/Neurotology Rotation
St Joseph's Healthcare and Hamilton General Hospital
CanMEDS 2015

Junior & Senior Core of Discipline Stage-Third & Fourth Year Resident

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Overview

During the third and fourth year of residency training residents will spend a total of four rotational blocks in Otology and Neurotology at St Joseph's Healthcare and the Hamilton General site. Residents will gain experience in dealing with patients in the clinic, on the wards, the intensive care units, the operating room and in the emergency department. The majority of the rotation will involve servicing at St Joseph's Healthcare with participation in the operating room at the Hamilton General Hospital for Neurotology skull base surgical cases. The experience will primarily involve adult patients. All residents must review their learning objectives/competencies with Dr. Jason Archibald at the beginning and at the end of the rotation to facilitate meeting the objectives/competencies.

Otology and Neurotology Surgeon: Dr. J. Archibald.

Schedule of the week:
You will be expected to make hospital rounds with your team in the mornings before starting the days' activities of the service and at the end of the day. You are expected to make handover of patients to the resident on call when indicated. The Chief resident will assign the weekly schedule for the team. When the Chief resident is absent, the resident with most seniority takes this responsibility.

Sample of weekly schedule (subject to change)

Monday	Tuesday	Wednesday	Thursday	Friday
Clinic	Clinic	Clinic	OR	Clinic
Otology Temporal bone bi-monthly	Otology	Vertigo Vestibular testing Audiology testing HGH OR skull base	SJH	Otology

Call:
You will be assigned on home call with the Otolaryngology-Head and Neck Surgery service. The Chief resident will make up your call schedule. Please note that call during weekdays is from 17:00 to 07:00 hrs. and weekend call is from Friday 17:00 to Monday 07:00 hrs. unless notified differently. At the end of the call shift, you must make handover of patients to the team when indicated. Call will be set according to PARO guidelines.

Overall Objectives & Competencies:

It is recognized that the resident may not be exposed to all elements of these objectives; however at the conclusion of the rotation the resident should demonstrate knowledge or competency in the following:

Residents are expected to gain understanding and knowledge of the anatomy, physiology and pathophysiology of the ear including the auditory and vestibular systems. Residents will gain experience in the medical and surgical treatment of otologic and neurotologic diseases. Upon completion of the PGY 4 year, residents will have attained adequate skills and knowledge to diagnose and manage common and most advanced otologic and neurotologic pathologies.

Residents will be working at completing Entrustable Professional Activities (EPAs) observations from the Junior and Senior Core of Discipline stage in Otolaryngology-Head and Neck Surgery program. The EPAs are listed on the resident's Competence by Design road map schedule and at the end of this document. For the specific details of each EPA, please refer to the Royal College Mainport or McMaster MedSIS resident ePortfolio and to the educational Residents Manual located on the Otolaryngology-Head & Neck surgery division website.

*(Please note that objectives/competencies in **bold** are found on the observation forms of EPAs)*

Specific Objectives & Competencies:

Medical Expert

(1.4**)** **Apply basic knowledge of anatomy and physiology**

Understand the basic anatomy and physiology of the ear and temporal bone including the auditory and vestibular systems as well as the lateral skull base

(2.2) **Elicit a clinical history and perform a physical examination of the otology/neurotology patient using basic office instrumentation including otoscopy, nasopharyngoscopy and ear microscopy**

(2.2) **Improve understanding, indications and interpretation of diagnostic testing to include:**

Diagnostic imaging techniques of the ear and skull base

Advanced audiology and vestibular testing including:

Junior Core Rotation

- Conventional and impedance audiometry
- Auditory brainstem response (ABR)
- Otoacoustic emissions (OAEs)
- Electronystagmography (ENG) / videonystagmography (VNG) basic principles
- Rotation chair testing basic principles

Senior Core Rotation

- Electrocochleography (ECoG)
- Vestibular evoked myogenic potentials (VEMP)
- Electronystagmography (ENG) / videonystagmography (VNG) testing interpretation
- Rotation chair testing interpretation

(2.2) **Synthesize all the information and formulate a diagnosis and treatment plan for common and most advanced otologic and vestibular diseases to include**:

Otology

Junior Core Rotation

- External ear diseases
- Acute otitis media and associated complications.
- Chronic otitis media including tympanic membrane perforations and cholesteatoma.
- Otosclerosis
- Causes of sensorineural hearing loss including noise exposure, presbycusis, ototoxicity, genetics,
- Sudden sensorineural hearing loss.
- Tinnitus
- Middle ear and temporal bone trauma.

Senior Core Rotation

- Necrotizing otitis externa
- Disorders of the Eustachian tube.
- CSF leak and perilymph fistula.
- Autoimmune inner ear disease

Neurotology

Junior Core Rotation

- Benign paroxysmal positional vertigo (BPPV)
- Meniere's disease
- Vestibular neuritis
- Disorders of the facial nerve.

Senior Core Rotation

- Superior semicircular canal dehiscence syndrome
- Meniere's disease – complex cases and advanced treatment
- Other causes of peripheral vestibulopathies
- Lateral skull base lesions including acoustic neuromas and other benign CPA lesions, temporal bone neoplasms and petrous apex lesions.

(2.4) **Establish patient-centered management plans**

(3.1) **Provide timely and adequate responses to complications and undesired side effects of treatment**

(3.1) **Determine the most appropriate auditory and vestibular procedures or therapies**.

Junior Core Rotation

Auditory

- Conventional hearing aids

Vestibular

- Vestibular rehabilitation

Senior Core Rotation

Auditory

- Implantable hearing aids to include: Cochlear implants, Bone anchored hearing aids and Middle ear implants

Vestibular

- Indications for surgical treatment of vertigo (includes labyrinthectomy, vestibular nerve section, endolymphatic sac surgery and posterior canal and superior canal occlusion)

(3.2) **Obtain and document informed consent explaining the risks and benefits of, and the rationale for a proposed otologic or vestibular surgery**

(3.4) Perform **(bolded)** procedures in a skillful and safe manner to include:

Junior Core Rotation

Advanced Otology

- **Ventilating tube insertion in the office setting**
- Elevate a tympanomeatal flap
- **Tympanoplasty**
- **Canaloplasty**
- **Cortical mastoidectomy**
- **Middle ear perfusion of corticosteroids**
- Observe surgery for treatment of otosclerosis
- Practice temporal bone dissection

Neurotology

- **Auditory brainstem response testing**

Senior Core Rotation

Advanced Otology

- **Advanced tympanoplasty**
- **Ossiculoplasty**
- **Mastoidectomy including canal wall down and combined approaches**
- Posterior tympanotomy with consultant supervision
- Assist at surgery for treatment of otosclerosis
- Practice temporal bone dissection
- Participate or perform audiogram, tympanogram, stapedial reflexes

Neurotology

- **Middle ear perfusion of gentamicin**
- Participate in the surgical treatment of vertigo (includes labyrinthectomy, vestibular nerve section, endolymphatic sac surgery and posterior/superior canal occlusion).
- **Assist at surgery for treatment of lateral skull base lesions including acoustic neuromas, other benign CPA lesions and petrous apex lesions**
- Participate in electronystagmography/videonystagmography testing on patients

(4.1) **Implement a patient centered care plan that supports ongoing care, follow-up on investigations related to disease monitoring, and response to treatment when relevant**.

Communicator

(1.6) **Communicate effectively with a patient with hearing impairment**

(3.1) **Discuss with the patient and/or family information relevant to diagnosis and treatment in a clear and accurate manner while checking for patient and family**

understanding

(5.1) **Document clinical encounters through dictated/written consultations, OR reports, progress notes and discharge summaries in an accurate, complete, timely and accessible manner**

Collaborator

(1.2) **Work effectively with audiologists and vestibular testing technicians in the outpatient clinics in order to guide diagnostic testing**

(2.1) **Show respect towards other health care professionals**

(3.2) **Demonstrate safe handover of care, using both verbal and written communication**

Leader

(2.1) **Allocate health care resources for optimal patient care**

(4.1) Set priorities and manage time to integrate practice and personal life

Health Advocate

(1.1) **Work with patients to identify hearing loss from recreational and/or occupational noise exposure. Demonstrate knowledge of hearing aid subsidization through government funding and WSIB compensation and provide assistance to patients to access these financial resources**

(1.3) **Counsel patients in the practice of noise precautions when appropriate to help reduce their risk of noise induced hearing loss**

(2.1) Work with the medical community to increase awareness of ototoxic medications to improve disease prevention

Scholar

(1.2) Maintain a surgical procedure log

(1.3) **Engage in collaborative learning with fellow residents to strengthen overall knowledge in otology/neurotology in hopes of continuously improving personal practice**

(2.1) Provide formal and informal teaching of medical students and junior residents

(2.4) Participate in academic rounds, journal clubs and other educational outlets

(3.1) **Recognize practice uncertainty, knowledge gaps and seek for advice/consultation when needed**

(3.4) **Evaluate proposed diagnosis and treatment with current literature when appropriate to integrate evidence into decision-making**

Professional

(1.1) Exhibit appropriate professional behaviors and relationships in all aspects of practice. Deliver health care to patients in an honest, ethical and professional manner

(1.3) **Recognize and respond to ethical issues encountered in practice such as informed consent and potential complications of treatment of otologic and vestibular disease, deafness, driver licensing with regards to patients with**

vertigo

(2.2) **Demonstrate a commitment to patient safety**

(4.2) Manage personal and professional demands to maintain a well-balanced lifestyle

Entrustable Professional Activities

Assessment:

The following Entrustable Professional Activity (EPA) assessment forms from the Junior (PGY3) and Senior (PGY4) CORE of Discipline stage must be completed during the rotation respectively; however, at the conclusion of the rotation it is possible that not all EPAs will be achieved:

Form 1-Royal College Mainport e-Portfolio or McMaster MedSIS
Form 2-Royal College Mainport e-Portfolio or McMaster MedSIS
Form 3-Royal College Mainport e-Portfolio or McMaster MedSIS (paper form on the home program website in the Residents Manual under Chapter 4 called Assessment Forms, Promotion & related Policies)

During the rotation, you need to work on the following EPAs for Competencies:

EPA 3.1
Providing post-operative management (JC/SC)-Form 1
EPA 3.2
Managing an inpatient surgical service (JC/SC)-Form 3
EPA 3.10
Assessing patients with facial paralysis, and providing recommendations for both surgical and non-surgical treatment options (JC)-Form 1
EPA 3.28
Assessing patients with tinnitus and providing initial management (JC/SC)-Form 1
EPA 3.29
Assessing adult and pediatric patients with hearing loss and providing an initial management plan, both surgical and non-surgical (JC/SC)-Form 1 & 2
EPA 3.30
Assessing patients with balance disorder/vertigo and providing initial management plan both surgical and nonsurgical (JC)-Form 1

The following <u>CanMEDS intrinsic roles</u> assessment <u>must</u> be completed during the rotation <u>when indicated on your CBD road map</u>:

- Faculty provides summative feedback on CanMEDS intrinsic roles (non-medical expert role) by using the narrative observation form. The narrative form is located on the Royal College Mainport ePortfolio or McMaster MedSIS and must be triggered by the learner or observer.
- 360 (multisource feedback x1 Otology clinic nurse, x1 OR nurse)
- OR dictation x1
- Consult dictation x1

Neurotology/Otology Bibliography suggestions

Jackler and Brackmann. Neurotology. Philidelphia: Elsveir Mosby, 2005. Cummings: Otolaryngology-Head and Neck Surgery.Byron J Bailey: Head and Neck Surgery-Otolaryngology.

Radiology Swartz Joel and Laurie Loevner: Imaging of the Temporal Bone 4th edition on line Balance Function Testing:

Jacobson, Newman and Kartush. Handbook of Balance Function Testing. New York: Delmar, 1997.Barber and Stockwell -Manual of Electronystagmography. Mosby 1976. (Only book complete)

ABR:

Picton T. Supplement of Journal of Otolaryngology. Vol. 10, supplement #9, 1980 Halliday A.M. Evoked Potentials in clinical setting. Service Clinical Neurology and Neurosurgery monographs. Churchill Levingston. Advances in Neurology vol.32 Clinical Applications of Evoked Potentials in Neurology, Ravenpress, 1983.

Surgical Skills Bibliography:

House Ear Institute: Temporal Bone Surgical Dissection Manual. Brackmann, Shelton and Arriaga. Otology Surgery. Philadelphia: W. B. Saunders Company, 2001.Sanna Mario and al. Middle Ear and Mastoid Microsurgery 2003.

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