Goals and Objectives for the Otolaryngology-Head & Neck Surgery on Otology and Neurotology Rotation
PGY4
St Joseph’s Healthcare and Hamilton General site (3 four-week rotational blocks)

Overview

During the fourth year of their residency training the resident will spend three four-week rotational blocks doing an Otology and Neurotology focused rotation at St Joseph’s Healthcare and the Hamilton General site. The resident will gain experience in dealing with outpatients in the clinic and with inpatients on the wards, the intensive care units, the operating room and in the emergency department. The majority or the rotation will involve service at St Joseph’s Healthcare with approximately one day every four weeks spent at the Hamilton General site for Neurotology skull base surgical cases. The experience will primarily involve adult patients with a small pediatric component. All residents must review their learning objectives with the Otolaryngology staff at the beginning and at the end of the rotation to facilitate meeting the objectives.

Otolaryngology Staff Surgeon: Dr. J. Archibald.

A two-week rotating schedule with some minor variability based on hospital/OR scheduling

You will be expected to make rounds with your team in the mornings before starting in the operating room or other activities of the service and at the end of the day. You are expected to make handover to the resident on call. The senior resident will assign your work schedule of the week. If the senior resident is absent, he/she will delegate the resident with most seniority to that role temporarily.

Schedule

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**Call:**

You will be assigned to be on call with the otolaryngology service. The senior resident will make up your call schedule. Please note that call during weekdays is from 08:00 to 08:00 hrs and weekend call is from Friday 17:00 to Monday 08:00 hrs unless notified differently. Call will be set according to PARO guidelines.

**Overall Objectives:**

*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:*

The resident is expected to gain understanding and knowledge of the anatomy, physiology and pathophysiology of the ear including the auditory and vestibular systems. The resident will gain experience in the medical and surgical treatment of otologic and neurotologic diseases. Upon completion of the PGY 4 year, the resident will have attained adequate skills and knowledge to diagnose and manage common and most advanced otologic and neurotologic pathology.
Specific Objectives:

Medical Expert

The resident is expected to learn how to:

Continue improvement in skills in clinical history taking and examination of the otolaryngology patient using basic office instrumentation and office (flexible and rigid) endoscopes and microscopic equipment.

Continue improvement in knowledge in the indications for and interpretation of diagnostic imaging techniques of the ear and skull base.

Obtain knowledge of advanced audiology, vestibular testing and treatment strategies.

Synthesize all the information and formulate a diagnostic work-up and treatment plan for common and most advanced ENT problems.

Carry out pre and post-op care on the ward and the clinic.

Obtain efficient follow-up skills related to disease monitoring, compliance with treatment.

Recognize common complications of treatment and their management.

Knowledge Basic sciences and anatomy:

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.

Knowledge Clinical:

1. Principles of evaluation and management of patients in Otology:

- Principles of conventional and impedance audiometry in adults.
- Auditory rehabilitation including surgical and non-surgical options.
- External ear diseases including necrotizing otitis externa.
- Acute otitis media and associated complications.
- Disorders of the Eustachian tube.
- Chronic otitis media including tympanic membrane perforations and cholesteatoma.
- Otosclerosis including pathophysiology and treatment.
- Causes of sensorineural hearing loss including noise exposure, presbycusis, ototoxicity, genetics, autoimmune inner ear disease, as well as an approach to the diagnosis and management of sudden sensorineural hearing loss.
- Pathophysiology of tinnitus.
- Cochlear implants including the assessment and indications, the device mechanism, the surgery, and postoperative rehabilitation.
- Bone anchored hearing aids including assessment and indications, the device and the surgery.
- Middle ear and temporal bone trauma.
- CSF leak and perilymph fistula.
2. Principles of evaluation and management of patients in Neurotology:

- Principles and application of auditory brainstem response (ABR) and otoacoustic emissions (OAEs).
- Principles and application of electronystagmography (ENG) / videonystagmography (VNG) including interpretation of findings.
- Principles and application of rotation chair testing including interpretation of findings.
- Principles and application of electrocochleography and VEMP.
- Benign paroxysmal positional vertigo (BPPV) and demonstrate a rational approach to its treatment including the performance of particle repositioning maneuvers.
- Pathophysiology of Meniere’s disease including diagnosis and medical and surgical treatment options.
- Other causes of peripheral vestibulopathies including vestibular neuritis and superior canal dehiscence.
- Understanding of the indication for surgical treatment of vertigo (includes labyrinthectomy, vestibular nerve section, endolymphatic sac surgery and posterior canal and superior canal occlusion).
- Develop a rational approach to vestibular rehabilitation and participate in delivery of this care.
- Approach to diagnosis and surgery for treatment of lateral skull base lesions including acoustic neuromas and other benign CPA lesions, temporal bone neoplasms and petrous apex lesions.
- Demonstrate a rational, organized approach to medical management of disorders of the facial nerve.

**Technical and Operative Skills:**

1. Advanced Otology

- Perform ventilating tube insertion in the office setting.
- Elevate a tympanomeatal flap with limited consultant intervention.
- Perform tympanoplasty with limited consultant intervention.
- Perform canaloplasty with consultant supervision.
- Perform ossiculoplasty with consultant supervision.
- Perform mastoidectomy including canal wall down and combined approaches with consultant supervision.
- Perform posterior tympanotomy with consultant supervision.
- Perform middle ear perfusion of corticosteroids.
- Assist at/observe surgery for treatment of otosclerosis.
- Practice temporal bone dissection.
- Perform an audiogram, tympanogram, stapedial reflexes.
2. Neurotology

- Perform/Observe auditory brainstem response testing
- Perform 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.
- Perform/Observe electronystagmography/videonystagmography on patients.

Communicator

Take a relevant history from the patient, the family and/or paramedics.
Communicate effectively with a patient with hearing impairment.
Discuss with the patient and/or family the diagnosis, investigations, treatment and potential complications/morbidities.
Discuss and deal with patient’s concerns and complaints appropriately.
Deal with unfavorable outcome or unrealistic expectations.
Obtain an informed consent for treatment from the patient and/or family.
Communicate effectively with health care professionals and other members of the team.
Dictate/write consultations, OR reports, progress notes and discharge summaries clearly.
Listen effectively.
Present and participate at grand rounds.

Collaborator

Consult and interact with respect to other health care professionals, in particular with the anesthesiologist, nurses in the OR, clinics and wards, respiratory technicians, audiologists, speech language pathologists and clerks in the outpatient clinics.
Consult and work effectively with the attending staff.
Consults and works effectively with other medical specialists.
Consults and works effectively with colleagues, medical clerks and students.

Manager

Manage effectively the different tasks involved in the diagnosis and treatment of outpatients and inpatients.
Prioritize responsibilities.
Utilize health care resources safely and effectively.
Utilize information technology effectively.
Keep a log of your surgical procedures.
Work well in the health care organization (clinic, ward, ICU, ER and operating room).
Health Advocate

Awareness of the health and preventive measures related to hearing loss including recreational and occupational noise exposure and ototoxic medications.
Demonstrate knowledge about hearing aids reimbursement through government fund.
Demonstrate knowledge about the WSIB compensation form for hearing loss, tinnitus and the regulations for compensation.
Attention to issues related to public safety/policies regarding noise exposure in the workplace.
Advocate on behalf of patients.

Scholar

Prepare and read around surgical cases and learn the steps of the proposed treatment.
Read about clinical cases and participate appropriately by asking questions.
Teach medical students, junior and other health care professionals.
Participate in academic rounds, journal clubs and other educational outlets.
Accept constructive feedback and act appropriately.
Evaluate proposed diagnosis and treatment with current literature when appropriate.
Be alert for opportunities to contribute in the report of cases of mutual interest to audiologists, speech language pathologists, pediatricians, intensive care physicians, neurosurgeons, plastic surgeons and fellow colleagues.
Obtain a satisfactory performance at the residency program oral/written examinations.
Obtain a satisfactory performance at the Canadian in training exam that shows a positive progression compared to the previous year.

Professional

Deliver health care to patients in an honest, ethical and professional manner.
Recognize own limitations and seek advice and help when needed.
You will have the opportunity to explore ethical issues such as informed consent and potential complications of treatments, among many others.
Continue to pursue a balanced life-style.

Neurotology/Otology Bibliography suggestions

Cummings: Otolaryngology-Head and Neck Surgery.
Radiology

Swartz Joel and Laurie Loevner: *Imaging of the Temporal Bone* 4th edition on line

Balance Function Testing:


ABR:


**Surgical Skills Bibliography:**

Sanna Mario and al. *Middle Ear and Mastoid Microsurgery* 2003.

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