



الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

OTORHINOLARYNGOLOGY HEAD & NECK SURGERY





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Saudi Commission for Health Specialties

**SAUDI BOARD
OTORHINOLARYNGOLOGY – HEAD AND NECK
SURGERY
CURRICULUM**

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INTRODUCTION

Otorhinolaryngology –Head and Neck Surgery is a five-year structured training program, upon completion of which trainees will have gained basic knowledge, clinical skills, and an understanding of professional behavior.

The key focus of the program is to develop a broad base of knowledge in otorhinolaryngology – head and neck surgery. Trainees will progressively acquire in-depth knowledge of the diverse field of otorhinolaryngology during their training.

Residents will also develop clinical skills using apt diagnostic, investigative, and therapeutic judgment. Through their training, they will acquire and sharpen their surgical skills in all specialties of otorhinolaryngology – head and neck surgery in order to practice safely, become competent in the management of common and important otorhinolaryngologic diseases, and effectively manage emergency cases.

The program focuses on professional behavior and medical ethics as well as quality management and cost effectiveness. It also implements the seven domains of the CanMEDS roles, which will be the standard for the Ear, Nose, and Throat (ENT) program accredited by the Saudi Commission for Health Specialties (SCFHS).

The foremost objective of the Otorhinolaryngology – Head and Neck Surgery residency program is to graduate competent, well-trained residents who are capable of functioning independently and able to provide the highest level of care to their ear, nose, and throat (ENT) patients.

Foreword

The goal of postgraduate medical education is to graduate the best possible physicians to meet the health care needs of the society. Medical educators, trainees, patients, and society in general recognize that being well-trained in the scientific aspects of medicine is necessary but insufficient for effective medical practice; a good doctor must draw upon a wide array of knowledge and skills. The Canadian Medical Education Directives for Specialists (CanMEDS) framework, which is applied to postgraduate training programs in many countries, offers a model of physician competence that emphasizes not only biomedical expertise but also multiple additional non-medical expert roles that aim to better serve societal needs. Therefore, the Saudi Commission for Health Specialties (SCFHS) is adopting the CanMEDS frameworks to set up the core curriculum of all training programs, including the Saudi Board Certification in Otorhinolaryngology – Head and Neck Surgery. Hence, trainees will function within the seven Roles of CanMEDS: Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar, and Professional.

The curriculum development process was a systematic one. Steps included selecting the curriculum development committee members, conducting a series of meetings with the curriculum advisory members, using the curriculum template recommended by SCFHS to integrate the CanMEDS framework, and refining the content and developing a short version of the curriculum before submitting the curriculum for scientific committee approval.

The purpose of the curriculum is to have a comprehensive, unified reference for the Saudi Board residency training program in Otorhinolaryngology – Head and Neck Surgery that includes details of the learning process, training, assessment, and certification.

In order to implement the curriculum, collaborative support is needed from SCFHS, the training centers, program supervisors, and clinical tutors.

There shall be a periodic review of the curriculum, to be decided by the Scientific Council of Otorhinolaryngology – Head and Neck Surgery, to allow for future refinement and continuous quality improvement. Trainees will adhere to the rules and regulations of the training program. Upon successful completion of the program, trainees will be awarded the “Saudi Board of Otorhinolaryngology – Head and Neck Surgery” Certificate.

Vision

The vision of the Otorhinolaryngology – Head and Neck Surgery residency program is twofold: to comprehensively train medical graduates as medical experts, health advocates, scholars, professionals, collaborators, efficient managers, and effective communicators in order to serve the community at large, and to be one of the world’s foremost otorhinolaryngology – head and neck surgery residency programs.

Mission

To provide specialized training to medical graduates to gather knowledge and skills in the domain of otorhinolaryngology – head and neck surgery through the use of advanced teaching and training methodology.

Program Goals and Objectives

Upon completion of the residency training program, graduating residents will be able to function as independent otolaryngologist – head and neck surgeons, enabling them to successfully pursue careers in general otolaryngology or to proceed with subspecialty fellowship training. They will be responsible individuals with the highest commitment to their patients, fulfilling all CanMEDS domains as consultant surgeons while demonstrating a commitment to their profession, to life-long learning, and to society in general.

General Objectives

1. Residents will be able to integrate all of the CanMEDS Roles to provide optimal, ethical, patient-centered medical care. They will know how to apply their medical knowledge, clinical skills, and professional attitudes to provide effective patient-centered care.
2. Residents will function effectively as communicators who can facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.
3. Residents will function effectively as collaborators who can work within an interdisciplinary health care team to achieve optimal patient care.
4. Residents will function effectively as managers who are integral participants in health care organizations. They will be able to organize sustainable practices, make decisions about allocating resources, and contribute to the effectiveness of the health care system.
5. Residents will function effectively as health advocates who use their expertise and influence responsibly to advance the health and well-being of individual patients, communities, and populations.
6. Residents will function effectively as scholars who demonstrate a lifelong commitment to reflective learning as well as to the creation, dissemination, application, and translation of medical knowledge.
7. Residents will function effectively as professionals who are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behavior.

Specific Objectives

1. To provide adequate infrastructure for teaching the basic sciences and the clinical and surgical aspects of otorhinolaryngology.
2. To provide an optimal scientific milieu essential to understanding otorhinolaryngologic diseases through a structured and organized academic program of seminars, clinical rounds, and journal clubs.
3. To develop the abilities of the residents, who, by the end of the course, should be able to elicit histories and conduct physical examinations of patients with otorhinolaryngologic – head and neck surgery diseases, formulate reasonable and comprehensive differential diagnoses, and manage patients with common and rare otorhinolaryngologic disorders.
4. To provide proper training in otorhinolaryngologic disorders through patient care and management by means of ward rounds, outpatient clinics, emergency room rotations, and intensive care unit postings.
5. To create a scientific environment by inviting discussions, guest lectures, grand rounds, teaching, seminars, and journal clubs.
6. To provide the means to develop technical proficiency and surgical skills in otorhinolaryngologic surgery through supervised exposure in the operating room, minor surgery in the clinics, and cadaver surgery in the anatomy and temporal bone laboratories.
7. To provide adequate basic and clinical research opportunities to the residents.
8. To encourage a multidisciplinary approach to patient management in such areas as neurotology, head and neck surgical oncology, communication, and swallowing disorders.

Program Framework

General training requirements

- a) Applicants should fulfill all admission requirements set by the Saudi Commission for Health Specialties.
- b) Trainees shall abide by the training regulations and obligations set by the Saudi Commission for Health Specialties.
- c) Training is a full-time commitment. Residents shall be enrolled in full-time, continuous training for the duration of the program.
- d) Training is to be conducted in institutions accredited for training by the Saudi Board of Otolaryngology.
- e) Applicants should fulfill all the requirements set by the Saudi Commission for Health Specialties and the Scientific Council of Otolaryngology.
- f) Trainees shall be actively involved in patient care, with a gradual progression of responsibility.

Clinical Rotations

The Saudi Board program of “Otorhinolaryngology – Head and Neck Surgery(ORL-HNS)” consists of five years of full-time supervised residency training in ORL-HNS (and its subspecialty), in addition to general surgery/ENT emergency and critical care areas. The training institution must be accredited by SCFHS towards a Saudi Board Certificate in Otorhinolaryngology – Head and Neck Surgery. Training in each rotation must be comprehensive, including inpatients and operations. As trainees gain experience and competence, their responsibilities will continue to increase. In addition to caring for patients, they will be actively involved in teaching juniors and other colleagues.

The Saudi Board of Otorhinolaryngology – Head and Neck Surgery Residency Training Program is divided into two levels, Junior (R1-R2) and Senior (R3-R5). The objectives and clinical competencies for each level are enumerated below.

Junior Level (R1-R2)

Learning Objectives and Clinical Responsibilities:

1. Elicit a comprehensive history and perform a complete physical examination upon admission of a patient, clearly write the assessment and differential diagnoses of the patient’s medical problems, and initiate the plan of management.
2. Discuss the plan of management, including investigations and treatment plan, with the trainee’s senior and communicate the plan to the nurse assigned to the patient’s care.
3. Attend to all patient complaints and concerns, follow up results of investigations daily, write problem-oriented progress notes daily, and update the patient’s problem list.
4. Perform basic procedures necessary for diagnosis and management.
5. Present patients at daily rounds and transfer all sick patients to the on-call team.
6. Ensure that the following discharge orders are placed in the patient’s chart in a timely manner: discharge medications, follow-up appointment and investigations, etc.
7. Write a timely and thorough discharge summary.
8. Participate actively in the department’s and section’s activities and in the presentation of cases in the Morning Report.

Senior Level (R3-R5)

Learning Objectives and Clinical Responsibilities:

1. Review the junior residents’ admission notes and orders, discuss their proposed plans of management, and supervise the implementation of the plans.

2. Document patient histories and clinical examinations independently, supervise the progress notes of junior resident daily, and write progress notes in the charts at least three times a week.
3. Help the junior residents interpret laboratory investigations and perform bedside diagnostic and therapeutic procedures.
4. Assist the junior residents in acquiring computer skills for searching the literature and following evidence-based approaches to patient care.
5. Attend to consultations within and outside the department, including emergency consultations, and participate in outpatient clinics.
6. Participate in the department's and section's activities.
7. Participate actively in educating and training medical students, interns, and junior residents.
8. Write timely and thorough reports of morbidity and mortality for departmental and specialty club meetings.

Teaching and Academic Activities

Formal academic teaching and academic activities are carried out throughout the program. These include but are not limited to lectures, journal club, e-learning, case presentations, and trainee-selected topics, as well as workshops and simulation courses.

Minimum Training Requirements for the Otorhinolaryngology Residency

The Saudi Commission for Health Specialties requires five years of otorhinolaryngology training, including the required rotations following the protocol given below.

Residency Years R1 and R2: Surgical foundation training

Residency Years R3, R4, and R5: Otorhinolaryngology specialty training

R1 Rotations	Duration
General Surgery	12 weeks
Intensive Care Unit (ICU)	8 weeks
Anesthesia	8 weeks
Plastic Surgery	8 weeks
Neurosurgery	4 weeks
Thoracic Surgery	4 weeks
Emergency Room (ER)	4 weeks
<i>Vacation (maximum of 4 weeks)</i>	
Total	52 weeks

R2 Orientation Rotations	Duration
General Otorhinolaryngology	12 weeks
Otology	12 weeks
Rhinology	12 weeks
Head and Neck Surgery	12 weeks
<i>Vacation (maximum of 4 weeks)</i>	
Total	52 weeks

R3, R4, and R5 Clinical Rotations	Duration
Head and Neck Surgery	12 weeks
Otology	12 weeks
Rhinology, Faciostlastic and Reconstructive surgery	12 weeks
Pediatric Otorhinolaryngology	12 weeks
<i>Vacation (maximum of 4 weeks)</i>	
Total	52 weeks

Description of Residents' Clinical Rotations

Description of clinical rotations in the otorhinolaryngology residency program is based on the CanMEDS competencies as follows:

General Surgery Rotation [R1]

Medical expert

General Objectives

- Gain familiarity with the management of surgery patients in the perioperative period.
- Gain a general understanding of surgical oncology.
- Gain general surgical technical skills with improved understanding of handling various tissues.

Specific Objectives

- Demonstrate understanding of the principles of fluid management, including preoperative fluid shifts, urine output status, and fluid management during states of shock.

- Manage electrolyte imbalance in the preoperative patient.
- Discuss the benefits and drawbacks of both enteral and parenteral nutrition and describe scenarios in which each is appropriate.
- Describe contributing factors and treatment of wound infections.
- Discuss indications for transfusion and the administration of blood products in preoperative patients, including those with common pre-existing blood disorders.
- Describe the evaluation and management of thyroid diseases.
- In surgical oncology, describe the evaluation, management, and staging of tumors of the head and neck, including carcinomas, melanomas, and sarcomas.
- Describe surgical anatomy, particularly of the head, neck, torso, and abdominal wall.
- Assess and manage multiple trauma patients.
- Interpret abdominal and chest x-rays in the acute surgical patient.
- Interpret electrocardiograms (ECGs) in the acute surgical patient.
- Manage acute fluid imbalance and electrolyte abnormalities in the preoperative setting.
- Recognize acute surgical emergencies that require intensive-care consultation and management.
- Recognize acute injuries and initiate investigation and management.
- Define and recognize sepsis and septic shock and institute appropriate management.
- Discuss the contributing factors, prevention, and treatment of thromboembolic disease.
- Demonstrate the ability to perform different methods of suturing and describe the appropriate scenarios in which each should be used.
- Describe the characteristics of different suture materials and recognize the appropriate situation in which each should be used.
- Optimize retraction and lighting in order to facilitate the performance of surgical procedures.
- Demonstrate the proper techniques for handling instruments (for example, needle drivers, cautery tools, and forceps).
- Recognize appropriate surgical scenarios for blunt and sharp dissection and demonstrate the proper techniques for both.
- Demonstrate different techniques for intraoperative hemostasis.
- The suggested reading for this rotation is a general surgery textbook such as *Schwartz's Principles of Surgery* or *Sabiston Textbook of Surgery*.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of surgical patients. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients and their families in a general surgery setting. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in the care of patients with surgical problems. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating health care facilities in both hospital and private office settings. They will continue to develop managerial skills, including dealing with employees and other coworkers in various health care settings.

They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team.

Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in general surgery as it relates to the practice of otolaryngology – head and neck surgery.

They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching.

They will demonstrate and improve independent learning abilities in order to maintain and advance professional development.

They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding of and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent.

They will demonstrate integrity, honesty, and a good work ethic.

They will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Intensive Care Unit Rotation [R1]

Medical expert

General Objectives

- Manage the critically ill patient, including preoperative complications and trauma.
- Become more comfortable with critically ill patients.

Specific Objectives

- Understand respiratory requirements, including the assessment of the respiratory system and ventilation.
- Understand the management of sepsis and septic shock.
- Understand hemodynamics, including indications for vasopressors and inotropes.
- Understand the management of medical problems including congestive heart failure, diabetes, and hypertension.
- Understand medications, including sedatives, paralytics, antibiotics, and cardiovascular medications, used in the pharmacologic management of critical care patients.
- Gain procedural skills related to the specialty, including intubation, line placement (central venous pressure, Swan-Ganz, arterial, transvenous pacing, and intravenous), nasopharyngoscopy, bronchoscopy, and placement of chest tubes.
- Understand advanced cardiac life support protocols.
- Recognize the patient who is becoming critically ill or who may require intensive care unit (ICU) admission in the future.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of critical care patients. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for critical care patients' health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients and their families in the critical care setting when possible. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating the critical care facilities. They will continue to develop managerial skills, including dealing with employees and other coworkers in this setting. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in critical care as it relates to the practice of otolaryngology – head and neck surgery.

They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching.

They will demonstrate and improve independent learning abilities in order to maintain and advance professional development.

They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding of and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent.

They will demonstrate integrity, honesty, and a good work ethic. They will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Residents should be aware of the Do Not Resuscitate (DNR) or Allow Natural Death (AND) policies and their ethical and religious backgrounds.

Anesthesia Rotation [R1]

Medical expert

General Objectives

Otolaryngology – Head and Neck Surgery R1 residents should acquire a basic understanding of the specialty of anesthesia as well as methods of comprehensive assessment and management of the patient from the preoperative to the postoperative period from the anesthetic point of view.

Specific Objectives

- Summarize basic major organ system physiology/pathophysiology pertinent to perioperative care (with emphasis on the respiratory system).
- Describe techniques and common agents used in conscious sedation, local anesthesia, general anesthesia, and analgesia.
- Manage fluid balance and hypovolemia/blood loss.
- Explain the principles of ventilation.
- Recognize the drugs used for conscious sedation, analgesia, and amnesia and suitable techniques for sedating patients who require intubation and ventilation.
- Recognize the perioperative management of patients with illnesses including diabetes, chronic obstructive pulmonary disease, congestive heart failure, and others.
- Perform and discuss assessment of the airway, including the “difficult airway” and the “shared airway.”
- Describe options for situations in which airway management is difficult.
- Discuss and participate in induction and maintenance of local and general anesthesia.
- Recognize the high-risk surgical patient and arrange appropriate consultation.
- Perform perioperative risk assessment of patients with regards to the risk vs. benefit analysis for both anesthesia and surgery.
- Demonstrate basic use of the ventilator.
- Manage the airway, especially using endotracheal intubation and bag-mask ventilation.
- Illustrate techniques of vascular access and invasive monitoring,
- Understand acute and chronic pain management and the different modalities that may be used.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of patients in the perioperative setting. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients and their families prior to induction of general anesthesia. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care in the perioperative setting. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating the perioperative services. They will continue to develop managerial skills, including dealing with employees and other coworkers in this specific setting. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in perioperative care as it relates to the practice of otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. They will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty, and a good work ethic. They will show and improve awareness and sensitivity regarding gender, racial and cultural issues.

The majority of these skills will be developed in the operating room working with consultant anesthesiologists; however, a portion of the learning experience will be gained by attending the Same Day Admission Clinic and ICU.

Plastic Surgery Rotation [R1]

Medical expert

General Objectives

- Gain a general knowledge of the plastic surgery service.
- The Plastic Surgery PGY1 resident should gain an overall knowledge of the field of plastic surgery, especially as it pertains to otolaryngology – head and neck surgery.

Specific Objectives

- Perform basic assessment of emergency patients, including those with facial trauma, burns, and multiple traumas.
- Perform general ward work, including perioperative inpatient management.
- Understand wound management, including dressing choice, debridement, etc.
- Manage outpatients in the clinic.
- Gain general knowledge of the field of plastic surgery, including the management of maxillofacial injuries, facial trauma, soft tissue coverage techniques, skin cancer, wound healing, pediatric plastic surgery including cleft lip and palate surgery, burn surgery, and cosmetic surgery.
- Develop technical skills related to the specialty, including minor procedures such as abscess drainage, debridement, and excision of soft tissue lesions and biopsies; the use of local anesthetics; suture choice; suturing skills; incision planning; and flap techniques.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of patients on the plastic surgery service. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients and their families. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating plastic surgery facilities in both hospital and private-practice settings. They will continue to develop managerial skills, including dealing with employees and other coworkers in various health care settings. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in plastic surgery as it relates to the practice of otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. They will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty and a good work ethic. They will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Neurosurgery Rotation [R1]

Medical expert

General Objectives

- Gain a general familiarization with the principles of neurosurgery, including anatomy, physiology, oncology, and surgical management.
- Gain general knowledge of neurosurgical care, including recognition and treatment of neurosurgical emergencies.

Specific Objectives

- Develop an understanding of neuroanatomy and neuropathology.
- Understand the assessment and management of head injuries.
- Evaluate patients for possible cervical spine injuries and manage such injuries.
- Manage neurosurgical emergencies including intracranial bleeding, raised intracranial pressure, and depressed skull fractures.
- Perform neurosurgical procedures including cranial nerve surgery, surgical management of acoustic neuroma and other cerebellopontineangle (CPA) lesions, pituitary surgery, and so forth.
- Gain exposure to the combined approach for skull base surgery.
- Gain exposure to surgical ancillary technology, such as stereotactic and image-guided technology, as well as the use of the operative microscope in neurosurgery.
- Understand spinal cord pathology, including cervical root entrapment.
- Gain technical skills related to the specialty, including placement of burr holes, application of halos, and placement of intraventricular drains.
- Understand the management of neurosurgical ICU problems.
- Recognize and manage spinal cord compression.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of neurosurgery patients. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients and their families. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating neurosurgical health care facilities. They will continue to develop managerial skills, including dealing with employees and other coworkers in this setting. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research as well as quality assurance in neurosurgery as it relates to the practice of otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. Residents will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty, and a good work ethic. Residents will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Thoracic Surgery Rotation [R1]

Medical expert

General Objectives

- Gain a general knowledge of the thoracic surgery service.
- Gain an overall knowledge of the field of thoracic surgery, especially as it pertains to otolaryngology – head and neck surgery.

Specific Objectives

- Become introduced to the thoracic surgery service.
- Perform general ward work, including perioperative inpatient management.
- Perform outpatient management in the clinic setting.
- Gain general knowledge of the field of thoracic surgery, including the management of lower airway and esophageal benign and malignant tumors, tracheal stenosis, surgery for gastroesophageal reflux disorder, etc.
- Understand basic assessment and management of emergencies including pneumothorax and hemothorax, thoracic trauma, hemoptysis, esophageal and bronchial foreign bodies, etc.
- Develop technical skills related to the specialty including esophagoscopy, bronchoscopy, mediastinoscopy, chest tube placement, etc.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of patients on the thoracic surgery service. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with thoracic surgery patients and their families. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating health care facilities. They will continue to develop managerial skills, including dealing with employees and other coworkers on the thoracic surgery service. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in ER Surgery as it relates to the practice of otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. Residents will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty, and a good work ethic. Residents will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Emergency Room (ER) Rotation [R1]

Medical expert

General Objectives

- Otolaryngology – Head and Neck Surgery PGY1 residents will become familiar with the general functioning and structure of the emergency department.
- Residents will acquire a general understanding of emergency medicine, with a particular emphasis on problems related to otolaryngology – head and neck surgery.

Specific Objectives

- Assess and manage the emergency room patient, including the acutely ill patient.
- Manage multiple trauma patients, with special emphasis on maxillofacial and neck trauma.
- Manage acute medical problems such as an acute myocardial infarction, exacerbation of chronic obstructive pulmonary disease, airway emergencies, acute asthma, hemoptysis, hematemesis, etc.
- Gain basic technical skills related to the specialty, including suturing; local anesthesia and nerve blocks; ear, nose and throat exams for the ER patient; and ophthalmologic assessment.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in the health and well-being of patients in an emergency setting. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with patients in the emergency setting and with their families. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals, as well as with the police and other relevant authorities when required.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in emergency patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating emergency health care facilities. They will continue to develop managerial skills, including dealing with employees and other coworkers in ER and other emergency health care settings. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization as it pertains to the emergency management of patients. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research, as well as quality assurance in emergency medicine as it pertains to the practice of otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. Residents will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will develop competence in appreciating the urgency of patients with problems and will demonstrate timeliness in their response. They will show altruism when patient care mandates it. Residents will demonstrate the highest standards of clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty, and a good work ethic. Residents will show and improve awareness and sensitivity regarding gender, racial, and cultural issues, especially in the emergency setting.

Otolaryngology – Head and Neck Surgery Rotation [R2]

Medical expert

General Objectives

- Otolaryngology – Head and Neck Surgery PGY2 residents should gain a general knowledge of the otolaryngology – head and neck surgery service during the core rotation. This will include the overall functioning of the unit, including familiarity with the staff, the facilities, and the patient population.
- The PGY2 resident should gain an overall knowledge of the field of otolaryngology – head and neck surgery, including most of the subspecialty areas.

Specific Objectives

- Become introduced to the otolaryngology – head and neck surgery service.
- Become familiar with the administrative functioning of the service.
- Understand the basic assessment and management of patients with otolaryngologic emergencies, including airway emergencies, upper respiratory/gastrointestinal bleeding, maxillofacial trauma, neck wounds, peritonsillar abscesses, deep neck space infections, and epistaxis.
- Perform general ward work, including perioperative inpatient management.
- Perform outpatient management in the clinic setting.
- Become introduced to the assessment and management of head and neck penetrating trauma.
- Develop a knowledge of head and neck anatomy and physiology
- Gain general knowledge of the field of general otolaryngology – head and neck surgery, including the diagnosis and management of common otolaryngologic problems such as sore throats, sleep-disordered breathing, rhinosinusitis, otolaryngic allergy, otitis media, hearing impairment, tinnitus, etc.
- Exposure to pediatric otolaryngology, including otitis media, the cleft palate clinic, etc.
- Gain technical skills related to the specialty, including the ability to do the following: perform upper airway endoscopy (rhinoscopy, nasopharyngoscopy, and laryngoscopy); perform minor procedures such as peritonsillar abscess drainage, myringotomy with pressure equalizer tube placement, and biopsy and excision of soft tissue lesions in the head and neck; use local anesthetics; and perform general otolaryngologic surgical procedures such as tonsillectomy and adenoidectomy, myringotomy with tympanostomy tube placement, septoplasty, and basic endoscopic sinus surgery.

Note: Suggested reading for this rotation is a general otolaryngology – head and neck surgery textbook such as K.J. Lee’s Essential Otolaryngology: Head and Neck Surgery; P. Janfaza’s Surgical Anatomy of the Head and Neck; or Scott-Brown’s Otorhinolaryngology: Head and Neck Surgery.

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological determinants of health and well-being of general otolaryngology patients. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn throughout their training to communicate effectively with general otolaryngology patients and their families. They will also demonstrate progress in communicating clearly and effectively in both verbal and written forms with other physicians and other health care professionals.

Collaborator

Residents will demonstrate a growing understanding of the roles of other physicians from various disciplines as well as other health care professionals in patient care. They will develop and improve the ability to collaborate with patients, their families, and other caregivers in order to provide adequate patient care.

Manager

Residents will develop and improve knowledge in operating health care facilities in both hospital and private office settings. They will continue to develop managerial skills, including dealing with employees and other coworkers in various health care settings. They will demonstrate and improve on leadership skills, including the ability to work effectively within the patient care team. Residents will demonstrate appropriate resource utilization. They will continuously strive to maintain balance between patient care and academic needs and other personal activities.

Scholar

Residents will demonstrate progress in research skills in various areas including basic science and clinical research as well as quality assurance as it relates to the practice of general otolaryngology – head and neck surgery. They will also develop and improve teaching and supervisory skills throughout their training. This includes patient teaching as well as involvement in student and peer teaching. Residents will demonstrate and improve independent learning abilities in order to maintain and advance professional development. They will develop and improve critical appraisal skills and show the ability to interpret and assess the validity of scientific data.

Health Professional

Residents will demonstrate the highest standards in clinical care and ethical conduct. They will show an understanding and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will demonstrate integrity, honesty, and good work ethics. Residents will show and improve awareness and sensitivity regarding gender, racial, and cultural issues.

Otolaryngology

General Otolaryngology Rotation (General Rhinology/Laryngology) [R2]

Medical expert

Objectives:

- Develop proficiency in the history taking and ENT examination of adult patients. For this purpose, residents, in an apprenticeship milieu, will examine a large number of patients in the outpatient clinic and become skillful in the use of the head mirror, pneumatic otoscope, and clinic operating microscope and in the performance of indirect laryngoscopy, anterior and posterior rhinoscopy, and rhinoscopy/nasopharyngoscopy using mirrors and rigid and flexible scopes.
- Develop proficiency in interpretation of diagnostic imaging, including radiographs, computed tomography (CT) and magnetic resonance imaging (MRI) scans, and ultrasound results.
- Show an in-depth knowledge of audiological and vestibular tests as well as basic knowledge of communication disorders.

Surgical skills:

- Learn the surgical anatomy of the oral cavity and oropharynx, larynx, external and middle ear, nasal gross anatomy, and surgical endoscopic anatomy of the nose. (*This will be greatly helped by attending the rhinology course*).
- Develop basic surgical skills as indicated for this level as outlined in the guidelines for surgical competence (Appendix B).

Health advocate

Residents will show the ability to recognize socioeconomic, environmental, and psychological factors involved in patients' health and well-being pertaining to general otolaryngologic problems, such as obesity and a sedentary lifestyle, smoking and alcohol abuse, environmental pollution, noise pollution, voice abusive behaviors, common environmental allergens, etc. They will demonstrate and develop knowledge and proper utilization of available resources and strive to act as advocates for patient health when appropriate.

Communicator

Residents will learn to communicate effectively with general otolaryngology patients and their families. They will develop teaching skills by teaching medical students and junior off-service residents.

Collaborator

Residents will consult appropriately as needed with the radiology and pathology consultants concerning patients under their care. They will develop basic consultative skills by communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals.

Manager

Residents will assist in the organization of the journal club and pathology rounds in the areas of general otolaryngology, rhinology, and laryngology.

Scholar

Academic objectives:

Residents will participate fully in the academic program and function at an appropriate level in discussions during seminars. They will also demonstrate independent learning skills and in-depth knowledge of subjects pertaining to the practice of general otolaryngology.

Research objectives:

Residents will attend the courses in research and be paired by the Research Director with an appropriate supervisor to complete a research project and be ready to present it at the divisional Resident Research Day.

Health Professional

Residents will demonstrate an understanding of and adherence to ethical and legal codes of clinical practice in such areas as confidentiality and informed consent. They will develop an understanding of the process of informed consent and the ability to communicate information clearly with patients during this process as it pertains to general otolaryngologic and head and neck procedures. Residents will demonstrate integrity, honesty, and a good work ethic and will show and improve awareness and sensitivity regarding gender, racial, and cultural issues when dealing with general otolaryngology patients.

Otology Rotation [R2, R3, R4, and R5]

Medical Expert

- Demonstrate understanding of and use of tuning fork testing (basic, R2; advanced, R3, R4, and R5)
- Demonstrate accurate microscopic ear examinations (basic examination, R2; subtle pathology, R4 and R5)
- Demonstrate vestibular examination techniques (basic examination, R3; advanced, R4 and R5, including oscillopsia, fistula testing, and subtle eye movement findings)
- Conduct a complete history to determine the etiology and common causes of sensorineural hearing loss (SNHL) (R3) and genetics of congenital SNHL and conductive hearing loss (CHL) (R4 and R5)

- Interpret and understand basic audiometry, including inconsistencies, non-organic hearing loss (HL), and screening for retrocochlear pathology (R4 and R5)
- Interpret vestibular testing: electronystagmogram, caloric testing, and the physiology of the vestibulo-ocular reflex for R3; rotation chair and posturography (R4 and R5)
- Know the differential diagnosis of peripheral vertigo (R3) and distinguish between central, peripheral, and mixed vestibular disorders; know the treatment options (R4 and R5)
- Demonstrate knowledge of the differential diagnosis for conductive hearing loss
- Demonstrate knowledge of complications of common otologic procedures (R3) and recognize these complications (R4 and R5)
- Accurately diagnose tympanic membrane perforation, cholesteatoma, otitis externa, and fungal otitis externa
- Demonstrate proficiency in axial and coronal CTs of the temporal bone (basic structures, R3; advanced interpretation and MRI, R4 and R5)
- Identify anatomic structures during mastoidectomy and demonstrate the ability to perform a mastoidectomy (cortical R3, canal wall down R4 and R5)
- Demonstrate the ability to perform tympanoplasty (simply, R3; expanded techniques and ossiculoplasty, R4 and R5)
- Demonstrate knowledge of selection criteria for a cochlear implant and perform parts of cochlear implant surgery (R4 and R5 only)
- Identify appropriate candidates and perform bone-anchored hearing aid (BAHA) surgery (R4 and R5 only)
- Perform parts of stapedotomy (R4 and R5 only)
- Demonstrate knowledge of approaches to the skull base and assist in the early stages of case management (R4 and R5 only)
- Demonstrate knowledge of the anatomy of the medial wall of the middle ear and mastoid cavity and understand middle ear physiology (R3)
- Demonstrate knowledge of chronic suppurative otitis media and theories of cholesteatoma formation
- Demonstrate knowledge of hearing aids (R4 and R5)
- Demonstrate knowledge of common peripheral vestibular disorders (R3) and their treatment options and distinguish between peripheral, central, and mixed vestibular disorders (R4 and R5)
- Demonstrate knowledge of autoimmune inner ear disease (R4 and R5 only)
- Demonstrate knowledge of tinnitus treatment options (R4 and R5 only)
- Demonstrate knowledge of Meniere's disease and treatment options in detail (R4 and R5 only)
- Know the differential diagnosis of facial nerve disorders (R4 and R5 only)

Health Advocate

- Identify and counsel patients and families on the dangers of noise exposure in occupational or recreational settings

- Demonstrate knowledge of government and insurer policies on hearing aid reimbursement and the availability of assistive technologies (tinnitus devices, etc.)
- Demonstrate knowledge of evaluation of function in patients with vertigo, including implications for a motor vehicle license
- Educate health professionals and advocate for patients regarding hearing-injuring or vestibular-injuring medications (aminoglycosides, meningitis, etc.)

Communicator

- Learn to communicate effectively and develop a therapeutic relationship with otology patients and their families
- Elicit and synthesize relevant information from patients, their families, and/or their communities about their problems
- Discuss appropriate information with patients, their families, and other health care providers in order to facilitate optimal health care for the patient
- Demonstrate the ability to obtain informed consent for otology surgical procedures, discuss management options, and clearly explain to patients and families the procedures, including potential benefits and risks
- Demonstrate good communication with attending staff regarding management of inpatients and patients seen on consultation in the ER or on the wards
- Demonstrate respect for and good communication with other professionals, including audiologists, speech-language pathologists (SLPs), nurses, physicians, and secretarial and support staff
- Produce clear written communication, including written clinic notes, progress notes, dictated clinic letters, and discharge and operative notes

Collaborator

Residents will contribute effectively to the multidisciplinary skull base clinic and develop basic consultative skills by communicating clearly and effectively in both verbal and written forms with other physicians and health care professionals, including nurses, audiologists, and speech pathologists.

Manager

- Demonstrate an understanding of the costs of various investigations, including auditory brainstem response, electronystagmography, MRI, and audiograms, as well as their positive and negative predictive value in clinical situations
- Demonstrate knowledge and use of relevant adjuvant technologies such as computers, medical databases, and PUBMED
- Demonstrate the ability to prioritize and manage time demands (including various aspects of patient care, documentation, learning activities, and research activities)

Scholar

- Generate topic lists for discussion with staff and/or fellows based on patient encounters in the clinic and the operating room
- Demonstrate ongoing self-directed learning on these topics prior to these discussions
- Demonstrate the ability to interpret the validity and applicability of evidence contained in the medical literature
- Demonstrate supervisory skills appropriate for medical students and other learners in the health care system; provide constructive feedback

Health Advocate

- Display sensitivity to gender, cultural, racial, and social issues; display proper interpersonal professional behaviors
- Reflect the highest standards of excellence in clinical care and ethical conduct
- Display respect for confidentiality
- Demonstrate insight into their limitations of expertise and respond to constructive feedback

Facial Plastic and Reconstructive Surgery Rotation [R3, R4, and R5]

Medical Expert

- Perform a complete medical and surgical history, including consideration of donor sites and performance status following reconstructive surgery
- Demonstrate knowledge and application of the psychosocial issues of cosmetic and reconstructive facial plastic surgery
- Perform a comprehensive examination of the face, head, and neck as well as applicable donor sites for reconstructive surgery
- Present the patient's history and physical findings in an organized and thoughtful fashion, with appropriate formulation of a differential diagnosis and treatment plan
- Adequately document clinic visits and operative notes
- Understand the various rehabilitation issues encountered by patients after reconstructive head and neck surgery and demonstrate adequate judgment in consulting appropriate paramedical staff to improve patient outcomes
- Understand the basic science of facial plastic and reconstructive surgery, with an emphasis on flap physiology, grafting (skin, cartilage, and bone), and wound healing

- Understand the unique issues of and adequately perform surgery using local anesthesia, with and without sedation
- Develop basic competence in free flap reconstructive surgery of the face, head, and neck
- Demonstrate expertise in regional and local flap selection and execution in reconstructive surgery of the face, head, and neck
- Develop expertise in the treatment of cutaneous malignancies of the face, head, and neck
- Demonstrate adequate knowledge of and surgical expertise in nasal, auricular, and lip reconstruction
- Demonstrate adequate knowledge of and surgical expertise in functional and cosmetic rhinoplasty
- Demonstrate basic competence in oculoplastic surgery, including blepharoplasty, canthoplasty, and gold-weight insertion
- Develop expertise in treating patients with facial paralysis; develop an adequate differential diagnosis, investigation, and medical/surgical rehabilitation plan
- Demonstrate expertise in split- and full-thickness skin grafting, including appropriate donor site selection
- Demonstrate expertise in suture selection, knot tying, and wound care in the face, head, and neck
- Develop basic competence in management of nasal and facial trauma, including maxillofacial plating
- Develop basic competence in nerve grafting, with an emphasis on the reconstruction of facial nerves and harvesting of donor nerves (sural, great auricular)
- Develop basic competence in face lifting, brow lifting, and neck lifting, including expertise in applicable anatomy
- Develop basic competence in noninvasive facial rejuvenation techniques, including facial augmentation, botulinum toxin (Botox) injection, laser therapy, and chemical peeling
- Identify and respond appropriately to urgent or emergency situations encountered in facial plastic and reconstructive surgery
- Be aware of the role of evidence in clinical decision-making, including appropriate application of this knowledge in clinical situations

Health Advocate

Residents will identify and counsel patients on the inherent risks of facial plastic and reconstructive surgery and incorporate these factors into decision-making. Residents will also identify risk factors for cancer of the face, head, and neck and counsel patients appropriately in the areas of smoking cessation, chemical dependency, and excessive sun exposure.

Communicator

- Demonstrate appropriate patient interaction and communication techniques
- Demonstrate the ability to obtain necessary historical information from patients and their families

- Demonstrate appropriate communication skills with attending staff regarding management of patients in the clinic, ward, and emergency room
- Obtain informed consent for surgery from patients, including a comprehensive, yet appropriate, discussion of the risks and benefits of surgery
- Demonstrate appropriate communication and respect for other health care professionals, including physicians, nurses, SLPs, dietitians, physiotherapists, audiologists, and secretarial and support staff
- Produce clear written communication in the form of clinic notes, progress notes, discharge instructions, and operative reports

Collaborator

Residents will facilitate the learning of patients and families regarding their health conditions and options for treatment. Residents will work with and share information with physicians from other service providers within the hospital, including nurses, SLPs, physiotherapists, dietitians, and audiologists.

Manager

Residents will appropriately use investigations and other hospital resources to the benefit of the patient and in a cost-effective manner. Residents will also develop some insight into the structure, function, financing, and operation of the health care system. Residents will demonstrate the ability to prioritize and manage time demands, including various aspects of patient care, documentation, learning activities, and research.

Scholar

- Demonstrate ongoing self-directed learning on topics in facial plastic and reconstructive surgery and apply this knowledge on an ongoing basis
- Seek out clarification or more information from peers and teachers on topics related to facial plastic and reconstructive surgery
- Demonstrate the ability to interpret the validity and applicability of evidence contained in the medical literature
- Demonstrate appropriate supervisory skills for medical students and other learners in the health care system and provide constructive feedback

Health Professional

Residents will display sensitivity to gender, cultural, racial, and social issues and show proper interpersonal professional behavior. Residents will also reflect high standards of excellence in clinical care and ethical conduct and display respect for confidentiality. Residents will demonstrate insight into their limitations of expertise and respond to constructive feedback.

Head and Neck Surgical Oncology Rotation [R4 and R5]

Medical Expert

- Perform a directed medical and surgical history, including consideration of nutritional status, substance abuse, factors affecting wound healing, and social supports
- Demonstrate an awareness of and sensitivity toward the psychosocial issues faced by cancer patients and their families
- Perform a comprehensive examination of the face, head, and neck as well as applicable donor sites for reconstructive surgery
- Present history and physical findings in an organized and thoughtful fashion, with appropriate formulation of a differential diagnosis
- Document clinic visits and operative procedures for the medical record
- Understand issues related to rehabilitation of patients treated surgically for head and neck cancer
- Understand the role of paramedical and other medical staff in optimizing patient outcomes and seek their expertise when appropriate
- Understand the basic science relevant to head and neck oncology, with an emphasis on risk factors, tumor biology, anatomic barriers to invasion, and patterns of metastasis
- Plan appropriate investigations for patients with lesions involving the head and neck; integrate results meaningfully
- Become familiar with the American Joint Committee on Cancer Staging System for cancers of the head and neck and formulate an accurate clinical stage for new patients
- Present and prioritize options for definitive management of head and neck tumors
- Understand the merits and shortcomings of potentially morbid treatments, including surgery, radiotherapy, and chemotherapy
- Develop an organized operative plan, including airway management, endoscopy, approach to and resection of the primary tumor; understand the role of regional lymphadenectomy and options for functional/aesthetic reconstruction
- Recognize those situations which render a tumor unresectable
- Understand the indications for adjuvant treatment in head and neck oncology
- Develop expertise in the surgical treatment of cutaneous malignancy of the face, head, and neck.
- Develop expertise in the surgical treatment of oral cancer, including mandibulectomy and maxillectomy
- Develop expertise in the surgical treatment of pharyngeal cancer, including functional lip division, mandibulotomy, and rigid fixation
- Develop expertise in the surgical treatment of laryngeal cancer, including surgical airway, laser resection, open partial laryngectomy and total laryngectomy

- Understand the options for voice rehabilitation in patients treated for carcinoma of the larynx
- Develop expertise in surgery of the thyroid and salivary glands
- Identify and respond appropriately to urgent or emergency situations encountered in head and neck surgery
- Recognize and manage perioperative complications, including hematoma; fistulas involving saliva, chyle and cerebrospinal fluid; airway obstruction; flap ischemia or congestion; cranial neuropathy; drug withdrawal; and fluid and electrolyte disorders
- Demonstrate basic competence in soft tissue surgery, including optimal placement of incisions, nerve and vessel dissection, ligation, suture selection, tissue approximation, and knot tying
- Understand the role of evidence in clinical decision-making

Health Advocate

Residents will approach with sensitivity the issue of lifestyle modification in patients with dysplastic or premalignant disease. Residents will also recognize the impact of lifestyle modification, even after diagnosis, on treatment outcome. When appropriate, residents will counsel patients and engage other services. Residents will communicate the risks inherent in surgical treatment for head and neck cancer, embrace an interdisciplinary approach to the management of the head and neck cancer patient, and integrate appropriate services into the management strategy.

Communicator

Residents will interact and communicate effectively with patients and be able to obtain relevant historical information from patients and their families. Residents will interact and communicate effectively with attending staff and with other health care professionals, including house staff, nurses, SLPs, dietitians, physiotherapists, audiologists, and secretarial and support staff. Residents will be able to obtain informed consent from patients for surgery, including the rationale, risks, and benefits of the procedure. Residents will produce clear written communication in the form of consultation reports, admission history, physical findings, progress notes, operative reports, and discharge summaries.

Collaborator

Residents will collaborate with patients and families to enhance understanding of medical problems and to address concerns. Residents will also collaborate with other house staff to ensure continuity of care and avoid duplication. Residents will collaborate with paramedical, ancillary, and support staff to share relevant information and optimize care and with attending staff to explore questions of a clinical or basic science nature.

Manager

Residents will appropriately use investigations and other hospital resources for the benefit of the patient and in a cost-effective manner. Residents will also develop some insight into the structure, function, financing, and operation of the health care system and demonstrate the ability to prioritize and manage time demands including patient care, documentation, learning activities, and research.

Scholar

Residents will demonstrate self-directed learning of topics in head and neck surgical oncology, apply this knowledge on an ongoing basis, and seek additional knowledge and clarification of subjects from a variety of sources, with progressive sophistication. Residents will demonstrate the ability to interpret the validity and applicability of evidence contained in the medical literature. Residents will demonstrate leadership and serve as an educational resource for medical students and other learners in the health care system and provide constructive feedback.

Health Professional

Residents will display sensitivity to gender, cultural, racial, and social issues and will display professional interpersonal behavior. Residents will reflect high standards in clinical care and ethical conduct, respect patient confidentiality, demonstrate insight into their limitations, and respond to constructive criticism.

List of Top Ten ENT – Head and Neck Diseases and Procedures

These two tables provide a list of common presentations and most frequently performed procedures in the specialty. The intent is to provide general guidance in learning priorities to trainees and mentors. This list is neither comprehensive nor exhaustive. Trainees should learn and master competencies beyond these two lists while making a conscious effort to develop competencies in managing these conditions and performing these procedures.

List of Top Ten ENT – Head and Neck Diseases

1	Adenotonsillar disease
2	Inflammatory ear disease
3	Inflammatory and allergic rhinosinusitis
4	Hearing loss
5	Foreign bodies in the ear and nose
6	Dizziness
7	Epistaxis
8	Vocal cord lesions
9	Upper airway obstruction
10	Head and neck tumors

List of Top Ten Procedures in ENT – Head and Neck Surgery

1	Adenotonsillectomy
2	Myringotomy
3	Endoscopic sinus surgery
4	Micro-laryngoscopy
5	Septorhinoplasty
6	Myringoplasty and mastoidectomy
7	Management of epistaxis
8	Tracheostomy
9	Removal of foreign bodies from the ear, nose, and aerodigestive tract
10	Treatment of head and neck tumors, e.g., thyroid, neck dissection, and lumps

Competency in Top Ten ENT – Head and Neck Diseases Based on the CanMEDS Framework

1. Adenotonsillar disease

Rationale: Adenotonsillar disease is considered to be one of the most common problems requiring clinical visits among children and adolescents in Saudi Arabia and worldwide. Early identification and intervention of such conditions can reduce the morbidity and improve the quality of life of the patients.

Core Specialty Level Conditions: Adenotonsillitis, adenotonsillar hypertrophy, obstructive sleep apnea (OSA), peritonsillar abscess, tonsillolith, complication of adenotonsillectomy

Mastery Level Conditions: Tonsillar cancer, management of surgical complications

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of adenotonsillar diseases and their complications in Saudi Arabia	Impact of OSA on the patient and family	Clinical and surgical anatomy of the oropharynx	Pathological features of core specialty level conditions
Risk factors of adenotonsillar hypertrophy and infections and at-risk populations		Histological features of normal adenoids and tonsils	Imaging modalities such as lateral soft-tissue radiography
Diagnostic tests and management of tonsillitis and prevention of rheumatic fever		Physiology of lymphoid tissue	

CanMEDS Competencies

Medical Expert

Performs the standardized complete head and neck examination including ear, nose, throat, all lymph nodes in the neck, and cranial nerves

Obtains an efficient history focused on the main symptoms

Obtains a focused history regarding the quality of life and how it is affected

Generates a differential diagnosis for adenotonsillar hypertrophy

Differentiates between benign and malignant adenotonsillar hypertrophy based on the history and physical examination

Initiates appropriate investigations guided by differential diagnosis

Interprets critical clinical, laboratory, and imaging findings of adenotonsillar diseases and formulates a management plan for each

Outlines the medical and surgical management of patients with adenotonsillar disease

Obtains informed consent for the investigation

Perform adenotonsillectomy, I and D of tonsillar abscess and managing post tonsillectomy bleeding intraoperatively

Communicator

Counsels patients and/or their families regarding the sequelae of OSA

Communicates with patients and/or their families about the diagnosis and prognosis
Recognizes how new cancer diagnoses affect the behavior of patients and their families

Explores and responds to patients' needs, expectations, and concerns about tonsillar masses

Collaborator

Liaises effectively with surgical, oncology, nursing staff, and social work services

Manager

Puts patients in touch with community support groups

Health Advocate

Recognizes the major risk factors of rheumatic fever in Saudi Arabia

Identifies patients who are at a high risk of developing complications of OSA and directs them toward treatment options

Scholar

Critically appraises research findings to respond to patient problems using the Patient, Intervention, Comparison, and Outcomes (PICO) model

Professional

Keeps up-to-date with recent guidelines for adenotonsillectomy

Requests investigations according to international guidelines

2. Inflammatory ear disease

Rationale: Inflammatory ear disease is considered to be one of the most common reasons antibiotics are prescribed for children; the incidence in Saudi Arabia varies according to the region.

Core Specialty Level Conditions: Otitis externa, otitis media, labyrinthitis, malignant otitis externa, mastoiditis, complications of otitis media

Mastery Level Conditions: Vestibulitis, surgical management of inflammatory ear diseases and their complications, facial nerve disorders

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of inflammatory ear diseases and their complications in Saudi Arabia Risk factors of otitis externa and otitis media and at-risk populations Diagnostic tests and management of malignant otitis externa and complicated otitis media and strategies for prevention	Impact of recurrent ear infections on the patient and family	Clinical and surgical anatomy of the ear	Pathological features of core specialty level conditions
	Bereavement and grief reactions	Histological features of cholesteatoma	Imaging modalities such as CT scan and MRI
		Physiology of hearing	

CanMEDS Competencies

Medical Expert

Performs the standard otoscopic examination including external and middle ear, facial nerve, tuning fork, and vestibular

Obtains an efficient, focused history regarding the main complaint

Obtains a focused history regarding the quality of life and how it is affected

Generates differential diagnoses for inflammatory ear diseases

Differentiates between infectious and noninfectious inflammatory ear diseases based on history and physical examination

Initiates appropriate investigations guided by differential diagnosis
Interprets critical clinical, laboratory, imaging, and biopsy findings of inflammatory ear diseases and the management plan for each

Outlines the medical and surgical management of patients with inflammatory ear diseases and their complications

Obtains informed consent for the investigation

Performs myringotomy, tympanoplasty, mastoidectomy, incision and drainage of abscesses, and facial nerve decompression

Communicator

Counsels patients and/or families about the sequelae of inflammatory ear diseases

Communicates with patients and/or families about the diagnosis and prognosis

Counsels and educates patients about risk factors for inflammatory ear disease

Explores and responds to patients' needs, expectations, and concerns about inflammatory ear disease

Collaborator

Liaises effectively with surgical, audiology, nursing, and social work services

Manager

Puts patients in touch with a community support group

Health Advocate

Recognizes the major risk factors of malignant otitis externa and media in Saudi Arabia

Identifies patients who are at a high risk of developing complications of otitis externa and media and directs them toward treatments options

Scholar

Critically appraises research findings to respond to patient problems using the PICO model

Professional

Keeps up-to-date with the recent guidelines for recurrent otitis media, malignant otitis externa, and facial nerve paralysis

Requests investigations according to local protocol

3. Inflammatory and allergic rhinosinusitis

Rationale: Inflammatory and allergic rhinosinusitis are diseases affecting thousands of people each year in Saudi Arabia. Rhinosinusitis is one of the most common conditions for which antibiotics are prescribed and is responsible for loss of productivity in the work force, in addition to its large social and economic impact.

Core Specialty Level Conditions: Acute rhinosinusitis, chronic rhinosinusitis, vasomotor rhinitis, allergic rhinosinusitis, fungal rhinosinusitis, functional endoscopic sinus surgery (FESS), complications of FESS and rhinosinusitis

Mastery Level Conditions: Granulomatous disease of the nose and paranasal sinuses, surgical approach to various paranasal sinus pathologies, management of complications of rhinosinusitis and FESS

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of rhinosinusitis in Saudi Arabia	Impact of rhinosinusitis to the quality of life	Clinical and surgical anatomy of the nose and paranasal sinuses	Pathological features of core specialty level conditions
Risk factors of invasive fungal sinusitis and at-risk populations	Bereavement and grief reactions	Histological features of normal nasal mucosa and different types of polyps	Imaging modalities such as CT scan and MRI
Diagnostic tests and management of rhinosinusitis and complicated rhinosinusitis and prevention strategies		Physiology of smell and the airflow patterns in the nose and paranasal sinuses	
Immunological testing and the impact of allergy to rhinosinusitis			

CanMEDS Competencies

Medical Expert

Performs the standard nasal examinations, including anterior rhinoscopy and endoscopy, eye examinations, and cranial nerve examinations

Obtains an efficient, focused history regarding the main complaint

Obtains focused history regarding the quality of life and how it is affected

Generates differential diagnosis for rhinosinusitis

Interprets critical clinical, laboratory, imaging, and biopsy findings of inflammatory and allergic rhinosinusitis and the management plan for each

Outlines the medical and surgical management of patients with rhinosinusitis and its complications

Obtains informed consent for the investigation

Performs FESS, septoplasty, orbital decompression, cantholysis, and incision and drainage depending on the cause (infectious or noninfectious), based on history and physical examination

Initiates appropriate investigations guided by differential diagnosis

Interprets critical clinical, laboratory, imaging, and biopsy findings of inflammatory and allergic rhinosinusitis and the management plan for each

Outlines the medical and surgical management of patients with rhinosinusitis and its complications

Obtains informed consent for the investigation

Perform FESS, septoplasty, orbital decompression, cantholysis and I and D

Communicator

Counsels patients and/or families about the sequelae of rhinosinusitis

Communicates with patients and/or families about the diagnosis and prognosis

Counsels and educates patients about the risk factors for rhinosinusitis

Explores and responds to patient's needs, expectations, and concerns about rhinosinusitis

Collaborator

Liaises effectively with surgery, immunology, pulmonology, nursing, and social work services

Manager

Puts patients in touch with community support groups

Health Advocate

Recognizes the major risk factors of invasive fungal rhinosinusitis in Saudi Arabia

Identifies patients who are at a high risk of developing complications of rhinosinusitis and directs them toward the treatment options

Scholar

Critically appraises research findings to respond to patient problems using the PICO model

Professional

Keeps up-to-date with the recent guidelines for rhinosinusitis

Requests investigations according to local protocol

4. Hearing loss

Rationale: Hearing loss is the most common sensory deficit in human populations. Consequences of hearing impairment include the inability to interpret speech sounds, producing a reduced ability to communicate, delayed language acquisition, economic and educational disadvantages, social isolation, and stigmatization.

Core Specialty Level Conditions: CHL, SNHL, mixed hearing loss, Meniere’s disease, otosclerosis, barotraumas, traumatic hearing loss, neonatal hearing screening

Mastery Level Conditions: Congenital hearing loss, neonatal hearing screening, superior semicircular canal dehiscence, cerebellopontine angle tumor

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of hearing loss in Saudi Arabia	Impact of hearing loss on the quality of life	Clinical and surgical anatomy of the ear, brainstem, and intracranial pathway of hearing	Pathological features of core specialty level conditions
Risk factors of congenital hearing loss and at-risk populations	Bereavement and grief reactions of the family in cases of congenital hearing loss	Physiology of hearing	Imaging modalities such as CT scan and MRI
Diagnostic tests and management of different types of hearing loss		Basic audiological tests and their interpretations	
Audiological testing and the impact of neonatal hearing screening for the prevention of hearing loss			

CanMEDS Competencies

Medical Expert	Communicator	Collaborator	Manager	Health Advocate	Scholar	Professional
Performs the standard otoscopic examination including external and middle ear, facial nerve, tuning fork, and vestibular examinations	Counsels patients and/or families about the sequelae of hearing loss	Liaises effectively with surgery, audiology, radiology, nursing, and social work services	Puts patients in touch with community support groups	Recognizes the major risk factors of congenital hearing loss in Saudi Arabia	Critically appraises research findings to respond to patient problems using the PICO model	Keeps up-to-date with the recent guidelines for neonatal hearing screening
Obtains an efficient, focused history regarding the main complaint, risk factors, family history, development, and perinatal history	Communicates with patients and/or families about the diagnosis and prognosis			Identifies patients who are at high risk of developing hearing loss and directs them toward the treatment options		Requests investigations according to local protocol
Obtains a focused history regarding the quality of life and how it is affected	Counsels and educates patients and/or families about the risk factors for hearing loss					
Generates a differential diagnosis	Explores and responds to patients' needs, expectations, and concerns about hearing loss					
Differentiates between syndromic and nonsyndromic congenital hearing loss based on history and physical examination						
Initiates appropriate investigations guided by the differential diagnosis	Explores patients' reservations about the use of hearing aids and address them appropriately					
Interprets critical clinical, laboratory, and imaging findings of hearing loss and develops a management plan for each						
Outlines the medical and surgical management of patients with hearing loss and the complications of surgery						
Obtains informed consent for the investigation						
Performs myringotomy, mastoidectomy, cochlear implantation, middle ear implantation, BAHA implantation, and management of surgical complications						

5. Head and neck tumors

Rationale: In Saudi Arabia, head and neck tumors are one of the most common cancers among adults. Early detection is very important in regards to the management, prognosis, and outcome for the patient. Surgery is part of the treatment in most cases.

Head and neck tumors can be divided into mucosal and non-mucosal tumors. Mucosal tumors include those of the oral cavity, pharynx, and larynx, while non-mucosal tumors include those of the nose and paranasal sinuses as well as endocrine and salivary gland tumors and tumors from unknown sources in the neck.

Squamous cell carcinoma of the head and neck arises from multiple mutations of genes important to the regulation of cellular growth and death. These alterations may be inherited but are more often acquired from exposure to environmental agents. They originate on the surface and spread superficially, deeply, and submucosally. Lymphatic metastases are common in advanced tumors, and distant metastases are rare.

Core Specialty Level Conditions: Differential diagnosis of head and neck tumors, proper investigation and metastatic workup, staging according to TNM classifications

Mastery Level Conditions: Therapy options, chemotherapy, radiotherapy and surgery, and the role of combination therapy; types of surgery for primary lesions; neck dissection and reconstruction options with various types of flaps, taking into account the surgical approach to the site and the pathology; complications of chemotherapy, radiotherapy, and surgery

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of head and neck tumors in Saudi Arabia	Impact of cancer on patients and their families	Clinical and surgical anatomy of the head and neck	Pathological features of core specialty level conditions
Risk factors of head and neck tumors and at-risk populations. Principles of screening and diagnostic tests	Bereavement and grief reactions	Histological features of normal head and neck structures	Imaging modalities such as US, CT, MRI and PET scan; the role of fine needle biopsy vs. open biopsy

CanMEDS Competencies

<u>Medical Expert</u>	<u>Communicator</u>	<u>Collaborator</u>	<u>Manager</u>	<u>Health Advocate</u>	<u>Scholar</u>	<u>Professional</u>
<p>Performs a complete head and neck examination including all cranial nerves, skin, parotid, neck and the thyroid, oral cavity , floor of the mouth, tongue, alveolar ridge, lip, hard palate, buccalmucosa, and retromolar triangle. Performs endoscopy of the nasal cavity, nasopharynx, oropharynx, hypopharynx, and larynx, ensuring proper draping and the patient's comfort</p> <p>Obtains an efficient, focused history, including the primary complaint, age, gender, past medical history, family history, social history, medications, and allergies</p> <p>Generates differential diagnosis for head and neck tumors</p> <p>Differentiates between benign and malignant head and neck masses based on history and physical examination</p> <p>Initiates appropriate investigations guided by the differential diagnosis, including diagnostic CT, fine-needle aspirate, chest radiography or CT for staging, and LFT, US, or CT for treatment planning; outlines the medical and surgical management of patients with head and neck cancer</p> <p>Obtains informed consent for the investigation and management</p>	<p>Counsels any patient with risk factors for the development of head and neck cancer on the utility of screening in the head and neck clinic; communicates with patients about the diagnosis and prognosis; counsels and educates patients on the reasons for complete examination and investigation; recognizes the effect of a new cancer diagnosis on patient and family behavior</p> <p>Explores and responds to patients' needs, expectations, and concerns about head and neck cancer</p>	<p>Liaises effectively with head and neck surgery, plastic and microvascular surgery, neurosurgery, histopathology, radiology, oncology, ICU, nursing, and social work services</p>	<p>Puts patients in touch with community support groups</p>	<p>Recognizes the major risk factors of head and neck cancer in Saudi Arabia</p> <p>Participates in promoting smoking cessation programs</p>	<p>Critically appraises research findings to respond to patient problems using the PICO model</p>	<p>Complies with professional responsibility regarding reporting cases to the cancer registry</p>

6. Foreign body in ear and nose

Rationale: A foreign body in the ear or nose can usually be managed at the primary care level or by the ENT service, depending on the practice and the experience of the doctor. In some instances it could be an emergency requiring urgent intervention.

A foreign body aspirated into the air passage can lodge in the larynx, trachea, or bronchi, depending on its size and nature. An ingested foreign body may lodge in the tonsils, base of tongue, vallecula, pyriform fossa, or esophagus. Children are affected more often than adults. Although most foreign body aspirations occur in the home, iatrogenic foreign body aspirations (for example, teeth) could occur during medical interventions. A common example of this is during orotracheal intubation for anesthesia.

Core Specialty Level Conditions: Foreign bodies can be fatal, especially if they enter the airway. They may lead to fatal complications, particularly if they are battery in nature. They require timely and efficient diagnostic testing and a high level of clinical acuity.

The diagnosis can be made by a history of foreign body ingestion, physical examination of the neck and chest, radiographs of the anterior and lateral views of the neck in an extended position, and other radiological modalities as may be needed in each case.

Mastery Level Conditions: Properly focused, effective history and physical examination; high clinical acuity for emergency situations such as airway compromise; understanding of management techniques for maximum patient safety.

Expertise in intubation, ventilation, and surgical interventions such as rigid bronchoscopy and esophagoscopy.

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
A history of foreign body ingestion	The impact of this condition on patients and their families	Surgical anatomy of aerodigestive tract	A focused history and physical examination, with effective radiological examination
At-risk groups, including children and home care patients		The effect of the foreign body on respiratory physiology	Safe management for patients in order to avoid complications, especially if foreign bodies are in airway or battery

CanMEDS Competencies

<u>Medical Expert</u>	<u>Communicator</u>	<u>Collaborator</u>	<u>Manager</u>	<u>Health Advocate</u>	<u>Scholar</u>	<u>Professional</u>
Performs focused history and physical exam	Communicates with the parents and health care team to provide safe and effective management	Collaborates with the ENT surgeon, anesthesia team, emergency department doctors, pediatrician, and gastroenterologist	Appropriately utilizes investigations and other hospital resources to the benefit of the patient	Advises family to closely observe children in the home and avoid having risky material near children	Critically appraises research findings to determine the best management techniques, most recent knowledge, and best practices	Performs bronchoscopy and esophagoscopy
Provides safe management of airway						
Initiates appropriate investigation and management						
Obtains informed consent, including complications of surgery						

7. Dizziness

Rationale: Dizziness is a common presenting symptom in female and elderly patients in ENT clinics and emergency departments. The illusion of movement of self or environment can present as actual spinning, light-headedness, unsteadiness, or fainting.

Core Specialty Level Conditions: Vertigo is always temporary and always made worse by head movement. Patients with vertigo should be examined for neurological symptoms and significant signs, such as increased intracranial pressure.

The differential diagnosis list for vertigo depends on the duration of symptoms and association with hearing loss. Common causes are benign positional proximal vertigo (BPPV), Meniere's disease, migraine, labyrinthitis, and vestibular neuritis.

Mastery Level Competencies:

Residents will obtain a comprehensive history in order to differentiate between vestibular and nonvestibular causes of dizziness.

Residents will differentiate between central and peripheral causes of vertigo. Residents will perform a complete otological examination, an examination of the eyes for nystagmus, and perform other vestibular system tests such as the saccades, head thrust, smooth pursuit, head shake, dynamic visual acuity, cerebellar, posture, and gait tests.

Residents will know that the treatment modalities of vestibular disorder depend on the diagnosis and understand the role of audiology tests, CT, and MRI in the diagnosis of vestibular disorders that cause vertigo.

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Common otological disease can lead to dizziness	Impact of vertigo on patients and their occupations and families	Clinical and surgical anatomy of the inner ear and central nerve system as it relates to the vestibular system	Common causes of vertigo
		Physiology of balance, including the vestibulo-ocular spinal reflex	Important points in the history and physical examination Diagnostic tests and the roles of imaging and audiology

CanMEDS Competencies

<u>Medical Expert</u>	<u>Communicator</u>	<u>Collaborator</u>	<u>Manager</u>	<u>Health Advocate</u>	<u>Scholar</u>	<u>Professional</u>
<p>Performs a complete ENT examination, including otologic, ophthalmologic, neurologic, and audiological examinations while ensuring the patient's comfort</p> <p>Obtains a focused history and complete physical examination</p> <p>Generates a differential diagnosis of vertigo</p> <p>Differentiates between central and peripheral causes of vertigo</p> <p>Begins appropriate investigations, guided by the differential diagnosis</p>	<p>Communicates with the patient about the diagnosis and management options</p> <p>Explores and responds to patient needs, expectations, and concerns</p>	<p>Liases effectively with the neuro-otologist, neurologist, and audiologist</p>	<p>Appropriately utilizes investigations and other hospital resources for the benefit of the patient</p>		<p>Critically appraises research findings to respond to patient problems using the PICO model</p>	<p>Reflects high standards of excellence in clinical care and ethical conduct</p>

8. Epistaxis

Rationale: In Saudi Arabia, epistaxis is a common medical condition. Proper evaluation of every patient is needed to ensure the best outcome. Epistaxis has many possible causes, ranging from simple trauma to inflammation and cancer. The approach to epistaxis depends on the urgency of the case and the underlying medical condition of the patient; therefore, a comprehensive history and examination, with advance investigations in some cases, are necessary to formulate the proper plan for each patient.

Core Specialty Level Conditions: Trauma, inflammation, infection, primary neoplasia, structural, drug-induced, idiopathic, systemic illness, postoperative conditions

Mastery Level Conditions: Surgical approach to epistaxis, complications of surgery, the implementation of various treatment modalities

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of epistaxis in Saudi Arabia	Impact of epistaxis on the patients and families	Clinical and surgical anatomy of the nose The blood supply to the nose and its distribution	Pathological features of core specialty level conditions
Risk factors of epistaxis in general and at-risk populations	Instructions for patients and families in cases of epistaxis		Imaging modalities such as CT scan and MRI Indication for surgery vs. embolization in epistaxis patients

CanMEDS Competencies

Medical Expert	Communicator	Collaborator	Manager	Health Advocate	Scholar	Professional
<p>Performs a standard nasal examination, ensuring the patient's comfort</p> <p>Obtains an efficient, focused history in relation to epistaxis (e.g., duration, volume, frequency, family history of bleeding, anticoagulation use, history of trauma, history of hypertension or previous nasal surgery)</p> <p>Obtains focused history in relation to the impact of epistaxis on the patient's lifestyle</p> <p>Performs a complete physical examination of the nose (e.g., site of bleeding anterior vs. posterior, arterial vs. venous, septal abnormality, nasal mass, active vs. chronic bleeding, unilateral vs. bilateral)</p> <p>Performs emergency management of unstable patient with epistaxis</p> <p>Generates differential diagnosis of the epistaxis</p> <p>Differentiates between acute and chronic epistaxis, idiopathic vs. pathological based on the history and physical examination</p> <p>Initiates appropriate investigations guided by differential diagnosis</p> <p>Interprets critical clinical, laboratory,</p>	<p>Counsels patients and parents of pediatric patients regarding first aid for epistaxis</p> <p>Communicates with patients about the diagnosis and prognosis with empathy and effectiveness</p> <p>Counsels and educates patients with bleeding nasal masses regarding imaging needed, possible outcomes, and the management plan</p> <p>Recognizes how a new diagnosis of cancer may affect the behavior of patients and their families</p> <p>Explores and responds to patients' needs, expectations, and concerns about epistaxis.</p>	<p>Liaises effectively with surgery, oncology, nursing, interventional radiology, and social work services</p>	<p>Puts patients in touch with community support groups if indicated</p>	<p>Recognizes the major risk factors of epistaxis in Saudi Arabia</p> <p>Identifies patients who are at a high risk of epistaxis based on medical conditions and/or the presence of other pre-existing risk factors in order to offer first aid and possible investigation and radiology</p>	<p>Critically appraises research findings to respond to patient problems using the PICO model for patients with anticoagulation problems or hypertension</p>	<p>Keeps up-to-date regarding epistaxis management and algorithm of management</p> <p>Requests investigations according to local protocol</p> <p>Complies with professional responsibility with regards to disease notification to cancer registry</p>

imaging, and biopsy findings if indicated for inflammatory or neoplastic causes; refines diagnosis and staging

Outlines the medical and surgical management of patients with suspected epistaxis

Obtains informed consent for the investigation

Performs cauterization, nasal packing if indicated, and needle biopsy if indicated

Performs endoscopic surgical ligation of sphenopalatine artery

Performs anterior and posterior artery ligation

9. Vocal cord lesions

Rationale: In Saudi Arabia, vocal cord lesions are common, although some cases can be missed due to unawareness of a patient’s voice abnormality and a lack of endoscopy use during examination. Early detection of vocal cord lesions requires a high index of suspicion. Vocal cord lesions can be categorized as congenital or acquired and benign or malignant.

Core Specialty Level Conditions: Congenital, infection, nodule, cyst, polyp, vocal cord paralysis, systemic disease, vocal cord neoplasia

Mastery Level Conditions: Congenital conditions of the vocal cord, medical vs. surgical management of vocal cord lesions, complications of vocal cord surgeries

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of various vocal cord lesions in Saudi Arabia	Impact of vocal cord lesions on patients and families	Clinical and surgical anatomy of the vocal cord	Pathological features of core specialty level conditions
	Bereavement and grief reactions	Histological features of the normal vocal cord Normal appearance of the vocal cord and normal sound of the voice	Elements used in examination, such as direct vs. fiberoptic laryngoscope and stroboscopy Indications for CT scan Indications for biopsy vs. complete removal of lesion Surgery vs. laser for resection of masses
Risk factors of vocal cord lesions and at-risk populations			

CanMEDS Competencies

Medical Expert	Communicator	Collaborator	Manager	Health Advocate	Scholar	Professional
Performs the standard vocal cord examination, ensuring the patient's comfort and using proper desensitization if needed	Counsels the parents of children with vocal cord lesions regarding the disease progression and the management plan	Liaises effectively with surgical, oncology, nursing, and social work services	Puts patients and the families of pediatric patients in touch with community support groups	Recognizes the major risk factors for vocal cord lesions in Saudi Arabia	Critically appraises research findings to respond to a professional voice user using the PICO model	Keeps up-to-date with guidelines for the management of vocal cord lesions
Obtains an efficient, focused history in relation to voice, respiration, and choking (e.g., onset duration, severity, relation to type of food [liquid vs. solid], relation to position)	Communicates with patients about the diagnosis and prognosis with due empathy and effectiveness			Identifies patients who are at high risk of vocal cord lesions based on age, professional voice use, or other pre-existing risk factors in order to provide education regard the disease		Requests investigations according to local protocol
Obtains focused history in relation to previous surgery or intubation. newborn instrument-assessed delivery, history of smoking, history of reflux, type of work (e.g., teacher, singer [use of voice])						
Performs a complete physical examination of the larynx and neck						
Generates differential diagnosis of the vocal cord lesion	Counsels and educates patients and the parents of pediatric patients on the role of smoking cessation, smoking as a risk factor, the possibility of tracheotomy if indicated, and methods of tracheostomy care.					Complies with professional responsibility with regards to disease notification to cancer registry
Differentiates between benign and malignant vocal cord lesion based on the history and physical examination						
Differentiates medical vs. surgical management of vocal cord lesion based on the history and physical examination						
Initiates appropriate investigations guided by differential diagnosis						
Interprets critical clinical, laboratory, imaging, and histologic findings to characterize the type of vocal cord lesion and refine diagnosis and staging	Recognizes how newly diagnosed lesions affect the behavior of patients and their families					
Outlines the medical and surgical management of patients with suspected vocal cord cancer						
Obtains informed consent for the investigation	Explores and responds to patients' needs, expectations, and concerns about breathing, voice changes, and necessary time off work, especially regarding voice use and the care of patients with cancer					
Performs needle injection of botulinum toxin (Botox) into the vocal cords						
Performs surgical removal of uncomplicated vocal cord lesions; performs stroboscopy, direct laryngoscopy, and microlaryngoscopy						

10. Upper airway obstruction

Rationale: In Saudi Arabia, upper airway obstruction is not an uncommon disease. In some cases, upper airway obstruction is a life-threatening condition requiring urgent intervention and the ability to differentiate between acute and chronic causes. A focused history, close monitoring of patients' vital signs, and a careful clinical examination can help detect impending airway obstruction, allowing for proper management of the condition.

Core Specialty Level Conditions: Foreign body aspiration, upper aerodigestive tract tumors, Disease of vocal cord and epiglottis, neck trauma, adenotonsillar hypertrophy, macroglossia

Mastery Level Conditions: Newborn breathing, tracheostomy, emergency intubation, complications of tracheostomy

Assumed Knowledge Competencies

Population Sciences	Behavioral Sciences	Basic Sciences	Clinical Sciences
Epidemiology of upper airway obstruction in Saudi Arabia	Impact of chronic upper airway obstruction on the patient	Clinical and surgical anatomy of neck Accessory muscle for breathing.	Acute and chronic features of core specialty level conditions
Risk factors of upper airway obstruction	Impact of urgent airway intervention on the patient and family		Imaging modalities for acute and chronic upper airway obstruction
Signs of impending upper airway obstruction	Bereavement and grief reactions		Cricothyrotomy and tracheostomy
Differences between acute and chronic upper airway obstruction			

CanMEDS Competencies

Medical Expert

Performs the standard upper airway and chest examination, ensuring the patient's comfort and using proper draping

Obtains an efficient, focused history in relation to upper airway obstruction (e.g., duration, onset, cyanosis, stridor, snoring, known foreign body aspiration)

Obtains focused history in relation to upper airway obstruction of the unconscious patient

Performs a complete physical examination of the upper airway
Generates differential diagnosis of upper airway obstruction

Documents the impact of the airway obstruction on the patient's daily life, including physical activities, sleeping, eating, and mental status

Initiates appropriate investigations guided by the differential diagnosis

Interprets critical clinical, laboratory, and imaging findings to characterize the upper airway obstruction as acute or chronic and to refine the diagnosis and staging

Outlines the medical and surgical management of patients with upper airway obstruction

Obtains informed consent for tracheostomy

Performs fiber-optic examination of airway

Performs endotracheal intubation

Performs surgical tracheotomy in uncomplicated cases

Communicator

Counsels patients with risk factors for upper airway obstruction and their families regarding the development of acute upper airway obstruction

Communicates with patients about the diagnosis and prognosis with due empathy and effectiveness

Counsels and educates patients on the role of tracheostomy in indicated cases

Recognizes how the new diagnosis affects the behavior of patients and their families

Explores and responds to patient's needs, expectations, and concerns about upper airway obstruction

Collaborator

Liaises effectively with surgery, nursing, social work, respiratory therapy, pulmonology, operating room, and anesthesia services and staff

Manager

Puts patients in touch with community support groups

Health Advocate

Recognizes the major risk factors of upper airway obstruction in Saudi Arabia

Identifies patients who are at high risk of upper airway obstruction based on age or the presence of other pre-existing risk factors in order to provide education regard the disease

Scholar

Critically appraises research findings to respond to patient problems using the PICO model

Professional

Keeps up-to-date with upper airway obstruction guidelines

Requests investigations according to local protocol

Learning Outcomes and Clinical Competencies for Junior and Senior Residents

Goals

A resident is expected to be a competent specialist in otolaryngology, capable of assuming a consultant's role in the specialty.

Residents must acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research.

A otolaryngology resident must understand the normal function, development, embryology, biochemistry, pharmacology, physiology, anatomy, gross and microscopic pathology, and the pathological processes and diseases that affect the ears, nose, paranasal sinuses, anterior and middle skull base, oral cavity, upper aerodigestive tract, neck, and structures within the neck.

Competencies

Medical Expert	Communicator	Collaborator	Manager	Health Advocate	Scholar	Professional
<p>Function effectively as otolaryngology residents with increasing levels of responsibility according to their year of training; this must integrate all of the CanMEDS Roles to provide optimal, ethical, and patient-centered medical care</p> <p>Establish and maintain clinical knowledge, skills, and attitudes appropriate to otolaryngology</p> <p>Perform a complete and appropriate assessment of a patient</p> <p>Use preventive and therapeutic interventions effectively</p>	<p>Develop rapport, trust, and ethical therapeutic relationships with patients and families</p> <p>Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals</p> <p>Convey relevant information and explanations accurately to patients and families and to colleagues and other professionals</p> <p>Develop a common understanding of issues, problems, and plans with patients, families, and other professionals to develop a shared plan of care</p>	<p>Participate effectively and appropriately in an interprofessional health care team</p> <p>Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict</p>	<p>Participate in activities that contribute to the effectiveness of their health care organizations and systems</p> <p>Allocate finite health care resources appropriately</p> <p>Serve in administration and leadership roles</p>	<p>Respond to individual patients' health needs and issues</p> <p>Identify the determinants of health for the populations that they serve</p> <p>Promote the health of individual patients, communities, and populations</p>	<p>Maintain and enhance professional activities through ongoing learning</p> <p>Critically evaluate medical information and its sources and apply this appropriately to practice decisions</p> <p>Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others</p> <p>Contribute to the development, dissemination, and translation of new knowledge and practices</p>	<p>Demonstrate a commitment to their patients, profession, and society through ethical practice</p> <p>Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation</p> <p>Demonstrate a commitment to physician health and sustainable practice</p>

<p>Appropriately use and interpret diagnostic tests relevant to otolaryngology</p> <p>Demonstrate proficient and appropriate use of procedural skills</p> <p>Seek appropriate consultation from other health professionals, recognizing the limits of their expertise</p>	<p>Convey effective oral and written information about a medical encounter</p>				<p>Start at least one research project under the mentorship of an attending otolaryngologist. The project should be presented at either a national or an international scientific event and should be submitted for publication.</p>	
<p>Demonstrate the ability to perform a consultation, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centered medical care</p> <p>Establish and maintain clinical knowledge, skills and attitudes appropriate to surgical practice</p> <p>Perform a complete and appropriate assessment of a surgery patient</p> <p>Use preventive and therapeutic interventions effectively</p>	<p>Develop rapport, trust, and ethical therapeutic relationships with patients and families</p> <p>Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals</p> <p>Convey relevant information and explanations accurately to patients and families, colleagues and other professionals</p> <p>Develop a common understanding on issues, problems and plans with</p>	<p>Participate effectively and appropriately in an interprofessional and interdisciplinary health care team</p> <p>Work with other health professionals effectively to prevent, negotiate, and resolve conflict</p>	<p>Understand the influences that affect the workings of the health care system at various levels</p> <p>Participate in activities that contribute to the effectiveness of their health care organizations and systems</p> <p>Manage their practice and career effectively</p> <p>Allocate finite health care resources appropriately</p> <p>Demonstrate an understanding of the influences that affect</p>	<p>Respond to individual patient health needs and issues of patient care</p> <p>Describe and respond to the health needs of the communities that they serve</p> <p>Promote the health of individual patients, communities, and populations</p> <p>Promote and participate in patient safety</p>	<p>Maintain and enhance professional activities through ongoing learning</p> <p>Critically evaluate medical information and its sources, and apply this appropriately to practice decisions</p> <p>Facilitate the learning of patients, families, students, residents, other health professionals, the public and others</p> <p>Demonstrate an understanding of the principles of dissemination of new</p>	<p>Demonstrate a commitment to their patients, profession, and society through ethical practice</p> <p>Demonstrate a commitment to their patients, profession and society through participation in profession-led regulation</p> <p>Demonstrate a commitment to physician health and sustainable practice</p>

<p>Demonstrate proficient and appropriate use of procedural skills</p>	<p>patients, families, and other professionals to develop a shared plan of care</p> <p>Convey effective oral and written information about a medical encounter</p>		<p>the workings of the health care system at various levels</p> <p>Participate in activities that contribute to the effectiveness of their health care organizations and systems</p> <p>Manage their practice and career effectively</p> <p>Allocate finite health care resources appropriately</p>		<p>knowledge</p> <p>Demonstrate an understanding of the use of information technology to enhance surgical practice</p>	
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Clinical Requirements

Residents should demonstrate the proficient and appropriate use of procedural skills for diagnosis and therapy, along with knowledge of indications, contraindications, potential complications, and their management relevant to otolaryngology – head and neck surgery. The requirement of a valid and reliable assessment of intraoperative technical competence is an important issue in ENT training programs. The aim of an assessment tool for ENT surgical evaluation called the Objective Structured Assessment of Technical Skills (OSATS) is to develop a global rating of operative surgical skills (GROSS) of various ENT surgical procedures performed by otolaryngology residents.

Many procedure-specific tools have been developed, e.g., for tracheostomy and septoplasty. Other global ratings of procedures, like the Global Rating of Endoscopic Surgical Skills (GRESS), cover a wide range of procedural skills.

E-Logbook

Trainees shall be required to document their accomplishment of the clinical procedures by using the e-logbook available throughout the duration of the residency. The activities should be dated and categorized to the period/rotation of training, whether the trainees performed the procedures themselves or acted as an assistant or participant. Each activity registered in the logbook should be verified by the consultant in charge or the program director. Clinical procedures include but are not limited to major invasive and non-invasive diagnostic monitoring procedures performed or learned, such as insertion of central venous pressure line, peritoneal lavage, endoscopy, etc.

List of Procedures and Clinical Skills

At the end of the residency program, the Otolaryngologist – Head and Neck Surgeons shall be proficient in the following procedures:

Head and Neck Surgery

Procedure	Minimum number of cases required
Esophagoscopy, rigid and flexible, with biopsy	10
Bronchoscopy, rigid and flexible, with biopsy	12
Biopsy of lesions from the nasal cavity, oral cavity, pharynx, larynx, and skin	12
Direct laryngoscopy, rigid and flexible, with biopsy	20
Fine-needle aspirate of neck masses, lymph nodes, salivary glands, and thyroid gland lesions	12
Submandibular gland excision with supervision	5
Parotidectomy with supervision	3
Oral cavity lesion excision	6
Tongue wedge excision	3
Total laryngectomy and pharyngectomy with supervision	3
Laser resection with supervision	3
Open partial laryngectomy with supervision	2
Mandibulectomy, mandibulotomy, and rigid fixation surgery with supervision	2
Thyroidectomy	10
Parathyroidectomy	2
Neck dissection, modified and radical, with limited supervision	2
Excision of skin cancer and closure with limited supervision	2
Maxillectomy and medial maxillectomy with supervision	3
Excision of skull base neoplasms	1
Observation of anterior craniofacial resection	1
Observation of the excision of parapharyngeal neoplasms	1
Observation of the excision of a glomus tumor	1
Uvulopalatopharyngoplasty	12
Interpretation of sleep studies	12
Incision and drainage of cervical, oral, and pharyngeal abscesses	6
Insertion of voice prosthesis	6
Removal of sialoliths	6
Repair of Zenker diverticulum, cricopharyngealmyotomy	1
Wedge resection of the lip	2

Pediatric Otolaryngology

Procedure	Minimum number of cases required
Flexible nasopharyngolaryngoscopy in neonates, infants, and children	10
Rigid bronchoscopy, both diagnostic and with foreign body removal	5
Rigid esophagoscopy, both diagnostic and with foreign body removal	3
Direct diagnostic laryngoscopy	10
Removal of foreign bodies and lesions (papillomatosis) using microdebrider and carbon dioxide (CO ₂) laser	5
Tracheostomy in neonates/infants/children with supervision	
Adenoidectomy and tonsillectomy	30
Myringotomy and ventilation tube insertion	20
Cortical mastoidectomy	10-15
Tympanomastoidectomy	10
Myringoplasty	10
Tympanoplasty	10
Canalplasty	5
Ossiculoplasty	3
Pre-auricular sinus excision	5
Epistaxis management by nasal packing and cauterization	10
Septoplasty	5
Turbinates reduction	5
Nasal polypectomy	5
Endoscopic sinus surgery, uncinectomy, ethmoidectomy, maxillary antrostomy	5
Drainage of subperiosteal orbital abscess, external and endoscopic approaches with supervision	3-4
Choanal atresia repair with supervision/observation	3-5
Thyroglossal cyst removal (Sistrunk procedure)	5
Incision and drainage of deep neck abscesses	4
Branchial cleft cyst removal	
Salivary gland surgery with supervision	3
Pediatric airway surgical reconstruction with supervision/observation	5

Facial Plastic and Reconstructive Surgery

Procedure	Minimum number of cases required
Diagnostic procedures including skin biopsy (shave, punch, incisional, and excisional)	12
Local anesthesia when indicated, including loco-regional nerve blocks	12
Various techniques of wound closure (simple, subcutaneous, running, horizontal/vertical mattress, etc.)	12
Repair of skin lacerations to the face and neck	12
Basic techniques of nerve suture or repair	1
Appropriate skin margin biopsies/excisions for frozen section of skin in cases of facial and neck malignancies	3
Diverse reconstructive techniques for skin closure, including local and loco-regional flaps and graft design, elevation, and placement	6
Observation of rhinoplasty: closed or external approach, lateral/medial/intermediate/transcutaneous osteotomy	6
Intercartilagenous incision and skin elevation	6
Removal of nasal hump cartilage/bone with supervision	6
Nasal tip correction	6
Observation of nasal valve correction	3
Otoplasty with supervision/observation	3

Rhinology

Procedure	Minimum number of cases required
Rigid and flexible nasal/sinus endoscopy	24
Biopsy of nasal cavity and sinus	12
Nasal packing: anterior and posterior, cauterization	24
Septoplasty	24
Inferior turbinate reduction and cauterization	12
Endoscopic sinus surgery: nasal polypectomy, uncinectomy, ethmoidectomy, maxillary sinusotomy	12
Endoscopic sinus surgery, frontal recess	3
Sphenoidotomy with supervision/observation	3
Orbital decompression for intraorbital hemorrhage	1
Endoscopic sinus surgery repair of cerebrospinal fluid (CSF) leak with supervision/observation	1
Drainage of subperiosteal orbital abscess, external and endoscopic approach with supervision	1
Frontal trephination	1
Frontal sinus osteoplastic flap with supervision/observation	1
Endoscopic treatment of benign sinonasal neoplasms with	6

supervision/observation	
Endoscopic approach to anterior skull base pathologies	3
Endoscopic or external medial wall maxillectomy with supervision/observation	3
Preparing the image-guidance system	6
Frontal sinus fracture repair with supervision/observation	1
Epistaxis: endoscopic sphenopalatine artery ligation with supervision	3
Epistaxis: anterior ethmoid and internal maxillary artery ligation with supervision	1
Sinus lavage	2
Insertion of prosthesis for septal perforation	2
Repair of septal perforation	2
External ethmoidectomy approach	2
Caldwell-Luc procedure	1

Laryngology

Procedure	Minimum number of cases required
Direct laryngoscopy/stroboscopy in voice clinic	3
Microlaryngoscopic biopsy/excision of lesions	6
Microlaryngoscopic excision of lesions with CO ₂ laser and debrider	3
Thyroplasty with limited supervision	1
Repair of laryngeal injuries/fractures with supervision	1
Airway reconstruction, such as repair of subglottic/tracheal stenosis in adults, with supervision	1
Botulinum toxin injection for treatment of spasmodic dysphonia and sialorrhea	3

Otology/Neurotology

Procedure	Minimum number of cases required
Diagnostic procedures including otoscopy, pneumotoscopy, tuning fork, microscopic ear examination, and debridement	24
Conventional and impedance audiometry in adults	24
Myringotomy and ventilating tube insertion	24
Myringoplasty	6
Tympanotomy	6
Tympanoplasty	6
Canalplasty	3
Ossiculoplasty (including endoscopic with supervision/observation)	2
Tympanomastoidectomy including canal wall down and combined approaches in pediatric and adult population	3
Temporal bone dissection practice in the lab	4
Assistance at and observation of stapedotomy/stapedectomy	4
Middle ear perfusion of intratympanic medications (gentamicin or steroids)	6
Participation in the surgical treatment of vertigo (including labyrinthectomy, vestibular nerve section, endolymphatic sac surgery, posterior canal occlusion, and superior semicircular canal resurfacing)	0-1
Assistance at surgery for treatment of lateral skull base lesions, including acoustic neuromas, other benign CPA lesions, and petrous apex lesions	0-1
Cochlear implant observation	3
Particle repositioning maneuver for BPPV	6
Interpretation of electronystagmography studies	6

Teaching and Academic Activities

General Principles

1. A half day is reserved weekly as an academic day for the surgical residents. All residents should be free from their clinical duties to attend the academic activity that is planned in advance with an assigned tutor, time slot, and venue.
2. A monthly journal club activity should be planned in advance with an assigned tutor, time slot, and venue. Residents from all hospitals in the region will gather for this activity.
3. Other academic activities include:
 - a) Weekly evidence-based reviews in surgical practice
 - b) Weekly morbidity and mortality meetings
 - c) Weekly radiology, pathology, or tumor board meetings
 - d) Workshops and simulation courses
4. The Core Education Programme (CEP) will include the following three formal teaching and learning activities:
 - a) Universal topics: 20%, delivered in the format of e-learning by the Saudi Commission
 - b) Core specialty topics: 70%
 - c) Trainee-selected topics: 10%
5. Every month, at least one hour should be assigned to meetings with mentors, portfolio review, mini-clinical evaluation exercises (mini-CEX), etc.
6. Trainees are required to attend and participate in the academic and clinical activities of the department, including ward rounds, journal clubs, surgical pathology, radiology and immunology rounds, and other activities. Attendance and participation shall not be less than 75% of the number of activities within any training rotation/period.

Academic Activities

Grand Rounds

Grand rounds accredited by the Saudi Commission are held every week.

There are two types of grand round presentations:

1. **Formal Presentation:** One resident or staff otolaryngologist is responsible for a one-hour grand round. A topic, usually based upon a case, will be presented in detail with an appropriate literature review. This presentation should be no longer than 30-40 minutes in length, leaving time at its conclusion for discussion. The presentations should be of a national meeting standard. Topics for these presentations should be announced two weeks in advance.
2. **Case presentation:** Two cases with appropriate history, lab results, radiographs, clinical photographs, and pathology will be presented. All Residents will be prepared to discuss various aspects of the case including investigations, therapy, etc. Staff will be encouraged to participate in this discussion, particularly in areas of controversy.

Teaching Sessions

Surgical Skills Program

1. Temporal Bone (at least two during the five years)
2. Functional Endoscopic Sinus Surgery (FESS) (at least two during the five years)
3. Basic science course
4. Senior pre-examination course

Journal Club

Journal Club is an activity conducted every month, organized by one resident and one consultant. The consultant will be asked to submit one article. Residents will supply articles to bring the total number of articles to four. This is an excellent opportunity to practice critical appraisal of the literature in a relaxed group environment. All consultants are invited to attend these sessions. The location for each Journal Club will be decided at the discretion of the staff physician and resident coordinating the event. Sponsorship by pharmaceutical companies will be capped to allow the funneling of more industry support to the acquisition of books and other teaching tools for the division.

Teaching Development

These are multidisciplinary rounds including representatives from various ENT disciplines. The primary purpose of the rounds is to fully explore and discuss the treatment of newly diagnosed patients and patients presently being cared for in the hospital. Residents or staff involved in the care of the patients make a brief problem-oriented presentation and direct subsequent discussion around the cases. Particularly difficult or interesting cases may be initially presented one week and then earmarked for more in-depth analysis the following week to enhance the educational and patient-care aspects of the rounds. The ethical and moral issues surrounding the care of individual patients presented at these rounds will be discussed regularly. Team members are invited to make formal presentations regarding their specific roles in the care of these patients and any new development in their fields if they wish.

List of Core Specialty Topics

S. No	Topics	List of Sub Topics	Objective
1	General	Intractable aspiration	<ol style="list-style-type: none"> 1-Physiology of swallowing 2-Stages of swallowing 3-Possible causes and diagnostic tools 4-Management options (medical, surgical, and rehabilitation) and their complications
		Common disorders of esophagus	<ol style="list-style-type: none"> 1-Anatomy and histology of the esophagus 2-Systemic diseases that can affect the esophagus (e.g., scleroderma, polymyositis, infiltrative disease, achalasia), diagnostic modalities, and options for management 3-Local disease of the esophagus (e.g., esophageal varices, webs, diverticulum, neurogenic dysphagia, diffuse esophageal spasm, caustic ingestion), diagnostic modalities, and management options
		Oral manifestation of systemic disease	<ol style="list-style-type: none"> 1-Various autoimmune diseases affecting the oral cavity 2-Approach to patients with oral lesions 3-Follow-up and monitoring for any transformation 4-Indication and role of biopsy for oral lesions
		Deep neck infection	<ol style="list-style-type: none"> 1-Anatomy of the neck, facial planes, and deep neck spaces, their radiology, and radiological identification of any abnormalities in deep neck spaces 2-Etiologic factors for deep neck space infections 3-Diagnosis and management 4-Surgical approaches to all deepneck spaces
		Angioedema	<ol style="list-style-type: none"> 1-Types and physiology of angioedema 2-Common causes of acquired angioedema 3-Presentation and management strategy

		Laser in Otorhinolaryngology – Head and Neck Surgery (ORL-HNS)	<ol style="list-style-type: none"> 1-Physics of laser 2-Types and uses of laser in ENT 3-Safety measurement 4-Complications and their management
		Fibrous dysplasia	<ol style="list-style-type: none"> 1-Pathophysiology of fibrous dysplasia and other fibro-osseous jaw lesions 2-Types and clinical presentations 3-Diagnostic tools and characteristic radiological findings 4-Management options and follow-up
		Foreign Body in ORL-HNS	<ol style="list-style-type: none"> 1-Presentation of foreign body in the airway and its management 2-Foreign body in nose, ear, and esophagus and management options
		Barotrauma	<ol style="list-style-type: none"> 1-Mechanics of barotraumas in the ear, sinuses, lungs, and blood vessels 2-Etiologies and preventive methods 3-Presentations, diagnosis, and management modalities
		Gastroesophageal reflux disease (GERD) and laryngopharyngeal reflux (LPR)	<ol style="list-style-type: none"> 1-Physiology of stomach acidity and esophageal sphincters 2-Clinical presentations and diagnostic workup 3-Complications of GERD and LPR 4-Management options
		Temporomandibular joint disorder	<ol style="list-style-type: none"> 1-Anatomy of the mandible and temporal bone 2-Causes of temporomandibular joint disorder 3-Presentation and diagnosis 4-Treatment options 5-Complications of surgical management
		Caustic ingestion	<ol style="list-style-type: none"> 1-Most common caustic ingestions and their pH 2-Clinical presentations 3-Grading for esophageal injuries and management plan for each grade 4-Treatment options 5-Complications of caustic ingestions
2	Salivary glands	Pathology of salivary glands	<ol style="list-style-type: none"> 1-Anatomy including embryology, histology, and physiology of salivary glands 2-Salivary gland dysfunctions (sialorrhea and xerostomia) 3-Inflammatory, autoimmune, and infiltrative diseases of the salivary glands 4-Neoplasia of the salivary gland 5-Malignant salivary gland tumors
3	Otology	Management of Meniere's disease	<ol style="list-style-type: none"> 1-Pathophysiology and epidemiology of Meniere's 2-Presentation of audiological-

		<ul style="list-style-type: none"> vestibular evaluation 3-Management options (medical, surgical and rehabilitation)
	Necrotizing otitis externa	<ul style="list-style-type: none"> 1-Pathophysiology and epidemiology 2-Presentations and populations at risk 3-Investigation 4-Treatment on management
	Radiology of temporal bone	<ul style="list-style-type: none"> 1-CT of normal temporal bone 2-CT findings in common pathologies of temporal bone
	Cochlear implant (CI)	<ul style="list-style-type: none"> 1-Preoperative evaluation for a deaf patient 2-Types of CI 3-Surgical approaches for CI and their complications 4-Postoperative rehabilitation
	Cholesteatoma	<ul style="list-style-type: none"> 1-Theories about cholesteatoma 2-Clinical presentations and approaches 3-Surgical management and postoperative follow-up 4-Intra- and extratemporal complications of cholesteatoma
	Audiology	<ul style="list-style-type: none"> 1-Physiology of hearing and sound transmission 2-Role of external, middle, and inner ear in sound transmissions 3-Basic and advanced audiological tests and their implications in different conditions 4-Physiology of vestibular system and balance 5-Basic vestibular tests and their implications 6-Audiological examination and findings in different pathologies 7-Vestibular examinations and their interpretations
	Complications of otitis media	<ul style="list-style-type: none"> 1-Intra- and extracranial complications 2-Clinical presentations and management of catheter 3-Diagnostic radiology and interpretation of the findings 4-Prevention methods
	Otosclerosis	<ul style="list-style-type: none"> 1-Pathophysiology of otosclerosis 2-Presentation, investigation, and differential diagnosis 3-Nonsurgical management (hearing aid, observation, and medical management) and surgical management, including intraoperative considerations in stapes surgery 4-Indications and contraindications for surgery 5-Complications of surgery
	Facial nerve paralysis	<ul style="list-style-type: none"> 1-Anatomy and physiology

			<p>2-Presentation,including Sunderland’s nerve injury classification</p> <p>3-Evaluation of facial nerve paralysis, including history, physical exam with House-Brackmann system of grading facial nerve recovery, ancillary studies including electrophysiological tests, differential diagnosis, and option for management</p>
		Sensory Neural Hearing Loss (SNHL)	<p>1-Anatomy and physiology of inner ear, including auditory nerve pathway</p> <p>2-Evaluation of patient with SNHL with differential diagnosis</p> <p>3-Options for management</p>
		Management of tinnitus	<p>1-Differentiation between subjective and objective tinnitus</p> <p>2-Workup of tinnitus patient</p> <p>3-Causes and management</p>
4	Rhinology	FESS induction and complication	<p>1-Anatomy of paranasal sinus, including anatomy variation and radiolocation evaluation</p> <p>2-Indication of FESS, including advantages and disadvantages, typical steps, and variations of technique</p> <p>3-Complications and their management</p>
		Pathophysiology and management of allergic rhinitis	<p>1-The basic allergic response,including hypersensitivity types and common allergens</p> <p>2-Diagnosis of allergic rhinitis, including history, physical exam, and adjunctive testing, including skin allergy testing and other in-vitro allergy testing</p> <p>3-Management, including anaphylaxis, symptomatic relief, and management of complicating factors</p> <p>4-Churg-Strauss Syndrome</p>
		Radiology of paranasal sinus	<p>1-Basic anatomy of paranasal sinuses</p> <p>2-Role of CT scan</p> <p>3-Role of MRI</p>
		Controversies of epistaxis management	<p>1-Basic vascular anatomy of nose and nasal arterial plexuses: Kiesselbach’s plexus and Woodruff’s plexus</p>

			<ul style="list-style-type: none"> 2-Differential diagnosis and management 3-Evaluation, including signs of shock and IV fluid management; history, physical exam, and ancillary tests
		Fungal rhinosinusitis	<ul style="list-style-type: none"> 1-Classification of fungal rhinosinusitis 2-Pathophysiology 3-Management 4-Risk factors and management of acute fulminant invasive fungal sinusitis
		Anosmia	<ul style="list-style-type: none"> 1-Olfactory physiology 2-Classification of olfactory dysfunction with evaluation 3-Causes and general treatment principles
		Management of CSF leak	<ul style="list-style-type: none"> 1- CSF basics including production, consistency and amount 2-Etiology and work up 3-Treatment conservative vs surgical
5	Laryngology	Management of vocal cord palsy	<ul style="list-style-type: none"> 1-Evaluation of vocal cord mobility 2-Causes in adult and pediatric patients 3-Management for unilateral and bilateral including vocal fold (VF) injection, thyroplasty, arytenoid adduction, reinnervation procedure, and tracheotomy
		Speech disorder (vocal cord lesion)	<ul style="list-style-type: none"> 1-Basic anatomy of larynx and vocal cord 2-Types of speech disorders 3-Evaluation of patient with differential diagnosis 4-Management
6	Head and neck	Management of unknown primary lesion	<ul style="list-style-type: none"> 1-Evaluation and management, including drainage pathways 2-Pathology 3-Management
		Hypopharyngeal carcinoma	<ul style="list-style-type: none"> 1-Anatomy of hypopharynx, including subsites and regional lymph nodes 2-Classification, evaluation, and staging 3-Surgical management
		Nasopharyngeal carcinoma	<ul style="list-style-type: none"> 1-Anatomy and pathophysiology, including Epstein-Barr virus association 2-World Health Organization classification 3-Staging and management,

			including treatment of residual and recurrent disease
		Neck dissection	1-Anatomy of neck 2-Classification of neck dissection 3-Complication of neck dissection and its management
		Management of parapharyngeal space tumor	1-Anatomy of parapharyngeal space and compartment 2-Tumor types 3-Patient evaluation and investigation 4-Surgical approaches
		Rehabilitation after laryngectomy	1-Artificial larynx 2-Esophageal speech 3-Tracheoesophageal puncture
		Radiology of neck	1-Anatomy of neck space 2-Common pathology 3-Different between CT and MRI in evaluation of common neck pathologies
		Carotid body tumor	1-Clinical presentation and diagnostic evaluation 2-The anatomy of the carotid body in relation to surgery 3-Management
7	Endocrinology	Pathology of thyroid gland	1-Anatomy, embryology and physiology 2-Evaluation of thyroid nodule 3-Thyroid neoplasia 4-Update in management of thyroid neoplasia 5-Complications of thyroidectomy and their management
8	Sleep medicine	Obstructive sleep apnea	1-Clinical interpretation of polysomnography, apnea index, and respiratory distress index (RDI) 2-Classification of obstructive sleep-related breathing disorders 3-Symptoms, signs, and diagnostic evaluation 4-Medical and surgical management
9	Reconstruction and facio-plastic surgery	Rhinoplasty	1-Anatomic evaluation 2-Major and minor support 3-Surgical planes and landmarks 4-Surgical approaches and complications 5-Postoperative care
		Local and regional flap	1-Anatomy and physiology of skin 2-Classification of flap 3-Wound healing
10	Pediatric ENT	Congenital deafness	1-Definition and types of congenital deafness

	Surgery		<ul style="list-style-type: none"> 2-History and physical examination 3-Assessment of hearing in infants and children 4-Common inner ear dysmorphic pathologies 5-Acquired prenatal hearing loss
		Cleft palate	<ul style="list-style-type: none"> 1-Embryology and anatomy of palate 2-Classification of cleft palate 3-Diagnostic methodology, prenatal and molecular 4-Associated defects 5-Surgical management
		Inflammatory pediatric airway disease	<ul style="list-style-type: none"> 1-Anatomy and physiology of pediatric airway 2-Type of inflammatory pediatric airway disease 3-Diagnostic tools of inflammatory pediatric airway disease 4-Approach to pediatric airway 5-Acute management of inflammatory pediatric airway disease
		Pediatric rhinosinusitis	<ul style="list-style-type: none"> 1-Etiology of pediatric rhinosinusitis 2-Complications and management of pediatric rhinosinusitis 3-Diagnostic tools 4-Medical and surgical management
		Congenital neck mass	<ul style="list-style-type: none"> 1-Types of congenital neck masses 2-Diagnostic tools for congenital neck masses 3-Management of congenital neck masses
		Common syndromes in pediatric patients	<ul style="list-style-type: none"> 1-Craniofacial syndromes and the role of ENT in management 2-Conductive hearing impairment and management 3-Sensorineural hearing impairment and management
		Congenital aural atresia	<ul style="list-style-type: none"> 1-Nonsyndromic vs. syndromic 2-Diagnostic tools 3-Grading system 4-Types of surgical management of congenital aural atresia
		Subglottic stenosis	<ul style="list-style-type: none"> 1-Congenital and acquired etiology and pathophysiology 2-Diagnosis of subglottic stenosis 3-Management of subglottic Stenosis
11	Trauma	Management of trauma to periorbital structures	<ul style="list-style-type: none"> 1-Basic anatomy of the orbit 2-Physical assessment of the orbit 3-Surgical approaches to orbital

		Penetrating neck trauma	<p>wall fracture</p> <ol style="list-style-type: none"> 1-Anatomy of the neck and levels of trauma 2-Acute management of penetrating neck trauma 3-Diagnostic tools for each level of neck trauma 4-Approaches to penetrating neck trauma
		Laryngeal trauma	<ol style="list-style-type: none"> 1-Etiology of laryngeal trauma 2-Types of laryngeal fractures 3-Grading of laryngeal trauma 4-Diagnostic tools for laryngeal trauma 5-Protocol of management of laryngeal trauma 6-Surgical and nonsurgical management of laryngeal trauma 7-Sequelae of laryngeal trauma and management

Universal Topics

Intent

Universal topics are high-value, interdisciplinary topics of utmost importance to the trainee. Topics are delivered centrally in order to ensure that every trainee receives high-quality teaching and develops essential core knowledge. These topics are common to all specialties.

Topics included here meet one or more of the following criteria:

- Impactful: topics that are common or represent life-threatening conditions
- Interdisciplinary: topics that are difficult to teach within a single discipline
- Orphan: topics that are poorly represented in the undergraduate curriculum
- Practical: topics that trainees will encounter in hospital practice

Development and Delivery

Universal topics will be developed and delivered centrally by the Commission through an e-learning platform that is didactic in nature, with a focus on the practical aspects of care. These topics will be more content-heavy than workshops and other planned face-to-face interactive sessions. The suggested duration of each topic is 1.5 hours. The topics will be delivered in a modular fashion through e-learning. At the end of each learning unit, there will be an online formative assessment. After completion of all topics, there will be a combined summative assessment in the form of context-rich multiple-choice questions (MCQs). All trainees must attain minimum competency as determined by the summative assessment. Alternatively, these topics can be assessed in a summative manner along with specialty examinations. The titles of these universal topics are listed and described in the following modules:

Module 1: Introduction

1. Safe drug prescribing
2. Hospital-acquired infections
3. Sepsis, systemic inflammatory response syndrome (SIRS), disseminated intravascular coagulation (DIC)
4. Antibiotic stewardship
5. Blood transfusion

Safe drug prescribing: At the end of the Learning Unit, the trainee should be able to:

- a) Recognize the importance of safe drug prescribing
- b) Describe various adverse drug reactions, with examples of commonly prescribed drugs that can cause such reactions
- c) Apply principles of drug-drug interactions, drug-disease interactions, and drug-food interactions to common situations
- d) Apply principles of prescribing drugs in special situations such as renal failure and liver failure
- e) Apply principles of prescribing drugs in elderly and pediatric patients and in pregnancy and lactation
- f) Promote evidence-based, cost-effective prescribing
- g) Discuss the ethical and legal framework governing safe drug prescribing in Saudi Arabia

Hospital-Acquired Infections (HAI): At the end of the Learning Unit, the trainee should be able to:

- a) Discuss the epidemiology of HAI, with special reference to HAI in Saudi Arabia
- b) Recognize HAI as one of the major emerging threats in health care
- c) Identify the common sources and predisposing factors of HAI
- d) Describe the risk factors of common HAIs, such as ventilator-associated pneumonia, methicillin-resistant *Staphylococcus aureus* (MRSA) infection, central line-associated bloodstream infection (CLABSI), and vancomycin-resistant enterococcus (VRE) infection
- e) Identify the role of health care workers in the prevention of HAI
- f) Determine appropriate pharmacological (e.g., selected antibiotic) and non-pharmacological (e.g., removal of indwelling catheter) measures for treatment of HAI
- g) Propose a plan to prevent HAI in the workplace

Sepsis, SIRS, DIC: At the end of the Learning Unit, the trainee should be able to:

- a) Explain the pathogenesis of sepsis, SIRS, and DIC
- b) Identify patient-related and non-patient-related predisposing factors of sepsis, SIRS, and DIC
- c) Recognize a patient at risk of developing sepsis, SIRS, and DIC
- d) Describe the complications of sepsis, SIRS, and DIC
- e) Apply the principles of management of patients with sepsis, SIRS, and DIC
- f) Describe the prognosis of sepsis, SIRS, and DIC

Antibiotic Stewardship: At the end of the Learning Unit, the trainee should be able to:

- a) Recognize antibiotic resistance as one of the most pressing public health threats globally
- b) Describe the mechanism of antibiotic resistance
- c) Determine appropriate and inappropriate use of antibiotics

- d) Develop a plan for safe and proper antibiotic usage, including indications, duration, types of antibiotic, and discontinuation
- e) Understand local guidelines for the prevention of antibiotic resistance

Blood Transfusion: At the end of the Learning Unit, the trainee should be able to:

- a) Review the different components of blood products available for transfusion
- b) Recognize the indications and contraindications of blood product transfusion
- c) Discuss the benefits, risks, and alternatives to transfusion
- d) Obtain consent for specific blood product transfusions
- e) Perform steps necessary for safe transfusion
- f) Develop an understanding of special precautions and procedures necessary during massive transfusions
- g) Recognize transfusion-associated reactions and provide immediate management

Module 2: Cancer

1. Principles of management of cancer
2. Side effects of chemotherapy and radiation therapy
3. Oncologic emergencies

Principles of Management of Cancer: At the end of the Learning Unit, the trainee should be able to:

- a) Discuss the basic principles of cancer staging and grading
- b) Enumerate the basic principles (e.g., indications, mechanism, and types) of:
 - a. Cancer surgery
 - b. Chemotherapy
 - c. Radiotherapy
 - d. Immunotherapy
 - e. Hormone therapy

Side Effects of Chemotherapy and Radiation Therapy: At the end of the Learning Unit, the trainee should be able to:

- a) Describe important (e.g., frequent or life- or organ-threatening) side effects of common chemotherapy drugs
- b) Explain principles of monitoring side effects in a patient undergoing chemotherapy
- c) Describe measures (pharmacological and non-pharmacological) available to ameliorate the side effects of commonly prescribed chemotherapy drugs
- d) Describe important (e.g., common and life-threatening) side effects of radiation therapy
- e) Describe measures (pharmacological and non-pharmacological) available to ameliorate the side effects of radiotherapy

Oncologic Emergencies: At the end of the Learning Unit, the trainee should be able to:

- a) Enumerate important oncologic emergencies encountered in both hospital and ambulatory settings
- b) Discuss the pathogenesis of important oncologic emergencies
- c) Recognize oncologic emergencies
- d) Institute immediate measures when treating a patient with oncologic emergencies
- e) Counsel patients in anticipatory manner to recognize and prevent oncologic emergencies

Module 3: Diabetes and Metabolic Disorders

1. Recognition and management of diabetic emergencies
2. Management of diabetic complications
3. Abnormal ECG

Recognition and Management of Diabetic Emergencies: At the end of the Learning Unit, the trainee should be able to:

- a) Describe the pathogenesis of common diabetic emergencies, including their complications
- b) Identify risk factors and groups of patients vulnerable to such emergencies
- c) Recognize a patient presenting with diabetic emergencies
- d) Institute immediate management
- e) Refer the patient to the appropriate next level of care
- f) Counsel patients and families to prevent such emergencies

Management of Diabetic Complications: At the end of the Learning Unit, the trainee should be able to:

- a) Describe the pathogenesis of important complications of Type 2 diabetes mellitus
- b) Screen patients for such complications
- c) Provide preventive measures for such complications
- d) Treat such complications
- e) Counsel patients and families, with a special emphasis on prevention

Abnormal ECG: At the end of the Learning Unit, the trainee should be able to:

- a) Recognize common and important ECG abnormalities
- b) Institute immediate management, if necessary

Module 4: Medical and Surgical Emergencies

1. Management of acute chest pain
2. Management of acute breathlessness
3. Management of altered sensorium
4. Management of hypotension and hypertension
5. Management of upper gastrointestinal (GI) bleeding
6. Management of lower GI bleeding

For all the above, the following learning outcomes apply:

At the end of the Learning Unit, the trainee should be able to:

- a) Triage and categorize patients
- b) Identify patients who need prompt medical and surgical attention
- c) Generate preliminary diagnoses based upon history and physical examination
- d) Order and interpret urgent investigations
- e) Provide appropriate immediate management to patients
- f) Refer patients to the next level of care, if needed

Module 5: Acute Care

1. Preoperative assessment
2. Postoperative care
3. Acute pain management
4. Chronic pain management
5. Management of fluid in the hospitalized patient
6. Management of electrolyte imbalance

Preoperative Assessment: At the end of the Learning Unit, the trainee should be able to:

- a) Describe the basic principles of preoperative assessment
- b) Perform a preoperative assessment in a patient with no complications, with special emphasis on:
 - i. General health assessment
 - ii. Cardiorespiratory assessment
 - iii. Medication and medical device assessment
 - iv. Drug allergy
 - v. Pain relief needs
- c) Categorize patients according to risks

Postoperative Care: At the end of the Learning Unit, the trainee should be able to:

- a) Devise a postoperative care plan including monitoring of vitals, pain management, fluid management, medications, and laboratory investigations

- b) Transfer patients properly to appropriate facilities
- c) Describe the process of postoperative recovery in a patient
- d) Identify common postoperative complications
- e) Monitor patients for possible postoperative complications
- f) Institute immediate management for postoperative complications

Acute Pain Management: At the end of the Learning Unit, the trainee should be able to:

- a) Review the physiological basis of pain perception
- b) Proactively identify patients who might be in acute pain
- c) Assess a patient with acute pain
- d) Apply various pharmacological and non-pharmacological modalities available for acute pain management
- e) Provide adequate pain relief to patients without complications who have acute pain
- f) Identify and refer patients with acute pain who can benefit from specialized pain services

Chronic Pain Management: At the end of the Learning Unit, the trainee should be able to:

- a) Review biopsychosocial and physiological bases of chronic pain perception
- b) Discuss various pharmacological and non-pharmacological options available for chronic pain management
- c) Provide adequate pain relief for patients without complications who have chronic pain
- d) Identify and refer patients with chronic pain who can benefit from specialized pain services

Management of Fluid in Hospitalized Patients: At the end of the Learning Unit, the trainee should be able to:

- a) Review the physiological basis of water balance in the body

- b) Assess patients' hydration status
- c) Recognize a patient with over-or under-hydration
- d) Order fluid therapy (oral as well as intravenous) for a hospitalized patient
- e) Monitor fluid status and response to therapy through history, physical examination, and selected laboratory investigations

Management of Acid-Base Electrolyte Imbalances: At the end of the Learning Unit, the trainee should be able to:

- a) Review physiological basis of electrolyte and acid-base balance in the body
- b) Identify diseases and conditions that are likely to cause or be associated with acid-base and electrolyte imbalances
- c) Correct electrolyte and acid-base imbalances
- d) Perform careful calculations, checks, and other safety measures while correcting acid-base and electrolyte imbalances
- e) Monitor response to therapy through history, physical examination, and selected laboratory investigations

Module 6: Frail Elderly Patients

1. Assessment of frail elderly patients
2. Mini-mental state examination (MMSE)
3. Prescribing drugs in elderly patients
4. Care of elderly patients

Assessment of Frail Elderly Patients: At the end of the Learning Unit, the trainee should be able to:

- a) Enumerate the differences and similarities between comprehensive assessments of elderly and other patients
- b) Perform a comprehensive assessment, in conjunction with other members of the health care team, of a frail elderly patient, with special emphasis on social

factors, functional status, quality of life, diet and nutrition, and medication history

- c) Develop a problem list based on the assessment of the elderly patient

Mini-Mental State Examination: At the end of the Learning Unit, the trainee should be able to:

- a) Review the appropriate usages, advantages, and potential pitfalls of the MMSE
- b) Identify patients suitable for the MMSE
- c) Screen patients for cognitive impairment through the MMSE

Prescribing Drugs in Elderly Patients: At the end of the Learning Unit, the trainee should be able to:

- a) Discuss the principles of prescribing medications for elderly patients
- b) Recognize polypharmacy, the prescribing cascade, inappropriate dosages, inappropriate drugs, and deliberate drug exclusion as major causes of morbidity in elderly patients
- c) Describe the physiological and functional declines in elderly patients that contribute to increased drug-related adverse events
- d) Discuss drug-drug and drug-disease interactions among elderly patients
- e) Be familiar with Beers criteria
- f) Develop rational prescribing habits for elderly patients
- g) Counsel elderly patient and family on the safe medication usage

Care of Elderly Patients: At the end of the Learning Unit, the trainee should be able to:

- a) Describe the factors that need to be considered while planning care for elderly patients
- b) Recognize the needs and well-being of caregivers
- c) Identify the local and community resources available for the care of elderly patients

- d) Develop, with input from other health care professionals, an individualized care plan for an elderly patient

Module 7: Ethics and Health Care

1. Occupational hazards of health care workers (HCW)
2. Evidence-based approach to smoking cessation
3. Patient advocacy
4. Ethical issues: organ transplantation/harvesting, withdrawal of care
5. Ethical issues: treatment refusal, patient autonomy
6. Role of doctors in death and dying

Occupation Hazards of Health Care Workers: At the end of the Learning Unit, the trainee should be able to:

- a) Recognize common sources and risk factors of occupational hazards among HCW
- b) Describe common occupational hazards in the workplace
- c) Develop familiarity with legal and regulatory frameworks governing occupational hazards among HCW
- d) Develop a proactive attitude to promote workplace safety
- e) Protect yourself and colleagues against potential occupational hazards in the workplace

Evidence-Based Approach to Smoking Cessation: At the end of the Learning Unit, the trainee should be able to:

- a) Describe the epidemiology of smoking and tobacco use in Saudi Arabia
- b) Review the effects of smoking on the smoker and family members
- c) Effectively use pharmacologic and non-pharmacologic measures to treat tobacco use and dependence
- d) Effectively use pharmacologic and non-pharmacologic measures to treat tobacco use and dependence among special population groups such as pregnant women, adolescents, and patients with psychiatric disorders

Patient Advocacy: At the end of the Learning Unit, the trainees should be able to:

- a) Define patient advocacy
- b) Recognize patient advocacy as a core value governing medical practice
- c) Describe the role of patient advocates in patient care
- d) Develop a positive attitude towards patient advocacy
- e) Be a patient advocate in conflicting situations
- f) Be familiar with local and national patient advocacy groups

Ethical Issues: Organ Transplantation/Harvesting, Withdrawal of Care: At the end of the Learning Unit, the trainees should be able to:

- a) Apply key ethical and religious principles governing organ transplantation and withdrawal of care
- b) Be familiar with the legal and regulatory guidelines regarding organ transplantation and withdrawal of care
- c) Counsel patients and families in the light of applicable ethical and religious principles
- d) Guide patients and families to make informed decisions

Ethical Issues: Treatment Refusal, Patient Autonomy: At the end of the Learning Unit, the trainees should be able to:

- a) Predict situations where a patient or family is likely to decline prescribed treatment
- b) Describe the concept of “rational adult” in the context of patient autonomy and treatment refusal
- c) Analyze key ethical, moral, and regulatory dilemmas in treatment refusal
- d) Recognize the importance of patient autonomy in the decision-making process
- e) Counsel patients and families declining medical treatment in the light of the best interest of the patients

Role of Doctors in Death and Dying: At the end of the Learning Unit, the trainees should be able to:

- a) Recognize the important role a doctor can play during the process of dying
- b) Provide emotional as well as physical care to a dying patient and family
- c) Provide appropriate pain management to a dying patient
- d) Identify suitable patients for referral to palliative care services

Universal Topics Assigned by Residency Level

ModuleTitles	Introduction	Diabetes and Metabolic Disorders	Medical and Surgical Emergencies	Cancer	Acute Care	Frail Elderly Patients	Ethics and Health care
Level	R1	R1	R1	R2	R2	R3	R3

Suggested Workshops and Simulation Courses

S. No	Topics	Subtopics	Remark
1	Otology	Temporal bone dissection course (basic and advanced)	Mandatory
		Implantable hearing devices	Recommended
		Audiological assessment of prelingual hearing loss	Recommended
		Approach to vertigo	Recommended
2	Rhinology	FESS course (basic and advanced)	Mandatory
		CSF rhinorrhea (approach and management)	Recommended
		Immunology	Recommended
3	Laryngology	Phonosurgery	Recommended
		Voice rehabilitation	Recommended
		Laser in laryngology	Recommended
4	Facioplasty	Septorhinoplasty(basic and advanced)	Recommended
		Use of injected material in faciopesty	Recommended
		Aging face	Recommended
		Management of tissue defects	Recommended
5	Thoracic	Laryngoscopy and bronchoscopy	Mandatory
		Approach to a patient with stridor	Recommended
		Emergency airway management	Recommended
		Approach to patient with OSA + sleep study	Recommended
6	Head and Neck	Chemoradiation in the head and neck	Recommended
		Neck dissection course	Recommended
		Management of primary and advanced Head and Neck Cancer	Recommended

		Management of and approaches to skull base tumors	Recommended
7	General	Advanced Trauma Life Support (ATLS)	Mandatory for promotion to senior level
		Swallowing and aspiration	Recommended
		Esophageal disorders and their management	Recommended
		Management of hypo- and hypernasality	Recommended

Research

Research Guidelines for the ENT Residency Training Program

Objectives

Research is considered integral to the ENT Residency Training Program. A modest degree of research experience and an understanding of basic research techniques are minimal requirements for satisfactory completion of the training. A modern surgeon must be able to aptly access and critically assess the literature. As quality-assurance techniques become more sophisticated, retrospective and prospective analyses of clinical effectiveness will be required. Knowledge of valid methodology for accomplishing this is an expectation of surgeons completing the Saudi ENT Residency Training Program in Otolaryngology.

It is mandatory that every resident should publish at least one paper during his or her training. Residents who fail to publish one paper will be considered to have failed the research component of the training period, and they will not be allowed to sit for the final examination. Residents involved in a research project requiring a significant time commitment can be given up to one half day per week during regular hours for research. A time mutually acceptable to the service and the individual will be arranged and organized through the Research Committee.

Types of Projects

Research interests and opportunities will be discussed with the Program Director at the beginning of residency, and meetings will be held throughout the year. There is a major commitment from the staff members to the development of research among residents. The scientific board will provide a list of topics as priorities.

Research Elective Rotation

Goals

1. Learn principles of evidence-based medicine
2. Gain experience in performing an in-depth review of the literature
3. Gain experience in clinical or basic science research

4. Improve presentation skills
5. Improve manuscript preparation skills
6. Gain experience in obtaining peer-reviewed funding

Application for Research Elective Rotation

Written requests must be submitted to the program director a minimum of two months prior to the start date. For longer electives, a longer lead time may be required. Goals and objectives must be clearly outlined in the research proposal with the agreement of the research supervisor. An evaluation form must be filled out, as with any other rotation. For any research elective longer than one month, a mid-rotation evaluation **MUST** be completed. Residents must meet with the supervisor at least once every week to discuss any concerns regarding progress, feasibility, or long-term potential of the proposed or ongoing research.

Resident Research Day will be held each year to promote the development of research skills. Each resident, with the assistance of a preceptor, will develop a research paper and present it on Resident Research Day. Appropriate papers will be submitted for the annual meeting of the Saudi ENT Society.

1. Residents will select a topic of their choice and a preceptor/supervisor after discussions with the research coordinator.
2. Presentations are to be 15 minutes long and include five minutes for discussion.
3. A written manuscript is to be submitted one week prior to the research day.

The Research Committee will meet with individual residents throughout the academic year as the need arises to discuss issues such as:

- a. Topic selection and literature searches
- b. Development of a written proposal
- c. Data collection and analysis
- d. Preparation of manuscript and presentation

Assessment

Purpose: The purposes of the assessment during the training are to:

- Support learning
- Develop professional growth
- Monitor progression
- Judge competency and award certification
- Evaluate the quality of the training program

General Principles:

- Judgment should be based on holistic profiling of a trainee rather than on individual traits or instruments.
- The assessment should be continuous in nature.
- Trainees and faculty must meet together to review the performance of residents.
- The assessment should be strongly linked to the curriculum and the content.

Residents' evaluation and assessment throughout the program is undertaken in accordance with the Commission's training and examination rules and regulations. This includes the following:

A. Annual Assessment:

1. Continuous Appraisal

This assessment is conducted toward the end of each training rotation throughout the academic year and at the end of each academic year as continuous assessment in the form of formative and summative evaluation.

1.1 Formative Continuous Evaluation:

To fulfill the CanMEDS competencies based on the end of rotation evaluation, the resident's performance will be evaluated jointly by relevant staff for the following competencies:

1. Performance of the trainee during daily work.

2. Performance and participation in academic activities.
3. Performance in a 10–20-minute direct observation assessment of trainee-patient interactions. Trainers are encouraged to perform at least one assessment per clinical rotation, preferably near the end of the rotation. Trainers should provide timely and specific feedback to the trainee after each assessment of a trainee-patient encounter.
4. Performance of diagnostic and therapeutic procedural skills by the trainee. Timely and specific feedback for the trainee after each procedure is mandatory.
5. The CanMEDS-based competencies end-of-rotation evaluation form must be completed within two weeks following the end of each rotation (preferably in an electronic format) and signed by at least two consultants. The program director will discuss the evaluation with the resident, as necessary. The evaluation form will be submitted to the Regional Training Supervisory Committee of the SCFHS within four weeks following the end of the rotation.
6. The assessment tools, in a form of educational portfolio (i.e., monthly evaluation, rotational Mini-CEX* and CBDs**, etc.).
7. The academic or clinical assignments should be documented by an electronic tracking system (**e-Logbook** when applicable) on an annual basis. Evaluations will be based on accomplishment of the minimum requirements of the procedures and clinical skills as determined by the program.

*Mini-clinical Evaluation Exercise

**Case-based Discussion

1.2 Summative Continuous Evaluation:

This is a summative continuous evaluation report prepared for each resident at the end of each academic year, which might also involve clinical, oral examination, OSPE, and OSCE.

2. End-of-year Examination:

The end-of-year examination will be limited to R1, R2, R3 and R4. The number of exam items, eligibility, and passing score will be in accordance with the commission's training and examination rules and regulations. Examination details and blueprint are published on the commission website, www.scfhs.org.sa

B. Principles of Otorhinolaryngology Examination (Saudi Board Examination: Part I)

This exam is conducted in the form of a written examination with a MCQ format, and it is held at least once a year. The number of exam items, eligibility, and passing score will be in accordance with the Commission's training and examination rules and regulations. Examination details and blueprint are published on the commission website, www.scfhs.org.sa

C. Final In-training Evaluation Report (FITER)/Comprehensive Competency Report (CCR)

In addition to the approval of completion of the clinical requirements (resident's logbook) by the local supervising committee, the FITER is also prepared by the program's directors for each resident at the end of his/her final year in residency (R5). This might also involve clinical, oral exams, and completing other academic assignment(s).

D. Final Otorhinolaryngology Board Examination (Saudi Board Examination: Part II)

The final Saudi Board Examination comprises two parts:

1. Written Examination

This examination assesses the theoretical knowledge base (including recent advances) and problem-solving capabilities of candidates in the specialty of Otorhinolaryngology. It is delivered in a MCQ format and is held at least once a year. The number of exam items, eligibility, and passing score will be in accordance with the Commission's training and examination rules and regulations. Examination details and blueprint are published on the commission website, www.scfhs.org.sa

2. Clinical Examination

This examination assesses a broad range of high-level clinical skills, including data gathering, patient management, communication, and counseling skills. The examination is held at least once a year, preferably in an objective structured clinical examination (OSCE) format in the form of patient management problems (PMPs). The exam eligibility and passing score will be in accordance with the Commission's training and examination rules and regulations. Examination details and blueprint are published on the commission website, www.scfhs.org.sa

E. Certification:

Certificate of training completion will only be issued upon the resident's successful completion of all program requirements. Candidates passing all components of the final specialty examination are awarded the "Saudi Board of Otorhinolaryngology" certificate.

Recommended Reading

1. Flint PW, Haughey BH, Lund VJ, et al. *Cumming's Otolaryngology–Head and Neck Surgery*. 5th ed. Philadelphia, PA: Mosby; 2010.
2. Gleeson MJ, ed. *Scott-Brown's Otolaryngology, Head and Neck Surgery*. 7th ed. London, England: Hodder Arnold; 2008.
3. Johnson JT, Rosen CA, eds. *Bailey's Head and Neck Surgery–Otolaryngology*. 5th ed. Baltimore, MD: Lippincott Williams & Wilkins; 2006.
4. Bailey BJ, Calhoun KH. *Atlas of Head and Neck Surgery – Otolaryngology*. 2nd ed. Baltimore, MD: Lippincott Williams & Wilkins; 2001.
5. Myers EN. *Operative Otolaryngology: Head and Neck Surgery*. 2nd ed. Philadelphia, PA: Saunders; 2008.
6. Pasha R, Golub JS. *Otolaryngology Head and Neck Surgery: Clinical Reference Guide*. 4th ed. San Diego, CA: Plural Publishing; 2013.
7. Lee KJ, ed. *Essential Otolaryngology: Head and Neck Surgery*. 10th ed. New York, NY: McGraw-Hill; 2012.
8. Maran AGD, Stell PM. *Clinical otolaryngology*. Oxford, England: Blackwell Scientific Publications; 1979.

Appendices

Appendix A CanMEDS COMPETENCIES

The learning objectives of these seven CanMEDS competencies and topic masteries are incorporated within the different academic activity venues.

1. MEDICAL EXPERT

Definition: *As Medical Experts*, physicians integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. Medical Expert is the central physician Role in the CanMEDS framework.

Description: Physicians possess a defined body of knowledge, clinical skills, procedural skills, and professional attitudes, which are directed to effective patient-centered care. They apply these competencies to collect and interpret information, make appropriate clinical decisions, and carry out diagnostic and therapeutic interventions. They do so within the boundaries of their disciplines, personal expertise, healthcare settings, and the patient's preferences and context. Their care is characterized by up-to-date, ethical, and resource-efficient clinical practice as well as with effective communication in partnership with patients, other health-care providers, and the community. The Role of Medical Expert is central to the function of physicians and draws on the competencies included in the Roles of Communicator, Collaborator, Manager, Health Advocate, Scholar, and Professional.

Elements:

- Integration and application of all CanMEDS Roles for patient care
- Core medical knowledge
- Patient problem identification
- Diagnostic reasoning
- Clinical judgment
- Clinical decision-making
- Application of appropriate therapies
- Procedural skill proficiency
- Humane care
- Application of ethical principles for patient care
- Functioning as a consultant
- Knowing limits of expertise
- Maintenance of competence
- Principles of patient safety and avoiding adverse events

Key Competencies: *Physicians are able to...*

1. Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centered medical care;
2. Establish and maintain clinical knowledge, skills, and attitudes appropriate to their practice;
3. Perform a complete and appropriate assessment of a patient;
4. Use preventive and therapeutic interventions effectively;
5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic;
6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise.

Enabling Competencies: *Physicians are able to...*

1. **Function effectively as consultants, integrating all of the CanMEDS Roles to provide optimal, ethical, and patient-centered medical care**
 - 1.1. Effectively perform a consultation, including the presentation of well-documented assessments and recommendations in written and/or verbal form in response to a request from another health care professional
 - 1.2. Demonstrate effective use of all CanMEDS competencies relevant to their practice
 - 1.3. Identify and appropriately respond to relevant ethical issues arising in patient care
 - 1.4. Effectively and appropriately prioritize professional duties when faced with multiple patients and problems
 - 1.5. Demonstrate compassionate and patient-centered care
 - 1.6. Recognize and respond to the ethical dimensions of medical decision-making
 - 1.7. Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed
2. **Establish and maintain clinical knowledge, skills, and attitudes appropriate to their practice**
 - 2.1. Apply knowledge of the clinical, sociobehavioral, and fundamental biomedical sciences relevant to the physician's specialty
 - 2.2. Describe the Royal College of Physicians and Surgeons of Canada (RCPSC) framework of competencies relevant to the physician's specialty
 - 2.3. Apply lifelong learning skills of the Scholar Role to implement a personal program to keep up to date and enhance areas of professional competence
 - 2.4. Contribute to the enhancement of quality care and patient safety in their practices, integrating the available best evidence and best practices
3. **Perform a complete and appropriate assessment of a patient**
 - 3.1. Effectively identify and explore issues to be addressed in a patient encounter, including the patient's context and preferences

- 3.2 For the purposes of prevention, health promotion, diagnosis, and/or management, elicit a history that is relevant, concise, and accurate as to context and preferences
 - 3.3 For the purposes of prevention, health promotion, diagnosis, and/or management, perform a focused physical examination that is relevant and accurate
 - 3.4 Select medically appropriate investigative methods in a resource-effective and ethical manner
 - 3.5 Demonstrate effective clinical problem-solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans
- 4. Use preventive and therapeutic interventions effectively**
- 4.1 Implement an effective management plan in collaboration with patients and their families
 - 4.2 Demonstrate effective, appropriate, and timely application of preventive and therapeutic interventions relevant to the physician's practice
 - 4.3 Ensure that appropriate informed consent is obtained for therapies
 - 4.4 Ensure that patients receive appropriate end-of-life care
- 5. Demonstrate proficient and appropriate use of procedural skills, both diagnostic and therapeutic**
- 5.1 Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to their practice
 - 5.2 Demonstrate effective, appropriate, and timely performance of therapeutic procedures relevant to their practice
 - 5.3 Ensure that appropriate informed consent is obtained for procedures
 - 5.4 Appropriately document and disseminate information related to procedures performed and their outcomes
 - 5.5 Ensure that adequate follow-up is arranged for procedures performed
- 6. Seek appropriate consultation from other health professionals, recognizing the limits of their expertise**
- 6.1 Demonstrate insight into their own limitations of expertise via self-assessment
 - 6.2 Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care
 - 6.3 Arrange appropriate follow-up care services for patients and their families

2. COMMUNICATOR

Definition: As *Communicators*, physicians effectively facilitate the doctor-patient relationship and the dynamic exchanges that occur before, during, and after the medical encounter.

Description: Physicians enable patient-centered therapeutic communication through shared decision-making and effective dynamic interactions with patients, families, caregivers, other professionals, and other important individuals. The competencies of this Role are essential for establishing rapport and trust, formulating a diagnosis, delivering information, striving for mutual understanding, and facilitating a shared plan of care. Poor communication can lead to undesired outcomes, and effective communication is critical for optimal patient outcomes. The application of these communication competencies and the nature of the doctor-patient relationship vary for different specialties and forms of medical practice.

Elements:

- Patient-centered approach to communication
- Rapport, trust and ethics in the doctor-patient relationship
- Therapeutic relationships with patients, families, and caregivers
- Diverse doctor-patient relationships for different medical practices
- Shared decision-making
- Concordance
- Mutual understanding
- Empathy
- Capacity for compassion, trustworthiness, and integrity
- Flexibility in application of skills
- Interactive process
- Relational competence in interactions
- Eliciting and synthesizing information for patient care
- Efficiency
- Accuracy
- Conveying effective oral and written information for patient care
- Effective listening
- Use of expert verbal and nonverbal communication
- Respect for diversity
- Attention to the psychosocial aspects of illness
- Breaking bad news
- Addressing end-of-life issues
- Disclosure of error or adverse event
- Informed consent
- Capacity assessment
- Appropriate documentation
- Public and media communication, where appropriate

Key competencies: *Physicians are able to...*

1. Develop rapport, trust, and ethical therapeutic relationships with patients and families;
2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals;
3. Accurately convey relevant information and explanations to patients and families, colleagues, and other professionals;
4. Develop a common understanding on issues, problems, and plans with patients and families, colleagues, and other professionals to develop a shared plan of care;
5. Convey effective oral and written information about a medical encounter.

Enabling Competencies: *Physicians are able to...*

- 1. Develop rapport, trust, and ethical therapeutic relationships with patients and families**
 - 1.1. Recognize that being a good communicator is a core clinical skill for physicians and that effective physician-patient communication can foster patient satisfaction, physician satisfaction, adherence, and improved clinical outcomes
 - 1.2. Establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty, and empathy
 - 1.3. Respect patient confidentiality, privacy, and autonomy
 - 1.4. Listen effectively
 - 1.5. Be aware of and responsive to nonverbal cues
 - 1.6. Effectively facilitate a structured clinical encounter

- 2. Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals**
 - 2.1. Gather information about a disease but also about a patient's beliefs, concerns, expectations, and illness experience
 - 2.2. Seek out and synthesize relevant information from other sources, such as a patient's family, caregivers, and other professionals

- 3. Accurately convey relevant information and explanations to patients and families, colleagues, and other professionals**
 - 3.1. Deliver information to a patient and family, colleagues, and other professionals in a humane manner and in such a way that it is understandable and encourages discussion and participation in decision-making

- 4. Develop a common understanding on issues, problems, and plans with patients, families, and other professionals to develop a shared plan of care**
 - 4.1. Effectively identify and explore problems to be addressed from a patient encounter, including the patient's context, responses, concerns, and preferences
 - 4.2. Respect diversity and difference, including but not limited to the impact of gender, religion, and cultural beliefs on decision-making
 - 4.3. Encourage discussion, questions, and interaction in the encounter
 - 4.4. Engage patients, families, and relevant health professionals in shared decision-making to develop a plan of care
 - 4.5. Effectively address challenging communication issues such as obtaining informed consent, delivering bad news, and addressing anger, confusion, and misunderstanding

- 5. Convey effective oral and written information about a medical encounter**
 - 5.1. Maintain clear, accurate, and appropriate records (e.g., written or electronic) of clinical encounters and plans
 - 5.2. Effectively present verbal reports of clinical encounters and plans

- 5.3. When appropriate, effectively present medical information to the public or media about a medical issue

3. COLLABORATOR

Definition: *As Collaborators*, physicians effectively work within a health care team to achieve optimal patient care.

Description: Physicians work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. This is increasingly important in a modern multiprofessional environment, where the goal of patient-centered care is widely shared. Modern healthcare teams include not only a group of professionals working closely together at one site, such as a ward team, but also extended teams with a variety of perspectives and skills in multiple locations. It is therefore essential for physicians to be able to collaborate effectively with patients, families, and an interprofessional team of expert health professionals for the provision of optimal care, education, and scholarship.

Elements:

- Collaborative care, culture, and environment
- Shared decision-making
- Sharing of knowledge and information
- Delegation
- Effective teams
- Respect for other physicians and members of the health care team
- Respect for diversity
- Team dynamics
- Leadership based on patient needs
- Constructive negotiation
- Conflict resolution, management, and prevention
- Organizational structures that facilitate collaboration
- Understanding roles and responsibilities
- Recognizing one's own roles and limits
- Effective consultation with respect to collaborative dynamics
- Effective primary care–specialist collaboration
- Collaboration with community agencies
- Communities of practice
- Interprofessional health care
- Multiprofessional health care
- Learning together
- Gender issues

Key competencies: *Physicians are able to...*

1. Participate effectively and appropriately in an interprofessional health care team;
2. Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict.

Enabling Competencies: *Physicians are able to...*

1. **Participate effectively and appropriately in an interprofessional health care team**
 - 1.1. Clearly describe their roles and responsibilities to other professionals
 - 1.2. Describe the roles and responsibilities of other professionals within the health care team
 - 1.3. Recognize and respect the diversity of roles, responsibilities, and competences of other professionals in relation to their own
 - 1.4. Work with others to assess, plan, provide, and integrate care for individual patients (or groups of patients)
 - 1.5. Where appropriate, work with others to assess, plan, provide, and review other tasks, such as research problems, educational work, program review, or administrative responsibilities
 - 1.6. Participate effectively in interprofessional team meetings
 - 1.7. Enter into interdependent relationships with other professions for the provision of quality care
 - 1.8. Describe the principles of team dynamics
 - 1.9. Respect team ethics, including confidentiality, resource allocation, and professionalism
 - 1.10. Where appropriate, demonstrate leadership in a health care team

2. **Effectively work with other health professionals to prevent, negotiate, and resolve interprofessional conflict**
 - 2.1. Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
 - 2.2. Work with other professionals to prevent conflicts
 - 2.3. Employ collaborative negotiation to resolve conflicts
 - 2.4. Respect differences, misunderstandings, and limitations in other professionals
 - 2.5. Recognize one's own differences, misunderstandings, and limitations that may contribute to interprofessional tension
 - 2.6. Reflect on interprofessional team function

4. MANAGER

Definition: *As Managers*, physicians are integral participants in health care organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the health care system.

Description: Physicians interact with their work environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally, or nationally. The balance in the emphasis among these three levels varies depending on the nature of the specialty, but all specialties have explicitly identified management responsibilities as a core requirement for the practice of medicine in their discipline. Physicians function as Managers in their everyday practice activities involving coworkers, resources, organizational tasks such as care processes, and policies, as well as balancing their personal lives. Thus, physicians require the ability to

prioritize, effectively execute tasks collaboratively with colleagues, and make systematic choices when allocating scarce health care resources. The CanMEDS Manager Role describes the active engagement of all physicians as integral participants in decision-making in the operation of the health care system.

Elements:

- Physicians as active participants in the health care system
- Physician roles and responsibilities in the health care system
- Collaborative decision-making
- Quality assurance and improvement
- Organization, structure, and financing of the health care system
- Managing change
- Leadership
- Consideration of justice, efficiency, and effectiveness in the allocation of finite health care resources for optimal patient care
- Budgeting and finance
- Priority-setting
- Practice management to maintain a sustainable practice and physician health
- Health human resources
- Time management
- Physician remuneration options
- Negotiation
- Career development
- Information technology for health care
- Effective meetings and committees

Key Competencies: *Physicians are able to...*

1. Participate in activities that contribute to the effectiveness of their health care organizations and systems;
2. Manage their practice and career effectively;
3. Allocate finite health care resources appropriately;
4. Serve in administration and leadership roles, as appropriate.

Enabling Competencies: *Physicians are able to...*

1. **Participate in activities that contribute to the effectiveness of their health care organizations and systems**
 - 1.1. Work collaboratively with others in their organizations
 - 1.2. Participate in systemic quality process evaluation and improvement, such as patient safety initiatives
 - 1.3. Describe the structure and function of the health care system as it relates to their specialty, including the roles of physicians
 - 1.4. Describe principles of health care financing, including physician remuneration, budgeting, and organizational funding
2. **Manage their practice and career effectively**
 - 2.1. Set priorities and manage time to balance patient care, practice requirements, outside activities and personal life
 - 2.2. Manage a practice including finances and human resources

- 2.3. Implement processes to ensure personal practice improvement
- 2.4. Employ information technology appropriately for patient care
- 3. Allocate finite health care resources appropriately**
 - 3.1. Recognize the importance of just allocation of health care resources, balancing effectiveness, efficiency, and access with optimal patient care
 - 3.2. Apply evidence and management processes for cost-appropriate care
- 4. Serve in administration and leadership roles, as appropriate**
 - 4.1. Chair or participate effectively in committees and meetings
 - 4.2. Lead or implement a change in health care
 - 4.3. Plan relevant elements of health care delivery (e.g., work schedules)

5. HEALTH ADVOCATE

Definition: *As Health Advocates*, physicians responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Description: Physicians recognize their duty and ability to improve the overall health of their patients and the society they serve. Doctors identify advocacy activities as important for the individual patient, for populations of patients, and for communities. Individual patients need physicians to assist them in navigating the health care system and accessing the appropriate health resources in a timely manner. Communities and societies need physicians' special expertise to identify and collaboratively address broad health issues and the determinants of health. At this level, health advocacy involves efforts to change specific practices or policies on behalf of those served. Framed in this multilevel way, health advocacy is an essential and fundamental component of health promotion. Health advocacy is appropriately expressed by both individual and collective actions of physicians in influencing public health and policy.

Elements:

- Advocacy for individual patients, populations, and communities
- Health promotion and disease prevention
- Determinants of health, including psychological, biological, social, cultural, and economic
- Fiduciary duty to care
- The medical profession's role in society
- Responsible use of authority and influence
- Mobilizing resources as needed
- Adapting practice, management, and education to the needs of the individual patient
- Patient safety
- Principles of health policy and its implications
- Interactions of advocacy with other CanMEDS Roles and competencies

Key Competencies: *Physicians are able to...*

1. Respond to individual patient health needs and issues as part of patient care;
2. Respond to the health needs of the communities that they serve;

3. Identify the determinants of health of the populations that they serve;
4. Promote the health of individual patients, communities, and populations.

Enabling Competencies: *Physicians are able to...*

- 1. Respond to individual patient health needs and issues as part of patient care**
 - 1.1. Identify the health needs of an individual patient
 - 1.2. Identify opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care

- 2. Respond to the health needs of the communities that they serve**
 - 2.1. Describe the practice communities that they serve
 - 2.2. Identify opportunities for advocacy, health promotion, and disease prevention in the communities that they serve, and respond appropriately
 - 2.3. Appreciate the possibility of competing interests between the communities served and other populations

- 3. Identify the determinants of health for the populations that they serve**
 - 3.1. Identify the determinants of health of the populations, including barriers to access to care and resources
 - 3.2. Identify vulnerable or marginalized populations within those served and respond appropriately

- 4. Promote the health of individual patients, communities, and populations**
 - 4.1. Describe an approach to implementing a change in a determinant of health of the populations they serve
 - 4.2. Describe how public policy impacts the health of the populations served
 - 4.3. Identify points of influence in the health care system and its structure
 - 4.4. Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism
 - 4.5. Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper
 - 4.6. Describe the role of the medical profession in advocating collectively for health and patient safety

6. SCHOLAR

Definition: *As Scholars*, physicians demonstrate a lifelong commitment to reflective learning, as well as the creation, dissemination, application, and translation of medical knowledge.

Description: Physicians engage in a lifelong pursuit of mastering their domain of expertise. As learners, they recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to the creation, dissemination, application, and translation of medical knowledge. As teachers, they facilitate the education of their students, patients, colleagues, and others.

Elements:

- Lifelong learning
- Moral and professional obligation to maintain competence and be accountable
- Reflection on all aspects of practice
- Self-assessment
- Identifying gaps in knowledge
- Asking effective learning questions
- Accessing information for practice
- Critical appraisal of evidence
- Evidence-based medicine
- Translating knowledge (evidence) into practice
- Translating knowledge into professional competence
- Enhancing professional competence
- Using a variety of learning methodologies
- Principles of learning
- Role modeling
- Assessing learners
- Giving feedback
- Mentoring
- Teacher-student ethics, power issues, confidentiality, and boundaries
- Learning together
- Communities of practice
- Research/scientific inquiry
- Research ethics, disclosure, conflicts of interests, human subjects, and industry relations

Key competencies: *Physicians are able to...*

1. Maintain and enhance professional activities through ongoing learning;
2. Critically evaluate information and its sources and apply this appropriately to practice decisions;
3. Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate;
4. Contribute to the creation, dissemination, application, and translation of new medical knowledge and practices.

Enabling Competencies: *Physicians are able to...*

1. **Maintain and enhance professional activities through ongoing learning**
 - 1.1. Describe the principles of maintenance of competence
 - 1.2. Describe the principles and strategies for implementing a personal knowledge management system
 - 1.3. Recognize and reflect learning issues in practice
 - 1.4. Conduct a personal practice audit
 - 1.5. Pose an appropriate learning question
 - 1.6. Access and interpret the relevant evidence

- 1.7. Integrate new learning into practice
 - 1.8. Evaluate the impact of any change in practice
 - 1.9. Document the learning process
2. **Critically evaluate medical information and its sources and apply this appropriately to practice decisions**
 - 2.1. Describe the principles of critical appraisal
 - 2.2. Critically appraise retrieved evidence in order to address a clinical question
 - 2.3. Integrate critical appraisal conclusions into clinical care
3. **Facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate**
 - 3.1. Describe principles of learning relevant to medical education
 - 3.2. Collaboratively identify the learning needs and desired learning outcomes of others
 - 3.3. Select effective teaching strategies and content to facilitate others' learning
 - 3.4. Demonstrate an effective lecture or presentation
 - 3.5. Assess and reflect on a teaching encounter
 - 3.6. Provide effective feedback
 - 3.7. Describe the principles of ethics with respect to teaching
4. **Contribute to the creation, dissemination, application, and translation of new knowledge and practices**
 - 4.1. Describe the principles of research and scholarly inquiry
 - 4.2. Describe the principles of research ethics
 - 4.3. Pose a scholarly question
 - 4.4. Conduct a systematic search for evidence
 - 4.5. Select and apply appropriate methods to address the question
 - 4.6. Appropriately disseminate the findings of a study

7. PROFESSIONAL

Definition: *As Professionals*, physicians are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behavior.

Description: Physicians have a unique social role as professionals who are dedicated to the health and caring of others. Their work requires the mastery of a complex body of knowledge and skills as well as the art of medicine. As such, the Professional Role is guided by codes of ethics and a commitment to clinical competence, the embracing of appropriate attitudes and behaviors, integrity, altruism, personal well-being, and to the promotion of the public good within their domain. These commitments form the basis of a social contract between a physician and society. Society, in return, grants physicians the privilege of profession-led regulation with the understanding that they are accountable to those served.

Elements:

- Altruism
- Integrity and honesty
- Compassion and caring
- Morality and codes of behavior
- Responsibility to society
- Responsibility to the profession, including obligations of peer review
- Responsibility to self, including personal care in order to serve others
- Commitment to excellence in clinical practice and mastery of the discipline
- Commitment to the promotion of the public good in health care
- Accountability to professional regulatory authorities
- Commitment to professional standards
- Bioethical principles and theories
- Medico-legal frameworks governing practice
- Self-awareness
- Sustainable practice and physician health
- Self-assessment
- Disclosure of error or adverse events

Key Competencies: *Physicians are able to...*

1. Demonstrate a commitment to their patients, profession, and society through ethical practice;
2. Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation;
3. Demonstrate a commitment to physician health and sustainable practice.

Enabling Competencies: *Physicians are able to...*

1. **Demonstrate a commitment to their patients, profession, and society through ethical practice**
 - 1.1. Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect, and altruism
 - 1.2. Demonstrate a commitment to delivering the highest quality care and maintenance of competence
 - 1.3. Recognize and appropriately respond to ethical issues encountered in practice
 - 1.4. Appropriately manage conflicts of interest
 - 1.5. Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
 - 1.6. Maintain appropriate relations with patients.
2. **Demonstrate a commitment to their patients, profession, and society through participation in profession-led regulation**
 - 2.1. Appreciate the professional, legal and ethical codes of practice
 - 2.2. Fulfill the regulatory and legal obligations required of current practice
 - 2.3. Demonstrate accountability to professional regulatory bodies

- 2.4. Recognize and respond to others' unprofessional behaviors in practice
 - 2.5. Participate in peer review
- 3. Demonstrate a commitment to physician health and sustainable practice**
- 3.1. Balance personal and professional priorities to ensure personal health and a sustainable practice
 - 3.2. Strive to heighten personal and professional awareness and insight
 - 3.3. Recognize other professionals in need and respond appropriately

Appendix B

The CanMEDS Educational Taxonomy of Competency Levels

Level 1	A specialist physician's complete array of competencies. Level 1 refers to the reality that each physician has a unique set of abilities that are exposed in his or her own practice. In everyday practice, these competencies are integrated into a seamless whole and reflect the daily activities of the physician. For educational purposes in a competency framework, these abilities are defined into thematic groups or domains. In the CanMEDS framework, these are physician Roles.
Level 2	The CanMEDS Roles. Level 2 identifies the seven Roles or thematic groups of competencies that organize the CanMEDS framework. While they are clearly synergistic and related, they are also made up of sets of individual general abilities. In this way a Role can be thought of as a "meta-competency."
Level 3	Key competencies thematically grouped by Role. Within each CanMEDS Role, there are a small number of essential competencies. Level 3 refers to broad abilities written as global educational statements.
Level 4	Enabling competencies thematically grouped by general competency. The term "enabling competencies" is used in educational literature to refer to sub-abilities, made up of knowledge, skills, and attitudes that are essential for an individual to attain a larger competency. In this framework, Level 5 describes the ingredient abilities to attain each Key Competency.
Level 5	Specialty-specific objectives of training. These are the CanMEDS competencies as applied to a specialty's practice reality. They are educational statements that make up each specialty's "OTR" or Objectives of Training standards documents at the RCPSC. They describe the abilities a physician must have to be a competent specialist in that area of medicine.
Level 6	Program-level objectives. Level 6 refers to specialty-specific program objectives describing the educational goals of a program such as those used for residency. These operationalize the objectives of a training standards document and adapt them to the local institution.
Level 7	Rotation objectives: Large educational curricula like residency programs need to break down program-level objectives to make them manageable for use for each educational event. For postgraduate medical education (PGME), rotation-specific objectives are included in level 7.
Level 8	Instructional event specific objectives; If needed, brief educational activities such as seminars or rounds can also be planned in CanMEDS format. These are level 8 objectives.

END OF ROTATION EVALUATION FORM

Center: _____ Level of trainee: _____

Name: _____ Registration number: _____

Rotation: _____ Period: _____

Program director: _____

A. MEDICAL EXPERT	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
Basic and Clinical Knowledge					
1. Describes the basic and clinical science and pathophysiology of common ENT-related illnesses					
2. Describes the clinical presentation, natural history, and prognosis of common ENT-related illnesses					
3. Demonstrates expertise in all aspects of the diagnosis and management of common ENT illnesses					
4. Practices contemporary, evidence-based, cost-effective medicine					
5. Avoids unnecessary or harmful investigations or management					
6. Provides care to diverse communities					
7. Demonstrates the appropriate knowledge, skills, and attitudes relating to gender, culture, and ethnicity					
8. Documents complete and accurate history and physical examination					
9. Formulates appropriate differential diagnoses					
10. Develops an appropriate plan of investigation and interpret the results					
11. Develops a therapeutic plan					
12. Develops a plan of secondary prevention					
13. Demonstrates appropriate clinical judgment					
14. Demonstrates knowledge of the medications used and their mechanisms of action, clinically relevant pharmacokinetics, indications, contraindications, and adverse effects					
15. Understands the indications, contraindications, and complications of specific procedures					
Procedural skills					
1. Demonstrates competence in specific procedure techniques					
B. Communicator	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable

1. Records appropriate progress notes and transfer and discharge summaries					
2. Communicates appropriately with junior medical, nursing, and allied health staff					
3. Communicates appropriately with patients					
4. Communicates appropriately with patients' families					
5. Establishes therapeutic relationships with patients and families					
6. Delivers understandable information to patients and families					
7. Provides effective counseling to patients and families					
8. Maintains professional relationships with other health care providers					
9. Documents clear and complete records, reports, and written informed consent					
C. Collaborator	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
1. Works effectively as a member of a team					
2. Works appropriately with allied health care staff					
3. Works appropriately with nursing staff					
4. Works appropriately with attending and junior medical staff					
5. Consults effectively with other physicians and health care providers					
D. Manager	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
1. Participates in activities that contribute to the effectiveness of their health care organizations and systems					
2. Manages medical/clinical practice and career effectively					
3. Allocates finite health care resources appropriately					
4. Serves appropriately as an administrator and assumes effective leadership roles					
5. Uses information technology to optimize patient care, lifelong learning, and other activities					
E. Health Advocate	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
1. Is attentive to preventive measures					
2. Demonstrates adequate patient education on compliance and the role of medications					
3. Is attentive to issues of public policy for health					
4. Recognizes important					

social, environmental, and biological determinants of health					
5. Demonstrates concern that patients have access to appropriate supports, information, and services					
6. Offers competent advocacy on behalf of patients at practice and general population levels					
F. Scholar	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
1. Attends and contributes to rounds, seminars, and other learning events					
2. Appropriately presents selected topics as requested					
3. Demonstrates adequate ability to search literature					
4. Demonstrates efforts to increase knowledge base					
5. Accepts and acts on constructive feedback					
6. Reads about patient cases and takes an evidence-based approach to management problems					
7. Contributes to the education of patients, house staff, students, and other health professionals					
8. Contributes to the development of recent knowledge					
G. Professional	Fail (1)	Borderline (2)	Pass (3)	Excellent (4)	Not applicable
1. Recognizes limitations and seeks advice and consultation when needed					
2. Understands the professional, legal, and ethical obligations of physicians					
3. Delivers evidence-based care with integrity, honesty, and compassion					
4. Demonstrates appropriate insight into own strengths and weaknesses					
5. Exercises initiative within limits of knowledge and training					
6. Discharges duties and assignments responsibly and in a timely and ethical manner					
7. Reports facts accurately, including own errors					
8. Maintains appropriate boundaries in work and learning situations					
9. Respects diversity of race, age, gender, disability, intelligence, and socio-economic status					
Total Score					
Percentage (%) (Total score/ Total number of evaluated items X 100)					

Comments:

I certify that I have read all the parts of this evaluation report and I have discussed it with the evaluators.

Resident name: _____ Signature: _____

Evaluator name: _____ Signature: _____

Evaluator name: _____ Signature: _____

Program director: _____ Signature: _____

Appendix D

MINI-CLINICAL EVALUATION EXERCISE

(MINI-CEX)

Evaluator name:		Assessor position:		Date:					
Trainee name:		Registration No.:		Residency level:					
Brief summary of the case:									
Setting for assessment:									
Inpatient:		Ambulatory:		ICU: CCU: Emergency department: Others:					
Complexity:		Low:		Moderate: High:					
Focus:		Data gathering:		Diagnosis: Therapy: Counseling:					
Assessment:									
SCORE FOR STAGE OF TRAINING									
Questions	Unsatisfactory			Satisfactory			Superior		
	1	2	3	4	5	6	7	8	9
History-taking									
Physical examination skills									
Communication skills									
Critical Judgment									
Humanistic quality/ Professionalism									
Organization and efficiency									
Overall clinical care									

Mini-CEX time: Observing: min

Providing feedback: min

Evaluator satisfaction with Mini-CEX: min **Low** 1 2 3 4 5 6 7 8 9 **High**

Trainee satisfaction with Mini-CEX: min **Low** 1 2 3 4 5 6 7 8 9 **High**

Trainee Signature:

Evaluator:

Remarks:

Question	Description
History-taking	Facilitates patients telling their stories; effectively uses appropriate questions to obtain accurate, adequate information; responds appropriately to verbal and non-verbal cues.
Physical examination skills	Follows efficient, logical sequence; examination is appropriate to clinical problem; provides explanations to patient; is sensitive to patient's comfort and modesty.
Communication skills	Explores patient's perspective; jargon free; open and honest; empathic; obtains patient's agreement to management plan/therapy.
Critical Judgment	Makes appropriate diagnosis and formulates a suitable management plan; selectively orders/performs appropriate diagnostic studies; considers risks and benefits.
Humanistic quality/Professionalism	Shows respect, compassion, empathy, establishes trust; attends to patient's needs of comfort; respects confidentiality; behaves in an ethical manner; awareness of legal frameworks; aware of own limitations.
Organization and efficiency	Prioritizes; is timely and succinct; summarizes.
Overall clinical care	A global judgment based on the above question areas.

Appendix E

DIRECT OBSERVATION OF PROCEDURAL SKILLS (DOPS) ASSESSMENT FORM

Trainee's name		Registration no.	
Observation		Registration no.	
Observed by		Date	
Signature of supervising doctor			

Description	Satisfactory	Unsatisfactory	Comment
Recalled the indications of the procedure and clinical alternatives.			
Clearly explained the procedural plan and potential risks to the patient in lay terms.			
Had appropriate understanding of theoretical background for procedure including anatomy, physiology and imaging.			
Was prepared in advance for the procedure.			
Communicated plan of procedure to relevant staff.			
Was aware of risks of cross-infection and demonstrated effective aseptic techniques during procedure.			
Demonstrated Procedural success or failure in the current setting.			
Managed unanticipated problems.			
Demonstrated skillful and appropriate handling of patient and tissues.			
Maintained accurate and legible records, including descriptions of problems or difficulties.			
Issued clear post-procedure instructions to patient and/or staff.			
Sought at all times to work to the highest professional standards.			
ASSESSMENT			
Practice was satisfactory			
Practice was unsatisfactory			
Examples of good practice were: Areas of practice requiring improvement were: Further learning and experience should focus on:			

Appendix F

Resident Presentation Evaluation by Staff Supervisor

Resident Name: _____ Level: _____

Staff Supervisor: _____

Date of Presentation: _____

Topic: _____

Scale to evaluate the presentation:

Very weak	Weak	Acceptable	Good	Very good
1	2	3	4	5

Medical Expert	1	2	3	4	5
- Demonstrated thorough knowledge of the topic					
- Presented at appropriate level and with adequate details					
- Comments (optional)					
Communicator					
- Provided objectives and an outline					
- Presentation was clear and organized					
- Used clear, concise, and legible materials					
- Used an effective methods/style of presentation					
- Established good rapport with the audience					
Collaborator					
- Invited comments from learners and led discussion					
- Worked effectively with staff supervisor in preparing the session					
- Comments (optional)					
Health advocate					
- Managed time effectively					
- Addressed preventive aspects of care, if relevant					

- Comments (optional)					
Scholar					
- Posed an appropriate learning question					
- Accessed and interpreted the relevant literature					
- Comments (optional)					
Professional					
- Maintained patients' confidentiality, if clinical material was used					
- Identified and managed relevant conflicts of interest					
- Comments (optional)					
TOTAL Score					

Evaluation of the Different Components of the Core Curriculum by Residents

Resident Name: ----- Level: -----

Staff Supervisor: -----

Date of Session: -----

Name of Session: -----

1- How would you evaluate the value of this session?
 1= Very weak, 2= Weak, 3= Acceptable, 4= Good, 5= Very good

2- Did this session meet your educational needs?
 1= Very weak, 2= Weak, 3= Acceptable, 4= Good, 5= Very good

Yes No 3- Should this session be continued in the future?

4- At which level should this session be aimed?

5- At which time of the year should this session be conducted?

6- Have you had an opportunity to practice this skill? Yes No

7- Are there any suggestions to make this session better?

Appendix G

Performance Review of Clinical/Oral Examiners

Examiner's Name: _____

Specialty: ENT – Head and Neck Surgery

Criteria	Unsatisfactory	Needs Improvement	Satisfactory	Not Assessed
A. Clarity of Expression				
B. Question: appropriateness regarding				
-Type				
-Content				
-Depth				
-Difficulty				
-Relevance to objectives of examination				
C. Evaluation: fairness and consistency in evaluation of:				
-Candidate's performance				
-Assignment of marks				
D. Discussion				
-Appropriate involvement in discussions and decisions				
E. Written Summaries				
F. Overall Performance				
How were these assessments made?				
By whom?				
Do you recommend that this examiner be reappointed to the Board of Examiners?				
Date: _____				
PLEASE WRITE ANY COMMENTS ON THE REVERSE	Signature: _____ Chairman of the ENT Specialty Board			

Appendix H
Global Rating of ENT Surgical Skills
The GRESS instrument

A) Patient setup: 1) Position of endotracheal tube	Not positioned properly		Had to readjust during procedure	Positioned well, no need for readjustments
2) Eye protection: Lube in the eyes; covered	Unaware of eye protection; did not consider it		Improper coverage of eyes	Lube in eyes and taped properly
3) Head/patient Positioning	Unaware of proper position; did not consider it		Improperly positioned, made some effort	Appropriately positioned, appropriate rest (e.g., egg foam crate)
4) Patient preparation: - Nasal decongestants - Throat pack	Unaware of patient preparation; not considered		Makes some effort to prepare patient; placed improperly	Ensures correct preparation of the patient: - nasal decongestion - placement of throat pack
B) Equipment setup: 1) Proper setup of image-guided surgery (IGS)/TV tower/ endoscopes	Unaware of proper Setup		Setup improperly done	Setup properly done Endoscope: correct image size, focusing of image, white balance

2) Proper draping and placement of IGS tower	Unaware, did not attempt		Improperly placed and draped		Properly placed and draped
C) Use of endoscope: 1) Operative field	Operative field rarely central		Operative field usually central		Operative field central
2) Perception of depth	Lack of perception of depth, causing trauma to structures		Incomplete perception of depth		Complete perception of depth
3) Endoscopic instrument Visualization	Rarely keeps tip of instrument in vision		Sometimes keeps instrument in vision, not consistent		Consistently keeps instrument in vision
4) Communication with anesthesia: when injecting local, moving head, BP control	No communication		Some communication, not consistent		Consistent communication

Appendix I

The Global Rating Score

Criterion	Grade1	Grade2	Grade3	Grade 4	Grade5
Respectfortissue	Frequentlyused unnecessaryforceon tissueorcauseddamage byinappropriateuseof instruments		Carefulhandlingof tissuebutoccasionally causedinadvertent damage		Consistentlyhandled tissuesappropriatelywith minimaldamage
TimeandMotion	Manyunnecessary Moves		Efficienttime/motion butsome unnecessary moves		Economyofmovement andmaximumefficiency
Instrumenthandling	Repeatedlymade tentativeorawkward moveswithinstruments		Competentuseof Instruments,although occasionallyappeared stifforawkward		Fluid moveswith instrumentsandno awkward movements

Knowledge of instruments	Frequently asked for the wrong instrument or used an inappropriate instrument		Knew the names of most instruments and used appropriate instrument for the task		Obviously familiar with the instruments required and their names
Flow of operation and forward planning	Frequently stopped operating or needed to discuss the next move		Demonstrated ability for forward planning with steady progression of operative procedure		Obviously planned course of operation with effortless flow from one move to the next
Knowledge of specific procedure	Deficient knowledge. Needed specific instructions at most operative steps		Knew all important aspects of the operation		Demonstrated familiarity with all aspects of the operation
Use of assistants	Consistently placed assistants poorly or failed to use assistants		Good use of assistants most of the time		Strategically used assistants to the best advantage at all times

Please use the bottom of this sheet for free-text comments and any recommendations for further training.

Signature/Name of Trainee:

Signature/Name of Assessor:

Procedure performed:

Outcome:

Unsatisfactory

Adequate/satisfactory

Excellent/competent

Date:

Appendix J
Global Rating of Operative Microscopic Surgical Skills
(GROMSS)

Criterion	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
Setup of operating microscope	Microscope not set up at start of procedure, did not adjust prior to procedure		Microscope set up before procedure, but no properly balanced; e.g., moved when electromagnetic locking was released		Obvious complete control and mastery of the microscope setup
Use of operating microscope	Operative field rarely central. Hand often obscured field of view		Operative field usually central; occasional obstruction of view by hand during surgery		Operative field always central, view never obscured by hand during surgery
Time and motion	Many unnecessary moves		Efficient time/motion but some unnecessary moves		Economy of movement and maximum efficiency
Instrument handling	Repeatedly made tentative or awkward moves with instruments		Competent use of instruments although occasionally appeared stiff or awkward		Fluid moves with instruments and no awkward movements
Knowledge of instruments	Frequently asked for the wrong instrument or used on inappropriate instrument		Knew the names of most instruments and used appropriate instrument for the task		Obviously familiar with the instruments required and their names
Flow of operation and forward planning	Frequently stopped operating or needed to discuss the next move		Demonstrated ability for forward planning with steady progression of operative procedure		Obviously planned course of operation with effortless flow from one move to the next
Knowledge of specific procedure	Deficient knowledge. Needed specific instructions at most operative steps		Knew all important aspect of the operation		Demonstrated familiarity with all aspects of the operation
Use of assistants	Consistently placed assistants poorly or failed to use assistants		Good use of assistants most of the time		Strategically used assistants to the best advantage at all times

Please use the bottom of this sheet for free-text comments and any recommendations for further training.

Signature/Name of Trainee:

Signature/Name of Assessor:

Procedure:

Outcome: Unsatisfactory

Date:

Adequate/satisfactory

Excellent/competent

Appendix K
Septoplasty(Nasal Septum Reconstruction) Checklist
Please mark the candidate's performance on the following scale

	Not done	Improperly/unsatisfactorily			Done properly
	1	2	3	4	5
1. Nasal cavity inspection					
2. Local xylocaine injection					
3. Hemitransfixion incision					
4. Mucoperichondrial or mucoperiosteal elevation					
5. Resection of deviated cartilage and bone					
6. Dislocation of the cartilage-bone junction					
7. Nasal cavity inspection					
8. Closure and splinting of the septum					

Scale 5 is equivalent to a resident who can perform the step independently and safely.

Please use the bottom of this sheet for free-text comments and any recommendations for further training.

Signature/Name of Trainee:

Signature/Name of Assessor:

Outcome: Unsatisfactory

Adequate/satisfactory

Excellent/competent

Appendix L Tracheostomy Checklist

Please mark the candidate's performance on the following scale

	Not done	Improperly/unsatisfactorily			Done properly
	1	2	3	4	5
1. General knowledge of the patient: identified patient, checked indication for surgery, checked consent					
2. Positioned patient properly					
3. Identified landmarks pre- and intraoperatively					
4. Identified planes properly					
5. Identified tracheal rings correctly					
6. Alerted anesthesia team prior to tracheal incision; checked fraction of inspired oxygen (FiO ₂); alerted anesthesia team if used cautery after tracheal incision					
7. Maintained a dry field					
8. Checked cautery parameters and adjusted Accordingly					
9. Checked size of tracheal tube, inflated and checked integrity of the balloon/tube					
10. Outlined postoperative orders clearly and Appropriately					

Scale 5 is equivalent to a resident who can perform the step independently and safely.

Please use the bottom of this sheet for free-text comments and any recommendations for further training.

Signature/Name of Trainee:

Signature/Name of Assessor:

Outcome: Unsatisfactory

Adequate/satisfactory

Excellent/competent

Appendix M
Global Rating for Thyroid Surgical Skills
(GRTSS)

Please mark the candidate's performance on the following scale

	Not done	Improperly/unsatisfactorily			Done properly
	1	2	3	4	5
1. General knowledge of the patient: Identified patient, checked indication for surgery, checked consent					
2. Positioned patient properly					
3. Maintained proper communication with anesthesia team regarding endotracheal tube, muscle relaxant, and local xylocaine injection					
4. Identified landmarks preoperatively					
5. Checked cautery parameters and adjusted accordingly					
6. Safely maintained a dry field					
7. Properly created flaps in subplatysmal plane properly					
8. Properly divided strap muscle in midline					
9. Properly delivered thyroid lobe					
10. Properly used laryngeal rotation maneuver					
11. Maintained control of thyroid vessels					
12. Identified landmarks and properly dissected recurrent laryngeal nerve					
13. Identified and preserved parathyroid gland(s)					
14. Performed proper subcutaneous and skin closure					
15. Properly marked surgical specimen					
16. Outlined post-op orders clearly and appropriately					

Scale 5 is equivalent to a resident who can perform the step independently and safely.

Please use the bottom of this sheet for free-text comments and any recommendations for further training.

Signature/Name of Trainee:

Signature/Name of Assessor:

Outcome: Unsatisfactory

Adequate/satisfactory

Excellent/competent

Appendix N Differences between the Old and New Curricula

This section provides a succinct overview of differences between the existing and proposed curricula, along with key characteristics of the proposed curricular framework

The rapidly evolving structure of medical education warranted an overhaul in the otorhinolaryngology curriculum to a competency-based configuration. The use of the CanMEDS Physician Competency Framework to restructure the existing curriculum has helped in developing a standardized curriculum, with a view to the changing nature of the practice and improved patient care.

The chief reason for adopting the CanMEDS framework was the nature of the "outcome"-based competency framework, which may serve as a guide for developing essential abilities in surgeons to achieve optimal patient outcome. Traditionally, the curriculum focused on the development of core medical expertise by requiring trainees to cover exhaustive lists of specialty topics during the residency program. In the CanMEDS construct, trainees develop overall mastery of numerous competencies, with "medical expertise" as the core domain. It emphasizes a 360-degree evolution and development of a resident as a professional, communicator, collaborator, manager, health advocate, and scholar, the seven domains of the framework. The CanMEDS framework was designed to be a more comprehensive, useful, and effective construct for planning medical education than were previous approaches.

The CanMEDS diagram was created in 2001 to illustrate the elements, interconnections, and overlap of the CanMEDS Roles embodied by competent physicians: Medical Expert (the central role), Communicator, Collaborator, Health Advocate, Manager, Scholar, and Professional. This diagram, also known as the CanMEDS "cloverleaf," "daisy," or "flower," was officially trademarked in 2005.

The seven "CanMEDS Roles," or thematic groups of competencies, are integrated by physicians on a daily basis in practice. Each competency is made up of elements of their own and can be broken down into smaller components for teaching, learning, observation, interaction, and assessment. To make the framework useful for teachers and those responsible for composing standards documents for their specialties, the CanMEDS 2005 framework is organized into multiple levels. "Level 1" is the construct of all the roles used in practice. "Level 2" comprises the seven CanMEDS Roles. "Level 3" includes key competencies that make up each of the Roles. For details on the CanMEDS education taxonomy, please refer to *Appendix A*. For details on CanMEDS 2005 Role definitions, please refer to *Appendix B*.

In summary, the proposed curriculum has following attributes:

Philosophical orientations

- Competency-based
- Graded responsibility for the physicians
- Better supervisory frameworks
- Clearer demarcations of goals for each stage of training
- Core curriculum with elective and selective options
- Independent learning within a formal structure

Expanded range of competencies

- Balanced representation of knowledge, skills, and professionalism
- Incorporation of new knowledge and skills

Evidence-based approach

- Demographic data (e.g., disease prevalence)
- Practice data (e.g., procedure performed)
- Patient profile (e.g., outpatient vs. inpatient)
- Caters for future needs

Holistic Assessment

- Higher emphasis of continuous assessment
- Balanced assessment methods
- Portfolio and log-book to support learning and individualized assessment
- Built-in formative assessment