CURRICULUM MS

OTORHINOLARYNGOLOGY

HEAD & NECK SURGERY

Rawalpindi Medical University

Programme

MS OTORHINOLARYNGOLOGY, HEAD & NECK SURGERY

Medical education is not just a program for building knowledge and skills in its recipients…..it is also an experience which creates attitudes and expectations"

Abraham Flexner

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WMA DECLARATION OF GENEVA

Adopted by the 2nd General Assembly of the World Medical Association, Geneva, Switzerland, September 1948 and amended by the 22nd World Medical Assembly, Sydney, Australia, August 1968 and the 35th World Medical Assembly, Venice, Italy, October 1983 and the 46th WMA General Assembly, Stockholm, Sweden, September 1994 and editorially revised by the 170th WMA Council Session, Divonne-les- Bains, France, May 2005 and the 173rd WMA Council Session, Divonne-les-Bains, France, May 2006.

AT THE TIME OF BEING ADMITTED AS A MEMBER OF THE MEDICAL PROFESSION:

I SOLEMNLY PLEDGE to consecrate my life to the service of humanity;

I WILL GIVE to my teachers the respect and gratitude that is their due;

I WILL PRACTISE my profession with conscience and dignity;

THE HEALTH OF MY PATIENT will be my first consideration;

I WILL RESPECT the secrets that are confided in me, even after the patient has died;

I WILL MAINTAIN by all the means in my power, the honor and the noble traditions of the medical profession;

MY COLLEAGUES will be my sisters and brothers;

I WILL NOT PERMIT considerations of age, disease or disability, creed, ethnic origin, gender, nationality, political affiliation, race, sexual orientation, social standing or any other factor to intervene between my duty and my patient;

I WILL MAINTAIN the utmost respect for human life;

I WILL NOT USE my medical knowledge to violate human rights and civil liberties, even under threat;

I MAKE THESE PROMISES solemnly, freely and upon my honor.

Prologue:

The horizons of *Medical Education* are widening & there has been a steady rise of global interest in *Post Graduate Medical Education,* an increased awareness of the necessity for experience in education skills for all healthcare professionals and the need for some formal recognition of postgraduate training in Otorhinolaryngology, Head & Neck Surgery.

We are seeing a rise in the uptake of places on postgraduate courses in medical education, more frequent issues of medical education journals and the further development of e-journals and other new online resources. There is therefore a need to provide active support in *Post Graduate Medical Education* for a larger, national group of colleagues in all specialties and at all stages of their personal professional development. If we were to formulate a statement of intent to explain the purpose of this curriculum we might simply say that our aim is to help clinical colleagues to teach and to help students to learn in a better and advanced way. This book is a state of the art book with representation of all activities of the MS Otorhinolaryngology, Head & Neck Surgery program at RMU. Curriculum is incorporated in the book for convenience of supervisors and residents. MS curriculum is based on six Core Competencies of ACGME ***(Accreditation Council for Graduate Medical Education)*** including ***Patient Care, Medical Knowledge, System Based Practice, Practice Based Learning, Professionalism, Interpersonal and Communication Skills***. The mission of Rawalpindi Medical University is to improve the health of the communities and we serve through education, biomedical research and health care. As an integral part of this mission, importance of research culture and establishment of a comprehensive research structure and research curriculum for the residents has been formulated and provided in this book.

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Contributions:

Sr. No.	Name & Designation	Contribution
1.	 **Prof Dr Muhammad Umar** ***(Sitara-e-Imtiaz)*** *(*MBBS, MCPS, FCPS, FACG, FRCP (Lon), FRCP (Glasgow), AGAF **Vice Chancellor** Rawalpindi Medical University & Allied Hospitals	For his vision, continuous guidance and unflinching support for the synthesis of Curriculum of Otorhinolaryngology, Head & Neck Surgery
2.	 **Prof Dr. Muhammad Aslam Chaudhry** MBBS,FCPS **Dean Dept of Otorhinolaryngology, Head & Neck Surgery** Benazir Bhutto Hospital Rawalpindi Medical University	Continuous guidance regarding technical matters of Curriculum of MS Otorhinolaryngology, Head & Neck Surgery

3.	 **Associate Professor Dr Sadia Chaudhry** MBBS,FCPS,MHPE DHQ Teaching Hospital Rawalpindi Medical University	Over all synthesis, structuring & over all write up of Curriculum of MS Otorhinolaryngology, Head & Neck Surgery under guidance of Prof. Muhammad Umar Vice Chancellor, Rawalpindi Medical University, Rawalpindi. Also Proof reading & synthesis of final print version of Curriculum of MS Otorhinolaryngology, Head & Neck Surgery
4.	 **Assistant Professor Dr Ashar Alamgir** MBBS,FCPS,CHPE DHQ Teaching Hospital Rawalpindi Medical University	A great contribution in finalizing different aspects of curriculum synthesis.

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SECTION 1: INTRODUCTION

1 Introduction

The Otolaryngology curriculum provides the framework for the training of doctors to the level of independent consultant practice in Otolaryngology surgery, addressing the requirements of patients, the population and basic health services.

2 Purpose:

The purpose of the curriculum is to produce consultant Otolaryngology surgeons with the generic and specialty-specific professional capabilities needed to manage patients presenting with the full range of acute conditions and general elective conditions as well as to develop a special interest within Otolaryngology. This section of the curriculum defines the scope of practice of Otolaryngology, what has to be learnt, the levels of performance expected to complete training, how the curriculum is delivered and how it isassessed.

Patient safety and competent practice are both essential and the curriculum has been designed so that the learning experience itself should not negatively affect patient safety. **Patient safety first** is the first priority of training demonstrated through safety-critical content, expected levels of performance, critical progression points, required breadth of experience and levels of trainer supervision needed for safe and professional practice. Upon satisfactory completion of training programs, trainees are expected to be able to work safely and competently in the defined area of practice and to be able to manage or mitigate relevant risks effectively. A feature of the curriculum is that it promotes and encourages excellence through the setting of high-level outcomes, supervision levels for excellence, and tailored assessment and feedback, allowing trainees to progress at their own rate.

Training is divided into 2 phase. The **first phase** refers to core Otolaryngology training or the first two years of surgical training general training for run-through trainees (core equivalent). In the **second phase** trainees must achieve competence in the knowledge required for general and emergency Otolaryngology technical skills to achieve technical competence. In addition, trainees must achieve competence in one area of special interest, definedas an advanced area of training in a particular area of the specialty. Service providers and patients benefit from consultant otolaryngologists who are trained in the generality of the specialty but whoalso have special interest skills to provide more specialist

care. The curriculum ensures that trainees have both a special interest skill and good general emergency and elective skills.

Seven special interest areas are offered:

1. Otology
2. Rhinology
3. Laryngo-pharyngology
4. Head and Neck
5. Pediatric Otolaryngology
6. Special Interest Otolaryngology

3 Rationale of curriculum:

The Otolaryngology curriculum will produce a workforce fit for the needs of patients, producing doctors who are more patient-focused, more general and who have more flexibility in their career structure. The introduction of updated standards for curricula and assessment processes laid out in **Excellence by Design** requires curricula to be based on high-level outcomes. The high-level outcomes in this curriculumare integral parts of the syllabus to describe the professional tasks within the scope of specialty practice.

4 Training pathway and duration of training:

Trainees enter Otolaryngology training via a Central Induction Process. Program has 2 phases. Phase 1 consists of 2 years training in Otorhinolaryngology with mandatory rotations in General Surgery, Neurosurgery and Maxillofacial surgery. Followed by Mid-term Assessment. Phase 2 also consists of 2 years training in Otorhinolaryngology, Head & Neck surgery with rotation in Plastic Surgery followed by Final Assessment and Defense of Thesis.

Table 1: TRAINING PATHWAY & ROTATIONS

YEAR OF TRAINING	ROTATIONS				ASSESSMENT
Year 1	06 months Otorhinolaryngology	2months General Surgery	2 months Neurosurgery	2 months Otorhinolaryngology	MCQs
Year 2	8 months Otorhinolaryngology		2 months Maxillofacial surgery	2 months Otorhinolaryngology	MCQ OSCE
Year 3	2 months Plastic Surgery		10 months Otorhinolaryngology, Head & Neck Surgery		MCQs
Year 4	1 year Otorhinolaryngology, Head & Neck Surgery				MCQs SEQs OSCE LONG CASE SHORT CASE

SECTION 2: GENERAL

1 Mission:

The mission of Otorhinolaryngology, Head & Neck Surgery Residency Program of Rawalpindi Medical University is to:

- Provide exemplary medical care, treating all patients who come before us with uncompromising dedication and skill.
- Set and pursue the highest goals for ourselves as we learn the science, craft, and art of Medicine.
- Passionately teach our junior colleagues and students as we have been taught by those who preceded us.
- Treat our colleagues and hospital staff with kindness, respect, generosity of spirit, and patience.
- Foster the excellence and well-being of our residency program by generously offering our time, talent, and energy on its behalf.
- Support and contribute to the research mission of our medical center, nation, and the world by pursuing new knowledge, whether at the bench or bedside.
- Promote the translation of the latest scientific knowledge to the bedside to improve our understanding of disease pathogenesis and ensure that all patients receive the most scientifically appropriate and up to date care.
- Promote responsible stewardship of medical resources by wisely selecting diagnostic tests and treatments, recognizing that our individual decisions impact not just our own patients, but patients everywhere.
- Promote social justice by advocating for equitable health care, without regard to race, gender, sexual orientation, social status, or ability to pay.
- Extend our talents outside the walls of our hospitals and clinics, to promote the health and well-being of communities, locally, nationally, and internationally.
- Serve as proud ambassadors for the mission of the Rawalpindi Medical University MS Otorhinolaryngology, Head & Neck Surgery Residency Program for the remainder of our professional lives.

2 Statutes:

1. **Nomenclature:**

Nomenclature of the Proposed Course, the name of degree programme shall be MS Otorhinolaryngology, Head & Neck Surgery. This name is well recognized and established for the last few decades worldwide.

2. **Course Title:**

MS Otorhinolaryngology, Head & Neck Surgery

3. **Training Centers:**

Departments of Otorhinolaryngology, Head & Neck Surgery at Rawalpindi Medical University (RMU).

4. **Duration of Course:**

The duration of MS Otorhinolaryngology, Head & Neck Surgery course shall be four (4) with structured training in a recognized department under the guidance of an approved supervisor.

5. **Course structure:** The course is structured in two parts, each of which is of two years. Each part is further subdivided into one yearly component.

- MS Otorhinolaryngology, Head & Neck Surgery Program trainee will spend initial six months in relevant Department of Otolaryngology during the first year. Resident will undergo the relevant workshops during first year, and research topic will be allotted. The resident will publish one article in Resident Research Journal or write Statistical Report for one disease. Resident will undergo 1st In-training Assessment at the end of 1st year. It will comprise 100 clinical/applied basics MCQs. Pass marks will be 50%.
- In the first two year mandatory rotations of General Surgery, Neurosurgery and Maxillofacial Surgery (each will be of two months duration) will be completed.
- Synopsis topics will have to be approved from ERB/BASAR by the end of second year. At the end of second year trainee will undergo Midterm Examination. This Examination will comprise written and clinical components. Pass percentage in this examination is 60%.

- In third year mandatory rotation of Plastic Surgery along with elective research rotation will be completed in addition to Otolaryngology training.
- Thesis writing will be started in the third year.
- At the end of third year again In-training assessment will be conducted consisting of MCQs based examination in which pass marks will be 50%.
- In Fourth year preferably during first 6 months thesis will be completed and approval by BASR will be taken. Following fulfillment of eligibility criteria, the trainee will appear in Final Assessment at the end of fourth year training that will comprise written and clinical components. Pass marks in this examination will be 60%.

6. Research and Thesis writing:

The candidate shall undergo clinical training to achieve educational objectives of M.D. Otorhinolaryngology, Head & Neck Surgery (knowledge and skills) along with rotations in the relevant fields. The clinical training shall be competency based. There shall be generic and specialty specific competencies and shall be assessed by continuous Internal Assessment. Research Component and thesis wanting shall be completed over the four years duration of the course. Candidates will spend total time equivalent to one calendar year for research during the training.

3 Admission Criteria

Applications for admission to MS Training Programs will be invited through advertisement in print and electronic media mentioning closing date of applications and date of Entry Examination.

Eligibility: The applicant on the last date of submission of applications for admission must possess the:

- Basic Medical Qualification of MBBS or equivalent medical qualification recognized by Pakistan Medical Council.
- Certificate of one year's House Job experience in institutions recognized by Pakistan Medical Council is essential at the time of interview. The applicant is required to submit Hope Certificate from the concerned Medical Superintendent that the House Job shall be completed

before the Interview.

- Valid certificate of permanent or provisional registration with Pakistan Medical Council.
- MS entry exam pass certificate

4 Registration and Enrolment

- As per policy of Pakistan Medical Council the number of PG Trainees/ Students per supervisor shall be maximum 05 per annum for all PG programs including minor programs (if any).
- Beds to trainee ratio at the approved teaching site shall be at least 5 beds per trainee.
- The University will approve supervisors for MS courses.
- Candidates selected for the courses: after their enrollment at the relevant institutions shall be registered with RMU as per prescribed Registration Regulations.

SECTION 3: PROGRAM

1 Program of Learning:

This section covers the expected learning outcomes, learning methods, breadth of experience and levels of performance at critical progression points in the training program and the levels of performance expected of those completing training.

The practice of Otolaryngology requires the generic and specialty knowledge, clinical, technical skills and behaviors to manage patients presenting with a wide range of ear, nose, throat and neck disorders. It involves development of competence in diagnostic reasoning, managing uncertainty, dealing with co-morbidities, and recognizing when another specialty opinion or care is required (as well as developing technical skills in the areas and to the level described in the syllabus)

2 High level outcomes of training:

Training is designed to produce a person capable of safely and effectively performing the role of a first day consultant surgeon. The role of a consultant surgeon can be thought of as a sum of all the various tasks which need to be performed through a working week. These tasks are the high-level outcomes of the curriculum and grouping these together describe the role of a consultant surgeon.To perform a high level clinical task as a consultant a surgeon requires trainees to be able to integrate areas of learning from all parts of the syllabus, including knowledge, clinical skills, professional skills and technical skills. In addition, a surgeon will need to have acquired the generic skills, behaviors and values shared by all doctors in order to perform this task safely and well. A capability is a set of skills that can be developed through training from novice to expert and, therefore, these high-level clinical outcomes have to be achieved by trainee.

There are five high level outcomes of training :

1) Manages an out-patient department

2) Manages the unselected emergency take

3) Manages ward rounds and the on-going care of in-patients

4) Manages an operating list

5) Manages multi-disciplinary working

Each high-level clinical outcomes is judged against a scale that describes the level of supervision. The level of supervision changes in line with the trainee's progression, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of competence for independent practice is acquired. In the early years, therefore, it would be normal for trainees to achieve a lower supervision level and progress as experience is gained. High level outcomes of training are mentioned in detail in **Appendix 1**.

The **supervision levels** are:

Level I: Able to observe only

Level II: Able and trusted to act with direct supervision:

a) Supervisor present throughout

b) Supervisor present for part

Level III: Able and trusted to act with indirect supervision

Level IV: Able and trusted to act at the level expected of a day-one consultant

Level V: Able and trusted to act at a level beyond that expected of a day-one consultant

Supervision levels to be achieved by the end of each phase of training

Table 2: Supervision levels

High-level clinical outcomes	**Supervision Level (end of** Year 1**)**	**Supervision Level (end of** Year 2**)**	**Supervision Level (end of** Year 3**)**	**Supervision Level (end of** Year 4**)**
Manages an out-patient clinic	SL II	SL III	SL IV	**SL V**
Manages the unselected emergency take	SL I	SL II	SL III	**SL IV**
Manages ward rounds and the on-going care of in-patients	SL II	SL II	SL III	**SL V**
Manages an operating list	SL II	SL II	SL III	**SL IV**
Manages multi-disciplinary working	**SL I**	**SL II**	**SL III**	**SL V**

3 Breadth of experience required during training in Otolaryngology

The curriculum requires trainees to achieve a rich experience that promotes deep learning of knowledge, clinical skills, technical skills, professional behavior, leadership and all other generic professional skills that are considered necessary to ensure patient safety throughout the training process and specifically at the end of training. There are certain skills and conditions withinthe syllabus that are of such central and fundamental importance to the safe practice of Otolaryngology that they are highlighted as critical conditions and index procedures.

1 Syllabus:

The syllabus, shown in appendix 2, provides a detailed description of the specialty-specific knowledge, clinical and technical skills required for each phase of training. The syllabus is organized by topics which are the presenting conditions of patientsin relation to the specialty. Trainees are expected to have exposure to all topics in phase 1 & 2 of training. Shown in **Appendix 2**

2 Critical conditions:

From the syllabus, a list of critical conditions has been identified which are of significant importancefor patient safety and demonstration of a safe breadth of practice. Across surgery, these are defined as any condition where a misdiagnosis could be associated with devastating consequences for life.

3 Index procedures

In addition to the critical conditions, a list of index procedures has been identified. Index proceduresare common but important operations central to the specialty, competence in which is essential to the delivery of safe patient care. Taken together they form a representative sample of the breadth of operative procedures in the specialty. Learning in the index procedures is indicative of learning in the broad range of technical procedures in the syllabus and logbook and are, therefore, of significant importance for patient safety and demonstration of a safe breadth of practice. Each of these index procedures is assessed individually by means of the Procedure Based Assessment (PBA)which provides formative feedback to the trainee and feeds into the Continuous Internal Assessment.

SECTION 4: TEACHING & LEARNING:

The curriculum is used to help design training program locally that ensure all trainees can develop the necessary skills and knowledge in a variety of settings and situations. The curriculum is designed to ensure it can be applied in a flexible manner, meeting service needs as well as supporting each trainee's own tailored learning and development plan. The requirements forcurriculum delivery have not changed as a result of this new curriculum, the only difference is that this new curriculum is more structured in its delivery.

1) AIMS AND OBJECTIVES OF THE PROGRAM:

Aims:

The aim of four years MS program in Otorhinolaryngology, Head & Neck Surgery is to train residents to acquire the competency of a specialist in the field of Otorhinolaryngology, Head & Neck Surgery so that they can become good teachers, researchers and clinicians in their specialty after completion of their training.

General Objectives:

MS Otolaryngology training should enable a student to:

1) Provide a broad experience in Otorhinolaryngology, Head & Neck Surgery, including its interrelationship with other disciplines
2) Enhance medical knowledge, clinical skills, and competence in bedside diagnostic and therapeutic procedures.
3) Achieve the professional requirements to prepare for Higher Physician Training in one or more specialty in Otorhinolaryngology, Head & Neck Surgery.
4) Cultivate the correct professional attitude and enhance communication skill towards patients, their families and other healthcare professionals.

5) Enhance sensitivity and responsiveness to community needs and the economics of health care delivery.
6) Enhance critical thinking, self-learning, and interest in research and development of patient service.
7) Cultivate the practice of evidence-based medicine and critical appraisal skills.
8) Inculcate a commitment to continuous medical education and professional development.
9) Provide a broad training and in-depth experience at a level for trainees to acquire competence and professionalism of a specialist in Otorhinolaryngology, Head & Neck Surgery especially in the diagnosis, investigation and treatment of medical problems towards the delivery of holistic patient care.
10) Acquire competence in managing acute Otorhinolaryngology, Head & Neck Surgery emergencies and identifying medical problems in patients referred by primary care and other doctors, and in selecting patients for timely referral to appropriate tertiary care or the expertise of another specialty.
11) Develop competence in the inpatient and outpatient management of medical problems and in selecting patients for referral to tertiary care facilities and treatment modalities requiring high technology and/or the expertise of another specialty.
12) Manage patients in Otorhinolaryngology, Head & Neck Surgery units in regional/District hospitals; to be a leader in the health care delivery team and to work closely with networking units which provide convalescence, rehabilitation and long term care.
13) Encourage the development of skills in communication and collaboration with the community towards health care delivery.
14) Foster the development of skills in the critical appraisal of new methods of investigation and/or treatment.
15) Reinforce self-learning and commitment to continued updating in all aspects of Otorhinolaryngology, Head & Neck Surgery.
16) Encourage contributions aiming at advancement of knowledge and innovation in medicine through basic and/or clinical research and teaching of junior trainees and other health related professionals.
17) Acquire professional competence in training future trainees in Otorhinolaryngology, Head & Neck Surgery at Rawalpindi Medical University.

Specific Objectives:

The specific training component would be targeted for establishing clearly defined standards of knowledge and skills required to practice Otolaryngology at secondary and tertiary care level with proficiency in the Basic and applied clinical sciences, Basic Otolaryngologic care, ENT intensive care, Emergency (A&E) medicine and Complementary surgical disciplines.

(A) Knowledge:

1. Develop basic understanding of core Otorhinolaryngology, Head & Neck Surgery concepts.
2. Describe etiology, clinical manifestation, disease course and prognosis, investigation and management of common Otolaryngology diseases.
3. Explain basics and recent advances in pathophysiology, diagnosis and management of Otolaryngology diseases.
4. Explain Spectrum of clinical manifestations and interaction of multiple Otolaryngology diseases in the same patient.
5. Explain Psychological and social aspects of Otolaryngology illnesses.
6. Interpret investigation and special diagnostic procedures.
7. Critically analyze efficacy, cost-effectiveness and cost-utility of treatment modalities.
8. Identify patient safety and risk management factors.
9. Practice medical audit and quality assurance
10. Practice Ethical principles and medico legal issues related to illnesses
11. Update knowledge on evidenced-based medicine and its implications for diagnosis and treatment of Otolaryngology patients.
12. Familiarize with different care approaches and types of health care facilities towards the patients care with Otolaryngology illnesses, including convalescence, rehabilitation, palliation, long term care, and medical ethics.
13. Illustrate knowledge on patient safety and clinical risk management.

14. Express concern for the cost-effectiveness and risk-benefits of various advanced treatment modalities.
15. Familiarize with the concepts of administration and management and overall forward planning for Otolaryngology

(B) <u>Skills</u>

1. Interpret detailed history, gathers relevant data from patients, and assimilates the information to develop diagnostic and management plan.
2. Effectively record an initial history and physical examination and follow-up notes as well as deliver comprehensive oral presentations to their team members based on these written documents.
3. Elicit abnormal physical signs and interpreting their significance.
4. Relate clinical abnormalities with pathophysiologic states and diagnosis of diseases.
5. Select appropriate investigation and diagnostic procedures for confirmation of diagnosis and patient management.
6. Interpret basic as well as advanced laboratory data as related to the disorder/disease.
7. Understand routine laboratory and ancillary tests including complete blood count, chemistry panels, ECG, chest x-rays, Audiometry, tympanometry
8. Formulate differential diagnosis with up-to-date scientific evidence and clinical judgment using history and physical examination data and the development of a prioritized problem list to select tests and make effective therapeutic decisions.
9. Assess risks, benefits, and costs of varying, effective treatment options; involving the patient in decision making via open discussion; selecting drugs from within classes; and the design of basic treatment programs and using critical pathways when appropriate.
10. Perform competently all medical and invasive procedures essential for the practice of Otolaryngology which includes technical proficiency in taking informed consent, performing by using appropriate indications, contraindications, interpretations of findings and evaluating the results and handing the complications of the related procedures mentioned in the syllabus.
11. Adapt procedural skills that will be determined by the training environment, residents practice expectations, the availability of skilled teaching faculty, and privilege delineation.

12. Perform important OPD diagnostic and therapeutic procedures and understanding of their indications.
13. Acquire competence through supervised performance of the required number of each of the following procedures during the 3-year training period and should record them in the Trainee's Log Book.

    a. Ear suctioning
    b. Wax removal
    c. Foreign body removal from nose and ear
    d. Peritonsillar abscess I & D.
    e. IDL
    f. FODL

14. Present clinical problems and literature review in grand rounds and seminars.
15. Develop good communication skills and interpersonal relationship with patients, families, medical colleagues, nursing and allied health professionals.
16. Mobilize appropriate resources for management of patients at different stages of medical illnesses, including critical care, consultation of medical specialties and other disciplines, ambulatory and rehabilitative services, and community resources.
17. Diagnose and manage emergency Otolaryngologic problems, in particular stridor, secondary hemorrhage, infection and shock, Cut throat, foreign bodies impaction in aerodigestive tracts.
18. Diagnose and manage acute and chronic Otolaryngologic problems as secondary care in a regional/district hospital.
19. Effectively manage complex cases with unusual presentations.
20. implement strategies for preventive care and early detection of diseases in collaboration with primary and community care doctors.
21. Understand medical statistics and critically appraise published work and clinical research on disease presentations and treatment outcomes.
22. Practice evidence—based learning with reference to research and scientific knowledge pertaining to their discipline through comprehensive training in Research Methodology

23. Recognize and appreciate the importance of cost-effectiveness of treatment modalities.
24. Identify key information, resources and the utilization of the medical literature to expand one's knowledge base and to search for answer to medical problems.

(C) <u>Attitudes</u>

1. Develop good rapport with patient and relatives as essential attributes.
2. Aspire to be the team-leader in patient care
3. Recognize cost-effectiveness of various investigations and treatments in patient care.
4. Adapt privacy and confidentiality of patients and the sanctity of life.
5. Develop functional understanding of informed consent, advanced directives, and the physician-patient relationship.
6. Appreciate the importance of the effect of disease on the psychological and socio-economic aspects of individual patients and to understand patients' psycho-social needs and rights, as well as the medical ethics involved in patient management.
7. Improve in advances in Otorhinolaryngology, Head & Neck Surgery.
8. Refer patients to the appropriate specialty in a timely manner.
9. Aspire to be the team leader in total patient care involving nursing and allied medical professionals.
10. Recognize teaching and research as important activities for the advancement of the profession.

(D) <u>Other required core competencies:</u>

Patient care	40%
Medical Knowledge	
Interpersonal & Communication skills	40%

Professionalism	
Practice based learning	10%
System based learning	
Research	10%

1) Patient care:

- Residents are expected to provide patient care that is compassionate, appropriate and effective for the promotion of health, prevention of illness, treatment of disease and at the end of life.
- Gather accurate, essential information from all sources, including medical interviews, physical examinations, medical records and diagnostic/therapeutic procedures.
- Make informed recommendations about preventive, diagnostic and therapeutic options and interventions based on clinical judgment, scientific evidence, and patient preference.
- Develop, negotiate and implement effective patient management plans and integration of patient care.
- Perform competently the diagnostic and therapeutic procedures considered essential to the practice of Otorhinolaryngology, Head & Neck Surgery.

2) Medical Knowledge:

- Demonstrate and investigatory and analytic approach to clinical situations
- Know and apply basic and clinically supportive sciences which are appropriate to otolaryngology.

3) Interpersonal and communication skills:

- Residents are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.
- Provide effective and professional consultation to other physicians and health care professionals and sustain therapeutic and ethically

sound professional relationships with patients, their families, and colleagues.

- Use effective listening, nonverbal, questioning, and narrative skills to communicate with patients and families.
- Interact with consultants in a respectful, appropriate manner.
- Maintain comprehensive, timely, and legible medical records.

4) Professionalism:

- Residents are expected to demonstrate behaviors that reflect a commitment to continuous professional developmental, ethical practice, an understanding and sensitivity to diversity and a responsible attitude toward their patients, their profession, and society.
- Demonstrate respect, compassion, integrity, and altruism in relationships with patients, families, and colleagues.
- Demonstrate sensitivity and responsiveness to the gender, age, culture, religion, sexual preference, socioeconomic status, beliefs, behavior and disabilities of patients and professional colleagues.
- Adhere to principles of confidentiality, scientific/academic integrity, and informed consent.
- Recognize and identify deficiencies in peer performance.
- Understand and demonstrate the skill and art of end of life care.

5) Practice-based learning and improvement:

- Residents are expected to be able to use scientific evidence and methods to investigate, evaluate, and improve patient care practices.
- Identify areas for improvement and implement strategies to enhance knowledge, skills, attitudes and processes of care.
- Analyze and evaluate practice experiences and implement strategies to continually improve the quality of patient practice.
- Develop and maintain a willingness to learn from errors and use errors to improve the system or processes of care.
- Use information of technology or other available methodologies to access and manage information, support patient care decisions and enhance both patient and physician education.

6) Systems-based practice:

- Residents are expected to demonstrate both an understanding of the contexts and systems in which health care is provided, and the ability to apply this knowledge to improve and optimize health care.
- Understands accesses and utilizes the resources, providers and systems necessary to provide optimal care.
- Understand the limitations and opportunities inherent in various practice types and delivery systems, and develop strategies to optimize care for the individual patient.
- Apply evidence-based, cost-conscious strategies to prevention, diagnosis, and disease management.
- Collaborate with other members of the health care team to assist patients in dealing effectively with complex systems and to improve systematic processes of care.

7) Research:

- Residents will be able to conduct research in their respective specialty.

MANDATORY ROTATIONS:

A significant amount of time during residency is devoted to Rotational Training, which allows our residents to gain a concentrated experience in these areas. Residents enhance their skill as well as knowledge of these specialties.

General objectives of Rotations:

a) Patient Care:

- Communicate effectively and demonstrate caring behaviors when interacting with patient and their families.
- Gather essential and accurate information about patients
- Make informed decision about diagnostics and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence and clinical judgement.
- Develop and carry out patient management plans
- Council and educate patient and their families

b) Medical Knowledge:

- Demonstrate and investigatory and analytic approach to clinical situations
- Know and apply basic and clinically supportive sciences which are appropriate to otolaryngology

c) Practice-based learning improvement:

- Analyze practice experience and perform practice-based improvement activities using a systematic methodology
- Locate, appraise and assimilate evidence from scientific studies related to patient's and the larger population from which our parents are drawn
- Apply knowledge of study design and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness
- Facilitate the learning of students and other health care professionals.

d) Interpersonal and communication skills:

- Create and sustain a therapeutic and ethically sound relationship with patients
- Use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning and writing skills.
- Work effectively with others as a member or leader of a health care team or other professional group

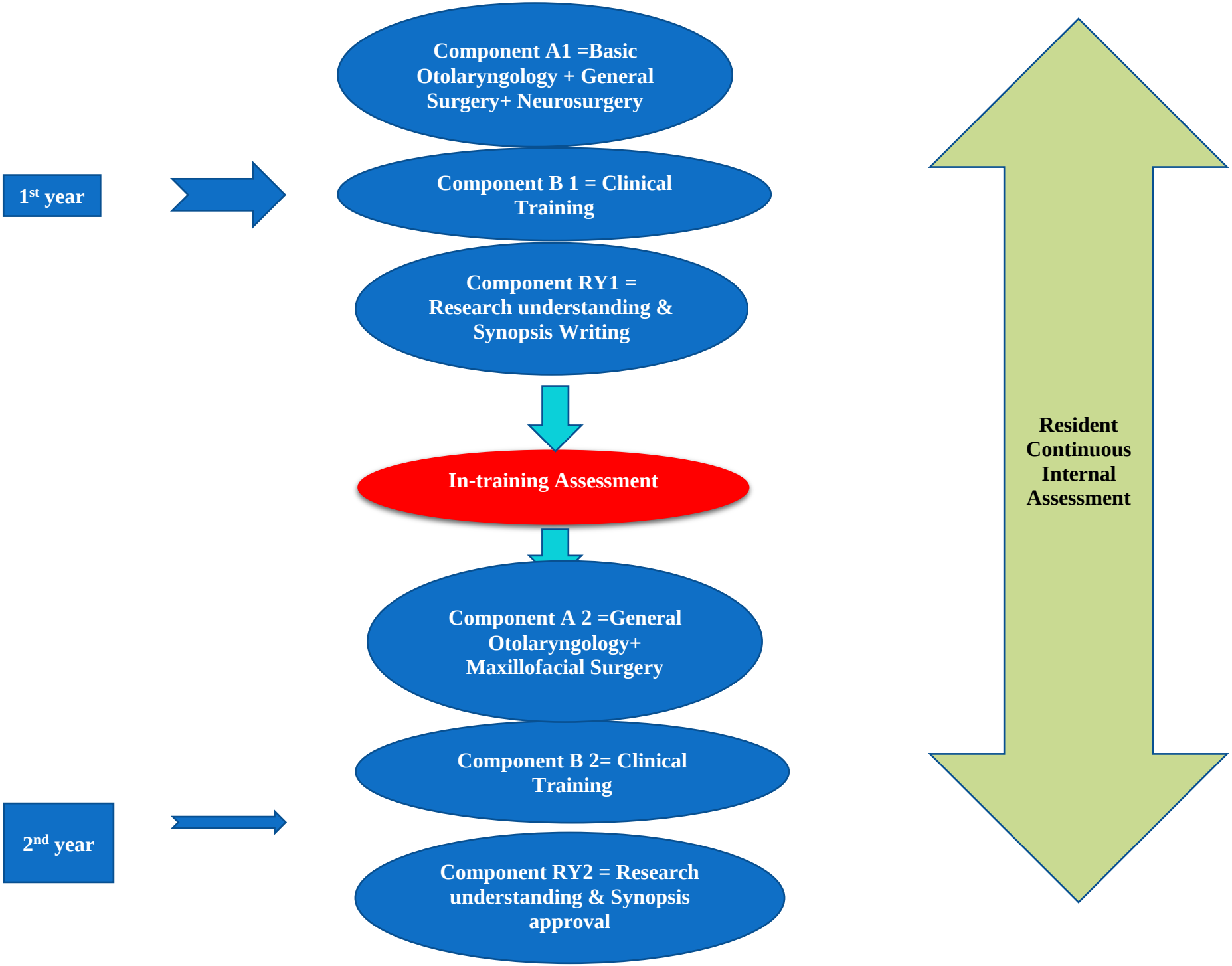
e) Professionalism:

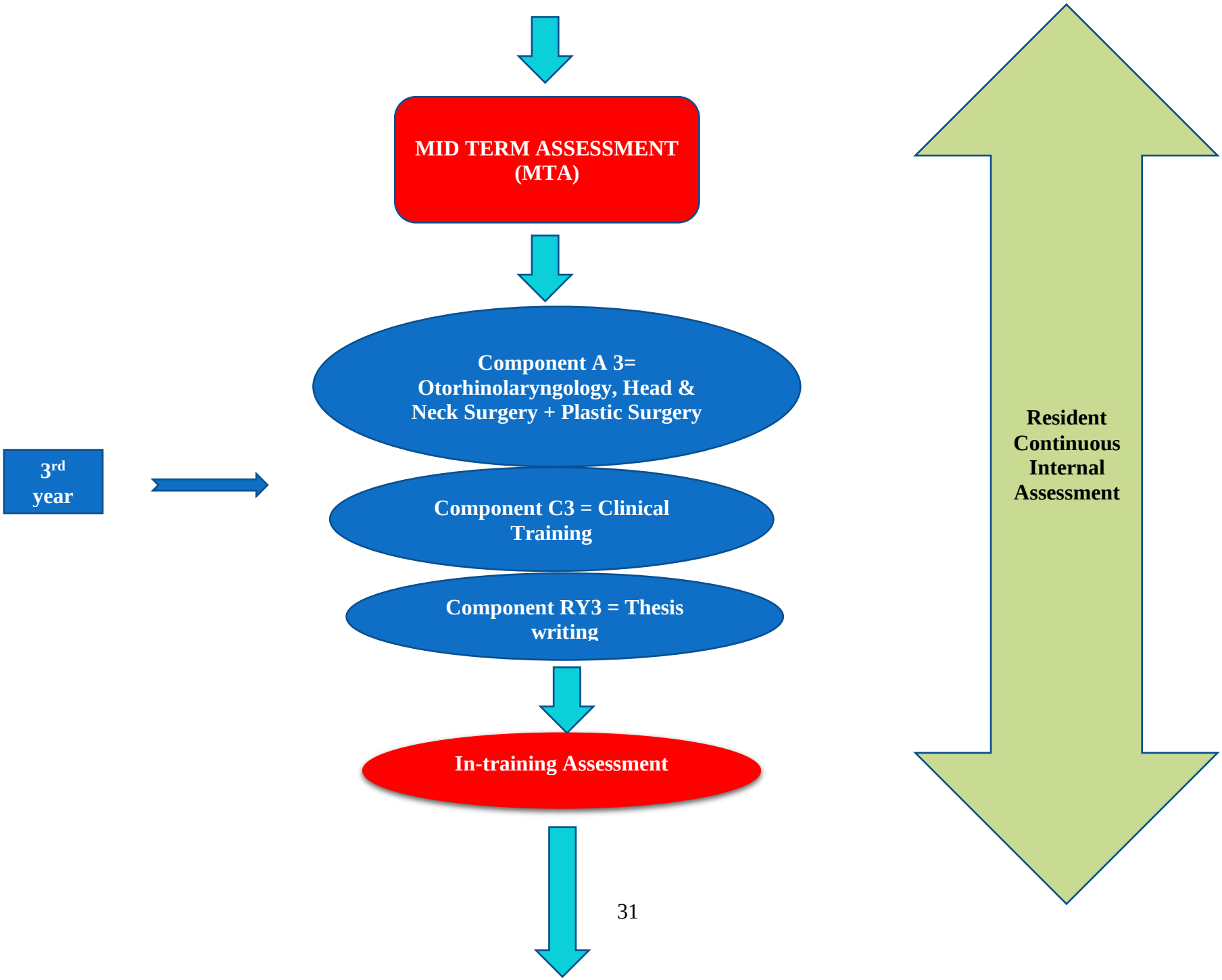
- Demonstrate respect, compassion and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society and profession
- Demonstrate a commitment to ethical principles pertaining to provision of clinical care, confidentiality of patient information, informed consent and business practices

f) System based practice:

- Understand how our patient care and other professional practices affect other health care professionals, health care organization and the larger society and how these elements of the system affect our own practice
- Practice cost effective heath care and resource allocation that does not compromise quality of care

- Knows how to partner with health care managers and health care providers to assess, coordinate and improve health care and know how these activities can affect system performance.


1st year
Component A1 =Basic Otolaryngology + General Surgery+ Neurosurgery
Component B 1 = Clinical Training
Component RY1 = Research understanding & Synopsis Writing
In-training Assessment
Component A 2 =General Otolaryngology+ Maxillofacial Surgery
Component B 2= Clinical Training
2nd year
Component RY2 = Research understanding & Synopsis approval
Resident Continuous Internal Assessment


MID TERM ASSESSMENT (MTA)
Component A 3= Otorhinolaryngology, Head & Neck Surgery + Plastic Surgery
3rd year
Component C3 = Clinical Training
Component RY3 = Thesis writing
In-training Assessment
Resident Continuous Internal Assessment

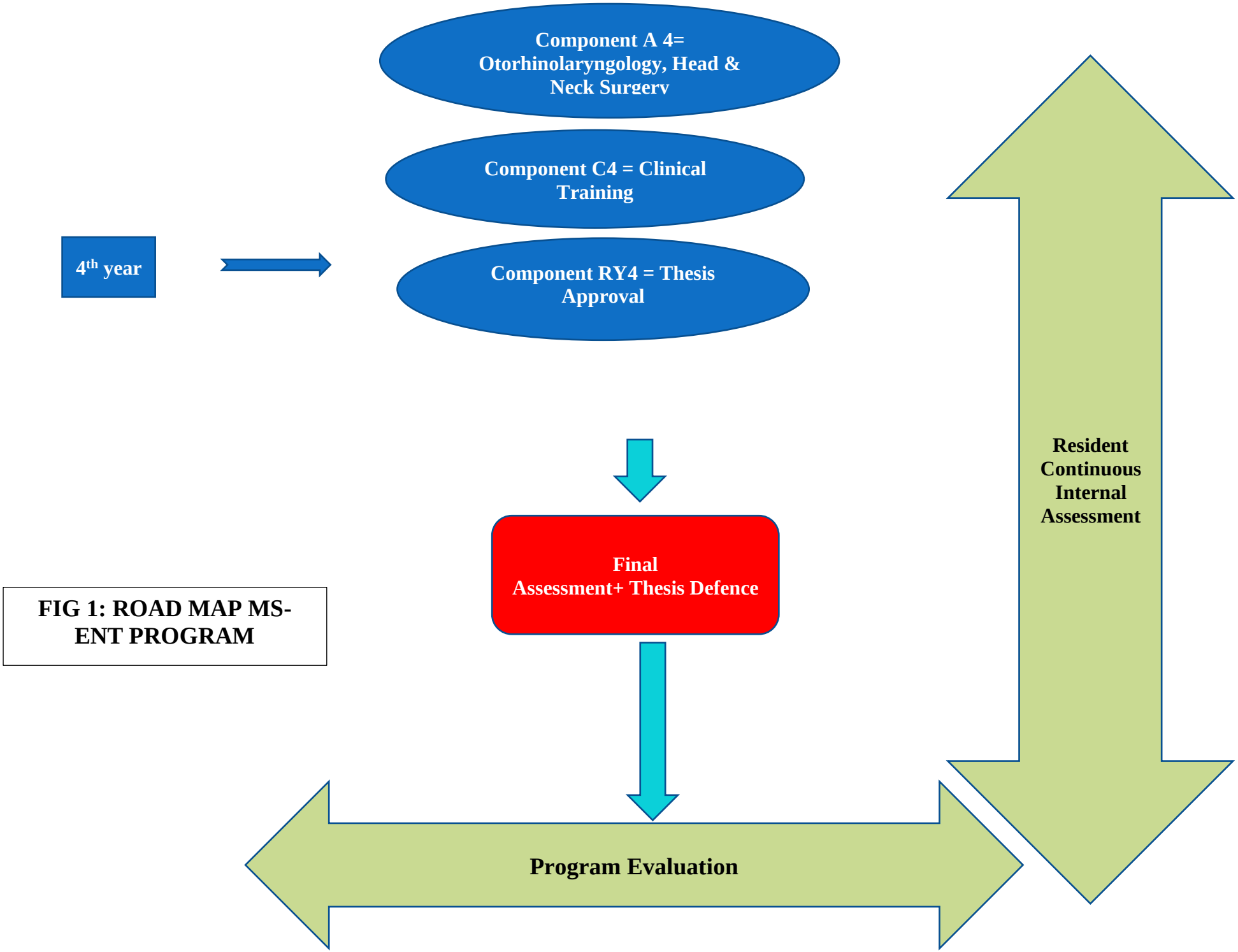


FIG 1: ROAD MAP MS-ENT PROGRAM

2) LEARNING OPPORTUNITIES/ MITs:

A variety of educational approaches are used by education providers in order to help trainees develop the knowledge, clinical and technical skills, professional judgement, values and behaviorsrequired by the curriculum. Taken together, these educational approaches ensure that the Knowledge, skill and technical skill are taught appropriately in order that the purpose of the curriculum is met. These educational approaches divide into three areas:

- Self-directed learning
- Reflective practice
- Learning from practice
- Learning from formal situations
- Simulations

1) Self-directed learning

The curriculum is trainee-led and self-directed learning is encouraged. Trainees are expected to takea proactive approach to learning and development and towards working as a member of a multi- professional team. Trainees are encouraged to establish study groups, journal clubs and conduct peer reviews. They should take the opportunity of learning with peers at a local level through postgraduate teaching and discussion sessions, and with examination preparation courses. Trainees are expected to undertake personal study in addition to attending formal and informal teaching. This includes using study materials and publications and reflective practice. Trainees are expected to use the developmental feedback they get from their trainers in learning agreement meetings and from assessments to focus further research and practice.

2) Reflective practice

Reflective practice is an important part of self-directed learning and of continuing professional development. It is an educational exercise that

enables trainees to explore, with rigor, the complexities and underpinning elements of their actions in order to refine and improve them. Reflection in the oral form is very much an activity that surgeons engage in and find useful and developmental. Writing reflectively adds more to the oral process by deepening the understanding of practice. Written reflection offers different benefits to oral reflection which include: a record forlater review, a reference point to demonstrate development and a starting point for shareddiscussion. Whatever the modality of reflection, it is important that it takes place and that there is a record of it having taken place, whether or not the specific subject or content of the reflection is recorded.

3) Learning from clinical practice

Surgical learning is largely experiential in nature with any interaction in the workplace having the potential to become a learning episode. The workplace provides learning opportunities on a daily basis for surgical trainees, based on what they see and what they do. The placements of trainees must be in units that are able to provide sufficient clinical resource and have sufficient trainer capacity. While in the workplace, trainees are involved in supervised clinical practice, primarily in a hospital environment in wards, clinics or theatre. Learning begins with observation of a trainer and progresses to assisting a trainer; the trainer assisting/supervising the trainee and then the trainee managing a case independently but with access to their supervisor. The level of supervision changes in line with the trainee's progression through the phases of the curriculum. As training progresses, trainees should have the opportunity for increased autonomy, consistent with safe and effective care for the patient. Typically, there should be a gradual reduction in the level of supervision required and an increase in the complexity of cases managed until the level of competence for independent practice is acquired. The skills are best taught, particularly in the early phases of training, by a specifically selected trainer directly watching and supervising while the trainee carries out the activity. This type of training is known as Professionalized Training and requires more time (and so, consequently, a reduced clinical workload) than conventional methods. It permits more thorough teaching, more rapid achievement of skill and earlier recognition of difficulties. Continuous systematic feedback and reflection are integral to learning from clinical practice. The trainer provide detailed feedback and identify specific, timely and relevant goals for development through training. Education providers should make every attempt to ensure that each trainee has exposure to Professionalized Training appropriate to their phase of progression through the curriculum. It is recommended that this be one session per week per trainee in the early years. Trainees are required to keep a logbook to support their reflection and the assessment of their operative skills.

4) Learning from formal situations

Learning from clinical practice is supplemented by an educational programme of courses and teaching sessions arranged at local, regional and national levels. These should be mapped in Otolaryngology syllabus and may include a mixture of formal talks including attendance at national conferences relevant to the specialty, small group discussion, case review and morbidity and mortality meetings, literature review and skills teaching.

5) Simulation

Teaching in formal situations often involves the use of simulation. In this context simulation can be any reproduction or approximation of a real event, process, or set of conditions or problems e.g. taking a history in clinic, performing a procedure or managing post-operative care. Trainees have the opportunity of learning in the same way as they would in the real situation but in a patient-free environment. Simulation can be used for the development of both individuals and teams. The realism of the simulation may reflect the environment in which simulation takes place, the instruments used or the emotional and behavioral features of the real situation. Simulation training does not necessarily depend on the use of expensive equipment or complex environments e.g. it may only require a suturing aid or a role play with scenarios.

Simulation training has several purposes:

- supporting learning and keeping up to date
- addressing specific learning needs
- situational awareness of human factors which can influence people and their behavior
- enabling the refining or exploration of practice in a patient-safe environment
- promoting the development of excellence
- improving patient care.

The use of simulation in surgical training is part of a blended approach to managing teaching and learning concurrent with supervised clinical practice. The use of simulation on its own cannot replace supervised clinical practice and experience or authorize a doctor to practice unsupervised. Provision of feedback and performance debriefing are integral and essential parts of simulation- based training. Simulation training broadly follows

the same pattern of learning opportunities offering insight into the development of technical skills, team-working, leadership, judgement and professionalism. Education providers should use all teaching methods available, including simulation teaching, to ensure that the full breadth of the syllabus is covered. Where there is a need for specific intensive courses to meet specific learning outcomes, there may be a number of equivalent providers.

3) Supervision

Supervision is necessary in the delivery of safe and effective training. It takes advantage of the experience, knowledge and skills of expert clinicians and ensures interaction between an experienced clinician and a trainee. The ultimate responsibility for the quality of patient care and the quality of training lies with the supervisor. Supervision is designed to ensure the safety of the patient by encouraging safe and effective practice and professional conduct. A number of people from a range of professional groups are involved in teaching and training with subject areas of the curriculum being taught by staff with relevant specialist expertise and knowledge. Those involved in the supervision of trainees must have the relevant qualifications, experience and training to undertake the role. Specialist skills and knowledge are usually taught by consultants and senior trainees whereas the more generic aspects of practice can also be taught by the wider multidisciplinary team (MDT).

The key roles involved in teaching and learning are the Training Programme Dean, Assigned Educational Supervisor, Clinical Supervisor, Assessor and Trainee. All elements of work in training posts must be supervised. The level of supervision varies according to the experience of the trainee, the clinical exposure and the case mix undertaken. As training progresses trainees should have the opportunity for increased autonomy, consistent with safe and effective care for the patient. Achievement of supervision level IV indicates that a trainee is able to work at an independent level, with advice from their trainer at this level being equivalent to a consultant receiving advice from senior colleagues within an MDT. However, within the context of a training system trainees are always under the educational and clinical governance structures of the Health Service.

4) Supporting feedback and reflection:

Effective feedback is known to enhance learning, and combining self-reflection with feedback promotes deeper learning. Trainees are encouraged to seek feedback on all they do, either informally, through verbal feedback at the end of a learning event, or formally through workplace- based

assessments (WBAs). All the assessments in the curriculum are designed to include a feedback element as well as to identify concerns in multiple ways. Constructive feedback is expected to include three elements i) a reflection on performance ii) identification of the trainee's achievements, challenges and aspirations and iii) an action plan.

5) Academic Training

All trainees are required to satisfy the learning outcomes of capabilities in research and scholarship. Trainees are encouraged to participate in clinical research and collaborative trials to achieve these outcomes, as well as in journal clubs, literature review and systematic review and to make a major contribution to the publication of novel findings in peer reviewed journals. An understanding of the principles of research, its interpretation and safe implementation of evidenced based new methods, processes and techniques is essential for the modern, progressive practice of surgery and in the interests of patients and the service. The rate of progression through the clinical component of their training process will be ensured by keeping up with the curriculum.

SECTION 5: RESEARCH & THESIS WRITING

Research and Thesis have to be completed during training period. Research topic selection is must in first year. Synopsis writing and approval from IRF & BASR are must in second year of training. In third year of training Thesis should be written, while in first six months of fourth year Thesis should be completed and after appropriate defense it should be approved by BASR.

Research Experience & Workshops:

The active research component program must ensure meaningful, supervised research experience with appropriate protected time for each resident while maintaining the essential clinical experience. Residents must learn the design and interpretation of research studies, responsible use of informed consent, and research methodology and interpretation of data. The program must provide instruction in the critical assessment of new therapies and of the medical literature. Residents will be advised and supervised by qualified staff members in the conduct of research

To help conduction of Research and facilitate Thesis writing following workshops are mandatory during training that will be organized by RMU:

- Communication skills
- Computer & IT skills days
- Synopsis writing
- Research Methodology & Biostatistics
- Reference Manager (Endnote)

Clinical Research

Each resident will participate in at least one clinical research study to become familiar with

1. Research design
2. Research involving human subjects including informed consent and operations of the Institutional Review Board and ethics of human

experimentation

3. Data collection and data analysis
4. Research ethics and honesty
5. Peer review process

This usually is done during the consultation and outpatient clinic rotations.

Research Article or Statistical Report of one Disease

Components of article writing for Resident Research Journal or Statistical Report of one disease are mandatory in First while optional in Third year.

Thesis

The candidates shall prepare their synopsis as per guidelines provided by Institutional Research Forum/Ethical Review Board (IRF/ERB) and Board of Advanced Studies & Research (BASR). The research topic must consist of a reasonable sample size and sufficient numbers of variables to give training to the candidate to conduct research, collect and analyze data. Synopsis of research project should be approved in 2nd year of MS program by IRF/ERB and BASR. In 3rd year Thesis work should be completed, and in 4th year it should be approved from BASR.

SECTION 6: ASSESSMENT:

1 Purpose of assessment:

Assessment of learning is an essential component of any curriculum. The focus is on good practice, based on fair and robust assessment principles and processes in order to ensure a positive educational impact on learners and to support assessors in making valid and reliable judgements. The program of assessment comprises an integrated framework of examinations, assessments in the workplace and judgements made about a learner during their approved program of training. Its purpose is to robustly evidence, ensure and clearly communicate the expected levels of performance at critical progression points in, and to demonstrate satisfactory completion of, training as required by the curriculum.

Assessments can be described as *helping* learning or *testing* learning - referred to as formative and summative respectively. There is a link between the two; some assessments are purely formative others are explicitly summative with a feedback element while others provide formative feedback while contributing to summative assessment as in Continuous Internal Assessment (CIA).

The purposes of **formative assessment** are to:

- assess trainees' actual performance in the workplace.
- enhance learning by enabling trainees to receive immediate feedback, understand their ownperformance and identify areas for development.
- drive learning and enhance the training process by making it clear what is required of traineesand motivating them to ensure they receive suitable training and experience.
- enable supervisors to reflect on trainee needs in order to tailor their approach accordingly.

The purposes of **summative assessment** are to:

- provide robust, summative evidence that trainees are meeting the curriculum requirementsduring the training programme.
- ensure that trainees possess the essential underlying knowledge required for their specialty.
- identify trainees who should be advised to consider changes of career direction.
- provide information for the quality assurance of the curriculum.

2 Assessment Methods:

Workplace-based assessment (WBA):

Each individual WBA is designed to assess a range of important aspects of performance in differenttraining situations. Taken together the WBAs can assess the breadth of knowledge, skills and performance described in the curriculum. Each WBA is recorded on a structured form to help assessors distinguish between levels of performance and prompt areas for their verbal developmental feedback to trainees immediately after the observation.

WBAs are formative and may be used to assess and provide feedback on all clinical activity. Traineescan use any of the assessments described below to gather feedback or provide evidence of their progression in a particular area. WBAs are only mandatory for the assessment of the critical conditions and index procedures.

a) Case Based Discussion (CBD)

The CBD assesses the performance of a trainee in their management of a patient case to provide anindication of competence in areas such as clinical judgement, decision-making and application of medical knowledge in relation to patient care. The CBD process is a structured, in-depth discussionbetween the trainee and a consultant supervisor. The method is particularly designed to test higherorder thinking and synthesis as it allows the assessor to explore deeper understanding of how trainees compile, prioritize and apply knowledge. By using clinical cases that offer a challenge to trainees, rather than routine cases, trainees are able to explain the complexities involved and the reasoning

behind choices they made. It also enables the discussion of the ethical and legal framework of practice. As the actual record is the focus for the discussion, the assessor can also evaluate the quality of record keeping and the presentation of cases. The CBD is important for assessing the critical conditions) Trainees are assessed against the standard for the completion of their phase of training.

b) Clinical Evaluation Exercise (CEX) / CEX for Consent (CEX(C))

The CEX or CEX(C) assesses a clinical encounter with a patient to provide an indication of competence in skills essential for good clinical care such as communication, history taking, examination and clinical reasoning. These can be used at any time and in any setting when there isa trainee and patient interaction and an assessor is available. The CEX or CEX(C) is important for assessing the critical conditions. Trainees are assessed against the standard for the completion of their phase of training.

c) Direct Observation of Procedural Skills (DOPS)

The DOPS assesses the trainee's technical, operative and professional skills in a range of basic diagnostic and interventional procedures during routine surgical practice in wards, outpatient clinicsand operating theatres. The procedures reflect the common and important procedures. Trainees are assessed against the standard for the completion of core surgical training.

d) Multi-source Feedback (MSF)

The MSF assesses professional competence within a team working environment. It comprises a self-assessment and the assessments of the trainee's performance from a range colleagues covering different grades and environments (e.g. ward, theatre, out-patients). Feedback is in the form of a peer assessment chart, enabling comparison of the self- assessment with the collated views received from the team and includes their anonymized but verbatim written comments. The supervisor should meet with the trainee to discuss the feedback on performance in the MSF. Trainees are assessed against the standard for the completion of their training level.

e) Procedure Based Assessment (PBA)

The PBA assesses advanced technical, operative and professional skills in a range of specialty procedures or parts of procedures during routine

surgical practice in which trainees are usually scrubbed in theatre. The assessment covers pre-operative planning and preparation; exposure andclosure; intra-operative elements specific to each procedure and post-operative management. Theprocedures reflect the routine or index procedures relevant to the specialty. The PBA is used particularly to assess the index procedures. Trainees are assessed against the standards

f) Logbook

The logbook is tailored to each specialty and allows the trainee's competence as assessed by the DOPS and PBA to be placed in context. It is not a formal assessment in its own right, but trainees are required to keep a log of all operative procedures they have undertaken including the level of supervision required on each occasion using the key below. The logbook demonstrates breadth of experience which can be compared with procedural competence using the DOPS and the PBA and will be compared with the indicative numbers of index procedures defined in the curriculum.

g) **Portfolio**

A portfolio is a collection of products prepared by the resident that provides evidence of learning and achievement related to a learning plan. A portfolio typically contains written documents but can include video- or audio-recordings, photographs, and other forms of information. Reflecting upon what has been learned is an important part of constructing a portfolio. In addition to products of learning, the portfolio can include statements about what has been learned, its application, remaining learning needs, and how they can be met. In graduate medical education, a portfolio might include a log of clinical procedures performed; a summary of the research literature reviewed when selecting a treatment option; a quality improvement project plan and report of results; ethical dilemmas faced and how they were handled; a computer program that tracks patient care outcomes; or a recording or transcript of counseling provided to patients. Portfolios can be used for both formative and summative evaluation of residents. Portfolios are most useful for evaluating mastery of competencies that are difficult to evaluate in other ways such as practice-based improvement, use of scientific evidence in patient care, professional behaviors, and patient advocacy. Teaching experiences, morning report, patient rounds, individualized study or research projects are examples of learning experiences that lend themselves to using portfolios to assess residents.

h) Assessment of Audit (AoA)

The AoA reviews a trainee's competence in completing an audit or quality improvement project. It can be based on documentation or a presentation of a project. Trainees are assessed against the standard for the completion of their phase of training.

i) Observation of Teaching (OoT)

The OoT assesses the trainee's ability to provide formal teaching. It can be based on any instance offormalized teaching by the trainee which has been observed by the assessor. Trainees are assessedagainst the standard for the completion of their phase of training.

Written/Oral Assessments:

a) Objective Structured Clinical Examination (OSCE)

In an objective structured clinical examination (OSCE) one or more assessment tools are administered at 12 to 20 separate standardized patient encounter stations, each station lasting 10-15 minutes. Between stations candidates may complete patient notes or a brief written examination about the previous patient encounter. All candidates move from station to station in sequence on the same schedule. Standardized patients are the primary assessment tool used in OSCEs, but OSCEs have included other assessment tools such as data interpretation exercises using clinical cases and clinical scenarios with mannequins, to assess technical skills. OSCEs have been administered in most of the medical schools worldwide, many residency programs, and by the licensure board examinations. The OSCE format provides a standardized means to assess: physical examination and history taking skills; communication skills with patients and family members, breadth and depth of knowledge; ability to summarize and document findings; ability to make a differential diagnosis, or plan treatment; and clinical judgment based upon patient notes

b) MCQ:

A written or computer-based MCQ examination is composed of multiple-choice questions (MCQ) selected to sample medical knowledge and understanding of a defined body of knowledge, not just factual or easily recalled information. Each question or test

item contains an introductory statement followed by four or five options in outline format. The examinee selects one of the options as the presumed correct answer by marking the option on a coded answer sheet. Only one option is keyed as the correct response. The introductory statement often presents a patient case, clinical findings, or displays data graphically. A separate booklet can be used to display pictures, and other relevant clinical information. In computer-based examinations the test items are displayed on a computer monitor one at a time with pictures and graphical images also displayed directly on the monitor. In a computer-adaptive test fewer test questions are needed because test items are selected based upon statistical rules programmed into the computer to quickly measure the examinee's ability. Medical knowledge and understanding can be measured by MCQ examinations. Comparing the test scores on in-training examinations with national statistics can serve to identify strengths and limitations of individual residents to help them improve. Comparing test results aggregated for residents in each year of a program can be helpful to identify residency training experiences that might be improved.

c) **Short-answer questions**

Short-answer questions are open-ended questions that require students to create an answer. They are commonly used in examinations to assess the basic knowledge and understanding of a topic before more in-depth assessment questions are asked on the topic. It is very important that the assessor is very clear on the type of answers expected when setting the questions, because SAQ is an open-ended questions, students are free to answer any way they choose, short-answer questions can lead to difficulties in grading if the question is not worded carefully.

d) Long and short cases:

Giving an oral presentation in final assessment is an important skill for trainee to learn. It is medical reporting which is terse and rapidly moving. After collecting the data, you must then be able to transmit it clearly to assessor. In order to do this successfully, you need to understand the patient's medical illnesses, the psychosocial contributions to their History of Presenting Illness and their physical diagnosis findings. You then need to compress them into a concise, organized recitation of the most essential facts. The

listener needs to be given all of the relevant information without the extraneous details and should be able to construct his/her own differential diagnosis as the story unfolds. Consider yourself an advocate who is attempting to persuade an informed, interested judge the merits of your argument, without distorting any of the facts. An oral case presentation is NOT a simple recitation of your write-up. It is a concise, edited presentation of the most essential information. Basic structure for oral case presentations includes Identifying information/chief complaint (ID/CC) , History of present illness (HPI) including relevant ROS (Review of systems) questions only ,Other active medical problems , Medications/allergies/substance use (note: e. The complete ROS should not be presented in oral presentations, Brief social history (current situation and major issues only) . Physical examination (pertinent findings only), One line summary & Assessment and management plan.

3 Assessment Scheme:

FIRST IN TRAINING ASSESSMENT **At the end of 1st Year Training**	MID-TERM ASSESSMENT **At the end of 2nd year Training**	THIRD IN TRAINING ASSESSMENT **At the end of 3rd year Training**	FINAL ASSESSMENT **At the end of 4th year Training**
• **Written Paper**	• **Written & Clinical Paper**	• **Written Paper**	• **Written, Clinical, And Thesis -**
Total Marks= 100	**Total Marks =300**	**Total Marks= 100**	**Total Marks= 800**
MCQ=100 clinically based	**a) Written- Two papers** Two papers each of 75 scenario based MCQs 75+75=150 marks **(Pass%=60%)-eligibility for clinical assessment** **b) Clinical** OSCE- 150 marks	**MCQs**=100 clinically based	**a) Written- Two papers** • 1st paper- 100 MCQs-100 marks • 2nd paper- 10 SEQs-100 marks **(Pass%=60%)-eligibility for clinical assessment** **b) Clinical** • Long Case – 100 marks • Short Cases- 200 marks • TOACS- 200 marks **(Pass%=60%)** **c) Thesis- 100 marks** • **Power point presentation=30 marks**

			• **Discussion=70 marks**
Pass Percentage = 50%	**Pass percentage = 60%**	**Pass percentage = 50%**	**Pass percentage = 60%**

4 Continuous Internal Assessment:

S.No.	Area To Be Assessed	Percentage
1.	**360 degree evaluation (KSA)**	**30%**
2.	**Log Books (KSA)**	**25%**
3.	**Workshops (KSA)**	**15%**
4.	**Attendance (A)**	**20%**
5.	**General Behavior (A)**	**10%**
	Grand Total	**100%**

Breakup of CIA

1.	360 degree evaluation (KSA)	Total Evaluation marks in 2 years=x Numbers obtained in all evaluations=y Equating to 30% of 360 degree evaluation Y/X × 30= Z	
2.	Log Books	Complete	25
		Partially complete	15
		Incomplete	Nil
3.	Workshops	Attended	15
		Partially Attended	10
		Not Attended	0
4.	Attendance	>75%	20
		<75%	0
5.	General Behavior	No complaint from Supervisor/ DME/ Hosp Staff/ Patients	10
		Complaint from Supervisor/ DME/ Hosp Staff/ Patients	0

5 Eligibility Criteria:

First In Training Assessment	Mid-Term Assessment	Third In Training Assessment	Final Assessment
Certificate of Completion of 1st year training. **Rotations completion:** General Surgery- 2 months Neurosurgery-2 months Workshops completion: • Communication skills- 3 days • Computer & IT skills- 3 days • Synopsis writing -3 days • Research methodology & Biostatistics-3 days **Research:** • Allotment of Synopsis topic by supervisor • Publication of one article in	**Certificate of completion of 2nd year training.** **Passed First In Training Assessment** **Rotations completion:** Maxillofacial Surgery-2 months **Research:** Formulation of research Synopsis with approval of IRF & BASR by the end of 2nd year. **CIA:** Minimum 75% marks Certification by DME and Supervisor/s	**Certificate of completion of 3rd year training.** **Passed Mid-term Assessment** **Rotations completion:** Plastic Surgery- 2 months **Workshop completion:** • Reference Manager (Endnote)-1 day **Research:** Data collection Data analysis & interpretation Start writing Thesis **CIA**: Minimum 75% marks Certification by DME and Supervisor/s	**Certificate of completion of 4th year training** **Passed Third In Training Assessment** **Research/Thesis**: • Completion & submission of Thesis 6 months before completion of training • Defense & Approval of Thesis in BASR •Publication of one article in

Resident Research Journal OR Statistical report of one disease **CIA:** Minimum 75% marks Certification by DME and Supervisor/s			Resident Research Journal OR Statistical report of one disease **CIA:** Minimum 75% marks Certification by DME and Supervisor/s **FEE:** Evidence of submission of examination fee **No dues certificate:** submitted from all relevant departments including

Final Assessment Schedule and Fee:

a. Final Assessment will be held twice a year.
b. The candidates have to fulfil eligibility criteria before permission is granted to take the assessment.
c. Assessment fee will be determined and varied at periodic intervals by the University.
d. The Assessment fee once deposited cannot be refunded / carried over to the next assessment under any circumstances.
e. The Controller of Examinations will issue an Admittance Card with a photograph of the candidate on receipt of prescribed application form, documents satisfying eligibility criteria and evidence of payment of assessment fee. This card will also show the Roll Number, date / time and venue of assessment.
f. The written part of assessment will be valid for three consecutive attempts for appearing in the Clinical and Oral Part of the Final Assessment. After that the candidates have to re-sit the written part of the Final Assessment.

g. The candidates will have two attempts to pass the final examination with normal fee. A special administration fee of Rs.10, 000 in addition to normal fee or the amount determined by the University from time to time shall be charged for further attempts.

Clinical Examination: OSCE & ORAL:

a. The OSCE & Oral Examination will consist of 04 short cases, 01 long case and Oral Examination with 01 station for a pair of Internal and External Examiner. Each short case will be of 7 minutes duration, 05 minutes will be for examining the patient and 02 minutes for discussion. The Oral Examination will consist of audiology assessment, interpretation of Radiology images and others.
b. A panel of four examiners will be appointed by the Vice Chancellor and of these two will be from UHS whilst the other two will be the external examiners. Internal examiner will act as a coordinator. ln case of difficulty in finding an Internal examiner arrange given subject, the Vice Chancellor would, in consultation with the concerned Deans, appoint any relevant person with appropriate qualification and experience, outside the University as an examiner.
c. The internal examiners will not examine the candidates for whom they have acted as Supervisor and will be substituted by other internal examiner.
d. The candidates scoring 50% marks In each component of the Clinical & Oral Examination will pass this part of the Final Examination.

Continuous Internal Assessments (CIA): 75%

Continuous Internal Assessments would be submitted by the supervisor considering the following:

A. Workplace Based Assessments: These assessments will include the following:

- Generic and Specialty specific Competency Assessments
- Multisource Feedback Evaluation

B. Assessment of Residents' Training Log Book, Portfolio, attendance and general behavior.

Declaration of Result:

For the declaration of result

1. The Resident must get his/her Thesis accepted.

2. The Resident must have passed the final written examination with 50% marks and the clinical & oral examination securing 50% marks. The cumulative passing score from the written and clinical/ oral examination shall be 60%. Cumulative score of 60% marks to be calculated by adding up secured marks of each component of the Examination i.e., written and clinical & oral and then calculating its percentage.
3. The MS degree shall be awarded after acceptance of thesis and success in the final examination.
4. On completion of stipulated training period, irrespective of the result (pass or fail) the training slot of the candidate shall be declared vacant.

Submission / Evaluation of Synopsis

a. The Residents shall prepare their synopsis as per guidelines provided by the Board of Advanced Studies & Research, available on university website.
b. The research topic in clinical subject should have 30% component related to basic sciences and 70% component related to applied clinical sciences. The research topic must consist of a reasonable sample size and sufficient numbers of variables to give training to the candidate to conduct research, to collect & analyze the data.
c. Synopsis of research project shall be got approved by the end of the 2nd year of MS program. The synopsis after review by an Institutional Review Committee shall be submitted to the University for Consideration by the Board of Advanced Studies & Research, through the Principal / Dean /Head of the institution.

Submission of Thesis

1. Thesis shall be submitted by the candidate duly recommended by the Supervisor.
2. The minimum duration between approval of synopsis and submission of thesis shall be one year.
3. The research thesis must be compiled and bound in accordance with the Thesis Format Guidelines approved by the University and available on website.
4. The research thesis will be submitted along with the fee prescribed by the University.

Thesis Evaluation

a. The Resident will submit his/her thesis at least O6 months prior to completion of training.

b. The Thesis along with a certificate of approval from the supervisor will be submitted to the Registrar's office, who would record the date / time etc. and get received from the Controller of Examinations within 05 working days of receiving.

c. The Controller of Examinations will submit a panel of eight assessors within 07 days for selection of four examiners by the Vice Chancellor. The Vice Chancellor shall return the Final panel within 05 working days to the Controller of Examinations for processing and assessment. In case of any delay the Controller of Examination would bring the case personally to the Vice Chancellor.

d. The Supervisor shall not act as an examiner of the candidate and will not take part in defense of thesis.

e. The Controller of Examinations will make sure that the Thesis is submitted to examiners in appropriate fashion and a reminder is sent after every ten days.

f. The thesis will be evaluated by the examiners within a period of 06 weeks.

g. In case the examiners fail to complete the task within 06 weeks with 02 fortnightly reminders by the Controller of Examinations, the Controller of Examinations will bring it to the notice of Vice Chancellor in person.

h. In case of difficulty in find an internal examiner for thesis evaluation, the Vice Chancellor would, in consultation with the concerned Deans, appoint any relevant person as examiner in supersession of the relevant Clause of the University Regulations.

i. There will be two internal and two external examiners. In case of difficulty in finding examiners, the Vice Chancellor would, in consultation with the concerned Deans, appoint minimum of three, one internal and two external examiners.

j. The total marks of thesis evaluation will be 100 and 60% marks will be required to pass the evaluation.

k. The thesis will be considered accepted, if the cumulative score of all the examiners is 60%.

l. The clinical training will end at completion of stipulated training period but the candidate will become eligible to appear in the Final Examination at completion of clinical training and after acceptance of thesis. In case clinical training ends earlier, the slot will fall vacant after stipulated training period.

Award of MS Otolaryngology, Head & Neck surgery Degree

After successful completion of the structured course of MS Otolaryngology, Head & Neck surgery and qualifying Mid-term, Final Assessment (Written, Clinical: OSCE & ORAL and Thesis), the degree with title MS Otolaryngology, Head & Neck surgery shall be awarded.

SECTION 5: CURRICULUM EVALUATION:

Curriculum evaluation is an important part of curriculum development. Two basic stages of curriculum evaluation are process evaluation and product evaluation. Most important aim is to evaluate if the main goals or objective have been met in order to understand and make further improvements to the curriculum.

APPENDIX 1: HIGH LEVEL OUTCOMES OF TRAINING

HIGH LEVEL OUTCOMES OF TRAINING 1: :MANAGES AN OUT-PATIENT CLINIC

Description

Manages all the administrative and clinical tasks for all patients presenting as out-patients in the specialty are cared for safely and appropriately.

- Assesses and prioritizes inter-departmental referrals and deals correctly with inappropriate referrals
- Assesses new and review patients using a structured history and a focused clinical examination to perform a full clinical assessment, and determines the appropriate planof action, explains it to the patient and carries out the plan
- Carries out syllabus defined practical investigations or procedures within the out-patientsetting
- Adapts approach to accommodate all channels of communication (e.g. interpreter, signlanguage), communicates using language understandable to the patient, and demonstrates communication skills with particular regard to breaking bad news. Appropriately involves relatives and friends
- Takes co-morbidities into account
- Requests appropriate investigations, does not investigate when not necessary, andinterprets results of investigations in context
- Selects patients with urgent conditions who should be admitted from clinic
- Manages potentially difficult or challenging interpersonal situations, including breakingbad news and complaints
- Completes all required documentation
- Makes good use of time
- Uses consultation to emphasize health promotion

HIGH LEVEL OUTCOMES OF TRAINING 2 : MANAGES THE UNSELECTED EMERGENCY TAKE

Description

Manages all patients with an emergency condition requiring management within the specialty. Able to perform all the administrative and clinical tasks for all patients presenting as emergencies in the specialty are cared forsafely and appropriately.

- Promptly assesses acutely unwell and deteriorating patients, delivers resuscitativetreatment and initial management, and ensures sepsis is recognized and treated incompliance with protocol
- Makes a full assessment of patients by taking a structured history and by performing afocused clinical examination, and requests, interprets and discusses appropriate investigations to synthesize findings into an appropriate overall impression, management plan and diagnosis
- Identifies, accounts for and manages co-morbidity in the context of the surgicalpresentation, referring for specialist advice when necessary
- Selects patients for conservative and operative treatment plans as appropriate,explaining these to the patient, and carrying them out
- Demonstrates effective communication with colleagues, patients and relatives
- Makes appropriate peri- and post-operative management plans in conjunction with anesthetic colleagues
- Delivers ongoing post-operative surgical care in ward and critical care settings, recognizing and appropriately managing medical and surgical complications, andreferring for specialist care when necessary
- Makes appropriate discharge and follow up arrangements
- Carries out all operative procedures as described in the syllabus
- Manages potentially difficult or challenging interpersonal situations
- Gives and receives appropriate handover

HIGH LEVEL OUTCOMES OF TRAINING 3 : MANAGES WARD ROUNDS AND THE ON-GOING CARE OF IN-PATIENTS

Description

Manages all hospital in-patients with conditions requiring management within the specialty. Able to perform all the administrative and clinical tasks required in order that all in-patients requiring care within the specialty are cared for safely and appropriately.

- Identifies at the start of a ward round if there are acutely unwell patients who requireimmediate attention
- Ensures that all necessary members of the multi-disciplinary team are present, knowswhat is expected of them and what each other's roles and contributions will be, and contributes effectively to cross specialty working
- Ensures that all documentation (including results of investigations) will be availablewhen required and interprets them appropriately
- Makes a full assessment of patients by taking a structured history and by performing afocused clinical examination, and requests, interprets and discusses appropriate investigations to synthesize findings into an appropriate overall impression, management plan and diagnosis
- Identifies when the clinical course is progressing as expected and when medical or surgical complications are developing, and recognizes when operative intervention orre-intervention is required and ensures this is carried out
- Identifies and initially manages co-morbidity and medical complications, referring on toother specialties as appropriate
- Contributes effectively to level 2 and level 3 care
- Makes good use of time, ensuring all necessary assessments are made and discussionsheld, while continuing to make progress with the overall workload of the ward round
- Identifies when further therapeutic maneuvers are not in the patient's best interests, initiates palliative care, refers for specialist advice as required, and discusses plans withthe patient and their family
- Summarizes important points at the end of the ward rounds and ensures all members ofthe multi-disciplinary team understand the management plans and their roles within them
- Gives appropriate advice for discharge documentation and follow-up

HIGH LEVEL OUTCOMES OF TRAINING 4: MANAGES AN OPERATING LIST

Description

Manages all patients with conditions requiring operative treatment within the specialty. Able to perform all the administrative and clinical tasks required of a consultant surgeon inorder that all patients requiring operative treatment receive it safely and appropriately.

- Selects patients appropriately for surgery, taking the surgical condition, co-morbidities, medication and investigations into account, and adds the patient to the waiting list withappropriate priority
- Negotiates reasonable treatment options and shares decision-making with patients
- Takes informed consent in line with national legislation or applies national legislation forpatients who are not competent to give consent
- Arranges anaesthetic assessment as required
- Undertakes the appropriate process to list the patient for surgery
- Prepares the operating list, accounting for case mix, skill mix, operating time, clinicalpriorities, and patient co-morbidity
- Leads the brief and debrief and ensures all relevant points are covered for all patientson the operating list
- Ensures the WHO checklist (or equivalent) is completed for each patient at both thebeginning and end of each procedure
- Understands when prophylactic antibiotics should be prescribed and follows localprotocol
- Synthesizes the patient's surgical condition, the technical details of the operation, co-morbidities and medication into an appropriate operative plan for the patient
- Carries out the operative procedures to the required level for the phase of training asdescribed in the specialty syllabus
- Uses good judgement to adapt operative strategy to take account of pathologicalfindings and any changes in clinical condition
- Undertakes the operation in a technically safe manner, using time efficiently
- Demonstrates good application of knowledge and non-technical skills in the operatingtheatre, including situation awareness, decision-making, communication, leadership, and teamwork
- Writes a full operation note for each patient, ensuring inclusion of all post-operativeinstructions
- Reviews all patients post-operatively
- Manages complications safely, requesting help from colleagues where required

HIGH LEVEL OUTCOMES OF TRAINING 5: MANAGES MULTI-DISCIPLINARY WORKING

Description

Manages all patients with conditions requiring inter-disciplinary management including care within the specialty. Able to perform all the administrative and clinical tasks so that safe and appropriate multi-disciplinary decisions are made on all patients with such conditions requiring care within the specialty.

- Appropriately selects patients who require discussion at the multi-disciplinary teamFollows the appropriate administrative process
- Deals correctly with inappropriate referrals for discussion (e.g. postpones discussion ifinformation is incomplete or out-of-date)
- Presents relevant case history, recognizing important clinical features, co-morbidities andinvestigations
- Identifies patients with unusual, serious or urgent conditions
- Engages constructively with all members of the multi-disciplinary team in reaching anagreed management decision, taking co-morbidities into account, recognizing when uncertainty exists, and being able to manage this
- Effectively manages potentially challenging situations such as conflicting opinions
- Develops a clear management plan and communicates discussion outcomes and subsequent plans by appropriate means to the patient, GP and administrative staff asappropriate
- Manages time to ensure the case list is discussed in the time available
- Arranges follow up investigations when appropriate and knows indications for follow up.

APPENDIX 2: Otolaryngology Syllabus

The syllabus is organized by topics which are the presenting conditions of patients in relation to the specialty.

Standards for depth of knowledge during training:

In the two phases of specialty training the following methodology is used to define the relevant depth of knowledge required of the surgical trainee. Unless otherwise stated in this document, the knowledge and clinical skills listed below are expected to be at level 4 at the end of phase 2.

1 - knows of
2 - knows basic concepts
3 -knows generally
4 - knows specifically and broadly

Standards for clinical and technical skills

The practical application of knowledge is evidenced through clinical and technical skill. Unless otherwise stated in this document, the clinical skills listed below are expected to be at level4 at the end of phase 2.

1. Has observed

At this level the trainee:

- Has adequate knowledge of the steps through direct observation.
- Demonstrates that he/she can handle instruments relevant to the procedure appropriately and safely.
- Can perform some parts of the procedure with reasonable fluency.

2. Can do with assistance

At this level the trainee:

- Knows all the steps - and the reasons that lie behind the methodology.

- Can carry out a straightforward procedure fluently from start to finish.
- Knows and demonstrates when to call for assistance/advice from the supervisor (knowspersonal limitations).

3. Can do whole but may need assistance

At this level the trainee:
- Can adapt to well- known variations in the procedure encountered, without direct input fromthe trainer.
- Recognizes and makes a correct assessment of common problems that are encountered.
- Is able to deal with most of the common problems.
- Knows and demonstrates when he/she needs help.
- Requires advice rather than help that requires the trainer to scrub.

4. Competent to do without assistance, including complications

At this level the trainee:
- With regard to the common clinical situations in the specialty, can deal with straightforwardand difficult cases to a satisfactory level and without the requirement for external input.
- Is at the level at which one would expect a consultant surgeon to function.
- Is capable of supervising trainees.

OTOLOGY

Topic	**Non-infective, acquired lesions of the pinna and external ear canal**
Category	Otology
Sub-category:	Non infective conditions of the external ear
Objective	To understand the aetiology, pathology, presentation and management of non-infective conditions of the external ear. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy, physiology and pathology of the external ear andrelationship of disease to the temporal bone. Systemic conditions affecting external ear Dermatological conditions of the external ear Pharmacology of medications used in treatment Aetiology, pathology, presentation and management of benign tumours of the pinna and external ear canal Aetiology, pathology, presentation and management of malignant tumours of the pinna and external ear canal Aetiology of acquired atresia of the external auditory meatusPathogenesis of effects of ionizing radiation of the ear and temporal bone Aetiology, pathology, presentation and management of osteoma /exostosis Management of foreign bodies Understand the implications and management of trauma to thepinna Management including medical and surgical options asappropriate

Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate historyClinical examination Otoscopy microscopy **DATA INTERPRETATION** Interpretation of audiological investigations Awareness and interpretation of radiological investigations
Technical Skills and Procedures	Aural toilet including microsuction and application of dressings Biopsy of lesion of external ear Oncological resection of tumours of the pinna Reconstructive surgery of the pinna Meatoplasty Removal of osteoma/exostosis Otomicroscopy and removal of FBs Drainage of haematoma of pinna Suturing of pinna

Topic	**Infective conditions of the pinna and external ear canal**
Category	Otology
Sub-category:	Infective conditions of the external ear and pinna including otitisexterna, furunculosis, otomycosis, viral infections, perichondritis & cellulitis
Objective	To understand the aetiology, pathology, presentation and management of infective conditions of the external ear. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Anatomy, physiology and pathology of the external ear andrelationship of disease to the temporal bone. Pathogenesis of infective disorders of the external ear andpinna Necrotising otitis externa Microbiology of external ear and conditions affecting the pinna Knowledge of antimicrobial and antiviral agents and relevant pharmacology of medications used in treatment. Differential diagnosis of infective/inflammatory conditions Management including medical and surgical options asappropriate
Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate historyClinical examination Otoscopy Microscopy **DATA INTERPRETATION** Awareness and interpretation of radiological investigations Awareness and interpretation of microbiological investigations
Technical Skills and Procedures	Microscopy Suction clearance Biopsy of lesion of external ear canal Drainage of abscess

Topic	**Trauma**
Category	Otology
Objective	To understand the aetiology, presenting signs, symptoms and management of trauma of the external, middle and inner ear including the temporal bone. This module gives some indication ofthe breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Anatomy, physiology and pathology of the ear and auditorypathways. Effects of trauma on the pinna, ear canal, tympanic membrane, middle ear, otic capsule and temporal bone. The effects and assessment of poly-trauma and neurologicalinjury. Effects of barotrauma Surgical and non-surgical management of trauma of theexternal, middle and inner ear. Glasgow Coma Scale Grading of facial nerve function Neurophysiological assessment of facial nerve.
Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including neurological assessment Otoscopy Microscopy Audiological and vestibular assessment **DATA INTERPRETATION** Objective and subjective audiological and vestibular tests Radiological imaging of the temporal bone, head and neckLaboratory investigations for suspected CSF leaks **PATIENT MANAGEMENT** Be able to advise the patient of the treatment options, discussrisks and potential benefits, potential complications Work where appropriate in a multidisciplinary team & liaisewith other professional and organisations Importance of teamwork in managing critically ill patients

Technical Skills and Procedures	Microscopy Suction clearance of ear Meatoplasty Drainage of haematoma of pinna Suturing of pinna Exploratory tympanotomy Myringoplasty Ossiculoplasty Facial nerve decompression/anastomosis Repair of perilymph leak

Topic	**Acute otitis media and sequelae**
Category	**Otology**
Sub-category:	**Middle ear**
Objective	To understand the aetiology, presenting signs, symptoms and management of acute infection of the middle ear. This module gives some indication of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy, physiology and pathology of the ear and temporal bone Microbiology related to acute ear infections. Complications of acute otitis media including mastoiditis, lateralsinus thrombosis, meningitis and intracranial abscess Indications for laboratory and radiological investigations Differential diagnosis of acute otitis media and complications. Medical and surgical management options Relevant pharmacology of medications used in medical treatment

Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including neurological assessment Otoscopy Microscopy Audiological assessment **DATA INTERPRETATION** Interpretation of radiological investigations **PATIENT MANAGEMENT** Work where appropriate in a multidisciplinary team & liaisewith other professional and organisations Importance of teamwork in managing critically ill patients
TechnicalSkills and Procedures	Microsuction Myringotomy and grommet insertion Cortical mastoidectomy and access mastoidectomy

Topic	**Chronic suppurative otitis media and sequelae**
Category	Otology
Sub-category:	Middle ear
Objective	To understand the aetiology, presenting signs, symptoms and management of chronic infection/inflammation of the middle ear.This module gives some indication of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Anatomy, physiology and pathology of the ear and temporal bone Definition and classification of chronic middle ear disease, including cholesteatoma, retraction pockets, perforations, otitis media with effusion and myringitis. Aetiology and pathophysiology of chronic middle ear disease Microbiology related to chronic middle ear disease Complications of chronic middle ear disease (including intracranial sepsis) Principles and practice of audiology including pure toneaudiometry, tympanometry Principles of specialist audiological investigations including speechaudiometry, otoacoustic emissions and evoked response audiometry. Indications for radiological investigations Pharmacology of medications used in medical treatment Medical and surgical management options
Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including neurological assessmentOtoscopy Microscopy Audiological assessment **DATA INTERPRETATION** Interpretation of audiological investigationsInterpretation of radiological investigations
Technical Skills and Procedures	Microsuction Myringotomy and grommet insertion T tube insertion Grommet removal Aural polypectomy Myringoplasty Cortical mastoidectomy and access mastoidectomy Modified radical mastoidectomy Combined approach tympanoplasty Ossiculoplasty

Topic	**Adult hearing loss**
Category	Otology
Sub-category:	Deafness in adults
Objective	To understand the aetiology, presenting signs, symptoms and management of adults who present with conductive, mixed, progressive or sudden onset of sensorineural deafness. This module gives some indication of the breadth and depth of requiredknowledge, clinical and surgical skills. This list should not be considered to be fully inclusive or exhaustive. and bone anchored hearing aids. Principles of preventative audiology and hearing conservation
Knowledge	Embryology of the ear Anatomy, physiology and pathology of the ear and auditorypathways. Principles of acoustics and measurement of sound. Principles and practice of audiology including pure tone audiometry, speech audiometry and electrophysiological tests andother objective tests of hearing including oto-acoustic emissions Indications for radiological investigation of hearing loss Genetics of otological diseases Differential diagnosis, aetiology and management of conductive hearing loss including external/middle ear disorders andotosclerosis. Differential diagnosis, aetiology and management of sensorineuralhearing loss including noise induced hearing loss, presbyacusis, Meniere's disease autoimmune diseases and retro-cochlear pathology. Aetiology, investigation and management of acute sensorineuralhearing loss Central auditory processing disorders, auditory neuropathy,obscure auditory dysfunction Auditory rehabilitation including the use of hearing aids and otherassistive devices. Social and psychological issues of deafness Principles of non-auditory communication Principles of surgical reconstruction. Management of severe/ profound hearing loss. Principles of and indications for cochlear implants, middle earimplants and bone anchored hearing aids. Principles of preventative audiology and hearing conservation

Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate historyClinical examination Otoscopy Microscopy Audiological assessment **DATA INTERPRETATION** Interpretation of audiological investigationsInterpretation of radiological investigations Interpretation of laboratory investigations **PATIENT MANAGEMENT** Demonstrate communication skills and empathy Be able to advise the patient of the treatment options, discussrisks and potential benefits, potential complications To work where appropriate in a multidisciplinary team & liaise with other professional and organisations Principles of a holistic approach to the management of hearingloss Genetic counselling
Technical Skills and Procedures	Perform pure tone audiometry, tympanometry Microscopy Microsuction Myringotomy + grommet insertion Exploratory tympanotomy Myringoplasty Ossiculoplasty Stapedotomy/stapedectomy Cochlear implantation Middle ear implantation Insertion of Bone anchored hearing aid abutment Closure of perilymph leak The surgical approaches to the CP angle Acoustic neuroma surgery

Topic	Facial palsy
Category	Otology
Sub-category:	Facial Paralysis
Objective	To understand the aetiology, presenting signs, symptoms and management of facial nerve palsy. This module gives some indication of the breadth and depth of required knowledge, clinicaland surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	The anatomy and physiology of facial nerve and related structures The aetiology, classification and neuro-physiology of facial paralysis Indications for investigations including radiology,electrophysiology and laboratory tests. Facial nerve grading Management of acute and chronic facial nerve palsy Management and prevention of ocular complications Principles of peri-operative facial nerve monitoring Principles of rehabilitation for facial paralysis
Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including assessment of facial nerve function Otoscopy **DATA INTERPRETATION** Neuro-physiological tests of inner ear function and facial nerve Interpretation of radiological tests Interpretation of laboratory investigations

	PATIENT MANAGEMENT Demonstrate communication skills and empathy Appreciate the psychological effects of facial disfigurement Be able to advise the patient of the treatment options, and liaise with other health care professionals.
Technical Skills and Procedures	Setup and use of intra-operative facial nerve monitor Cortical mastoidectomy Modified radical mastoidectomy Full decompression of facial nerve Facial nerve anastomosis Resection of facial neuroma

Topic	**Disorders of balance**
Category	Otology
Sub-category:	Vertigo
Objective	To understand the aetiology, presenting signs, symptoms and management of patients with disordered balance. This modulegives some indication of the breadth and depth of required knowledge, clinical and surgical skills. The list should not be considered to be fully inclusive or exhaustive.

Knowledge	Anatomy and physiology related to maintenance of balance including the vestibular system, visual, locomotor, central nervousand cardiovascular systems The pathology and various hypotheses relating to the aetiology and management of sudden vestibular failure, Meniere's disease,benign paroxysmal vertigo, vestibular schwannoma, pharmacological and metabolic side effects The handicaps related to age related sensory and proprioceptivedegeneration Psychological aspects of dizziness Appropriate investigations for balance disorders including audiological, radiological, laboratory and vestibular tests. The law as it relates to disorders of balance The principles of vestibular rehabilitation The principles of particle repositioning manoeuvres Medical, non-surgical and surgical treatment options
Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including neurological assessment Otoscopy **DATA INTERPRETATION** Interpretation of audiological testsInterpretation of vestibular tests Interpretation of radiological and laboratory tests **PATIENT MANAGEMENT** Demonstrate communication skills and empathy Be able to advise the patient of the treatment options, discussrisks and potential benefits, potential complications To work where appropriate in a multidisciplinary team & liaise with other professional and organisations

Technical Skills and Procedures	Perform particle re-positioning manoeuvres Myringotomy and grommet insertion Intratympanic instillation of drugs Cortical mastoidectomy Decompression of endolymphatic sacClosure of perilymph fistula Labyrinthectomy Vestibular neurectomy Singular neurectomy Superior SCC dehiscence repair

Topic	**Lateral skull base tumours**
Category	Otology
Sub-category:	Head and neck neoplasia
Objective	To understand the aetiology, presenting signs, symptoms and management of lateral skull base neoplasia. This module gives some indication of the breadth and depth of required knowledge, clinical and surgical skills. The list should not be considered to befully inclusive or exhaustive.
Knowledge	Anatomy of the skull base and neck Anatomy of the inner, middle and external ear Anatomy of the cranial nerves Pathology and pathogenesis of skull base tumours The relevant clinical neurological, vascular, radiological, biological,immunological and serological investigations The genetics of skull base tumours including vestibularschwannomas and genetic counselling. The clinical presentation of skull base tumours The surgical and non-surgical management options. The surgical approaches to the CP angle and skull base

Clinical Skills	**HISTORY AND EXAMINATION** Obtain appropriate history Clinical examination including neurological assessment Otoscopy **DATA INTERPRETATION** Interpretation of audiological testsInterpretation of vestibular tests Interpretation of radiological and laboratory tests **PATIENT MANAGEMENT** Demonstrate communication skills and empathy Be able to advise the patient of the treatment options, discuss risks and potential benefits, potential complications Principles of patient management including multidisciplinary team working
Technical Skills and Procedures	Surgical approaches to the lateral skull base Tympanotomy Resection of glomus tympanicum Management of complications of lateral skull base surgery including CSF leak, lateral sigmoid thrombosis and facial palsy.

RHINOLOGY

Topic	Epistaxis
Category	Rhinology
Sub-category:	None
Objective	To understand the aetiology, presenting symptoms and signs and management of epistaxis. There should be detailed understandingof the presenting features, complications, diagnosis, and management of these problems. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Know the anatomy of the nose Understanding of local and systemic aetiologies of epistaxis. Detailed knowledge of the anatomy and physiology of nasal vasculature Detailed understanding of the presenting symptoms and signs ofepistaxis Detailed knowledge of management including first aid measures,nasal cautery, packing and operative techniques in the management of epistaxis Know the complications of epistaxis and the management ofthem. Understanding of the role of radiology and embolization in managing epistaxis
Clinical Skills	Demonstrate expertise in taking an appropriate clinical history. Ability to elicit physical signs both local and systemic if appropriate Awareness of relevant haematological and imaging investigations. Awareness of management principles in patient with epistaxis Ability to resuscitate critically ill patient

Technical Skills and Procedures	Diagnostic nasendoscopy Packing of nose Removal of nasal packing Cautery of nasal septum Ethmoid Artery ligation Sphenopalatine artery ligation Maxillary artery ligation External Carotid artery ligation Approach to ICA epistaxis

Topic	**Nasal trauma and deformity**
Category	Rhinology
Sub-category:	None
Objective	To understand the presenting features, diagnosis, complications and management of nasal trauma and deformity. This module gives some idea of the breadth and depth of required knowledgeand surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the anatomy of the nose, paranasal sinuses and facialskeleton. Understanding of the mechanisms of trauma responsible for nasaland facial injuries. Understanding of objective assessment of airway e.g.rhinomanometry Knowledge of the appropriate imaging techniques Knowledge of the specific complications of nasal trauma Knowledge of the management of nasal trauma Knowledge of the management of nasal deformity Glasgow Coma Scale
Clinical Skills	Ability to take a relevant history and perform an appropriateclinical examination Knowledge of the relevant special investigations and correctinterpretation eg rhinomanometry Ability to adequately resuscitate the critically ill patient

Technical Skills and Procedures	Fracture nose reduction Insertion septal button Packing of nose Management of traumatically induced epistaxis Septoplasty Septorhinoplasty Surgical repair Septal perforation-open and endonasal

Topic	**Acute and chronic rhinosinusitis**
Category	Rhinology
Sub-category:	None
Objective	To understand the aetiology, pathophysiology, and microbiology. There should be detailed understanding of the presenting features,complications, diagnosis, and management of these infections. This module gives some idea of the breadth and depth of requiredknowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Detailed knowledge of anatomy and physiology of the nose and paranasal sinuses Know the microbiology of acute and chronic rhinosinusitis understanding of special investigations to inform the diagnosis Understanding of the management of acute and chronic rhinosinusitis. Knowledge of the indications for, techniques of, and complications of surgical management Knowledge of the complications of sinusitis and their management.
Clinical Skills	Demonstrate an ability to take an appropriate history and perform a nasal examination with a speculum and endoscope. Awareness of the indications for and ability to interpret imaging including CT and MRI Awareness of indications for other special investigations including microbiology, immunology etc

Technical Skills and Procedures	Preparation of the nose for endoscopic surgery Nasendoscopy Antral washout – direct vision Inferior meatal antrostomy – direct vision + endoscopic Middle meatal antrostomy – endoscopic Nasal polypectomy – endoscopic including microdebrider Middle turbinate partial excision Uncinectomy – endoscopic Anterior ethmoidectomy - endoscopic Caldwell-Luc – direct vision External ethmoidectomy Posterior ethmoidectomy – endoscopic Sphenoidotomy – endoscopic Opening the frontal recess – endoscopic Balloon sinuplasty Surgical management of intra-orbital bleeding Extended frontal sinus procedures Osteoplastic flap Modified endoscopic medial maxillectomy Frontal sinusotomy types 1, 2 and 3

Topic	**Nose and sinus inflammation including allergy**
Category	Rhinology
Sub-category:	None
Objective	To understand the aetiology and pathophysiology of nasal & paranasal sinus inflammation. There should be detailed understanding of the presenting features, complications, diagnosis, and management of these infections. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.

Knowledge	Detailed knowledge of anatomy and physiology of the nose and paranasal sinuses Understanding of the aetiologies underlying inflammation of the nose and sinuses. Basic science of allergy Know the role of allergy in the pathophysiology of inflammation of the nose and sinuses. Understanding of the special investigations used in the assessment of nasal allergy. Understanding of the imaging modalities to assess the nose and sinuses Knowledge of the role of management of allergy, and drug treatment in nasal and sinus inflammation. Knowledge of the indications for, techniques of and complications of surgical management Knowledge of systemic conditions that can cause sinonasal inflammation Understanding of scientific basis and methodology of desensitisation
Clinical Skills	Ability to take an appropriate history and perform endoscopic examination of the nose and sinuses. Ability to interpret the result of allergy testing including skin prick testing Know which haematological investigations & radiological imaging are appropriate.
Technical Skills and Procedures	Preparation of the nose for endoscopic surgery Nasendoscopy Antral washout – direct vision Inferior meatal antrostomy – direct vision + endoscopic Middle meatal antrostomy – endoscopic Nasal polypectomy – endoscopic including microdebrider Turbinate surgery Uncinectomy – endoscopic Anterior ethmoidectomy - endoscopic Caldwell-Luc – direct vision External ethmoidectomy Posterior ethmoidectomy – endoscopic Sphenoidotomy – endoscopic Opening the frontal recess – endoscopic Balloon sinuplasty Surgical management of intra-orbital bleeding

Topic	**Congenital abnormalities of the nose and sinuses**
Category	Rhinology
Sub-category:	None

Objective	To understand the aetiology, clinical features and management of congenital nasal abnormalities. To understand how these may be associated with other syndromes. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Knowledge of the anatomy and physiology of the nose and paranasal sinuses. Knowledge of the embryology of the nose and sinuses. Knowledge of those conditions associated with congenital nasalabnormalities. Understanding of how to manage congenital nasal abnormalitiesin both the elective and emergency settings. Understanding of imaging modalities appropriate to theinvestigation of congenital abnormality Principles of genetics relating to congenital abnormalities
Clinical Skills	Ability to take an appropriate history from the parent and childand perform relevant general and specific rhinological examination. Examination including endoscopic
Technical Skills and Procedures	Nasendoscopy Examination under anaesthesia Surgical management of choanal atresia Endoscopic and open approaches to midline congenital lesions

Topic	**Facial pain**
Category	Rhinology
Sub-category:	None
Objective	To understand the aetiologies, characteristics and management of conditions presenting with facial pain, including those causes notarising in the upper aerodigestive tract

Knowledge	Anatomy and physiology of the head and neck, including the face, TMJ,dentition and cervical spine Understand the differential diagnosis of facial pain including organicand functional causes Understand the various treatment modalities, both medical andsurgical Understanding of the pharmacology of drugs used in the managementof facial pain Awareness of the multidisciplinary approach to management
Clinical Skills	Ability to take a relevant history of facial pain Ability to perform an appropriate ENT, neurological and locomotorexamination Understanding of the appropriate radiological investigations Appropriate management to include onward referral for pharmacological, surgical and counselling therapies
Technical Skills and Procedures	Outpatient endoscopy of upper aerodigestive tract Examination under anaesthesia Biopsy - external nose Biopsy – internal nose

Topic	**Pituitary disease**
Category	Rhinology
Sub-category:	None
Objective	To understand the aetiology, classification, clinical features and management of pituitary disease. This module gives some idea ofthe breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive orexhaustive.
Knowledge	Understanding of the anatomy of the nose, paranasal sinuses and parasellar regions Knowledge of the Pathophysiology of the hypothalamic-pituitaryaxis and associated disorders Understanding of the principles of perioperative care Knowledge of indications for the endonasal and craniotomyapproaches Surgical complications

Clinical Skills	Ability to take a relevant history and perform an appropriate clinical examination Knowledge of the relevant pituitary investigations and correct interpretation of them.
Technical Skills and Procedures	Transphenoidal approach to the pituitary fossa

Topic	**Disorders of Olfaction**
Category	Rhinology
Sub-category:	Olfaction
Objective	To understand the aetiology, clinical presentation and management of olfactory disorders. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the anatomy of the olfactory nerve including intracranial connections. Know the physiology of olfaction Know the classification of olfactory dysfunction Know the causes of olfactory dysfunction Understand the scientific basis for the assessment of olfactory dysfunction Know of the commonly used tests of olfactionKnow the anatomy and physiology of taste Know the causes of taste dysfunction
Clinical Skills	Be competent at taking a comprehensive history and examination from a patient presenting with olfactory and/ or taste dysfunction. Be competent at performing a formal assessment of olfaction using appropriate validated assessment techniques Be competent at ordering and interpreting appropriate imaging to investigate olfactory dysfunction

Technical Skills and Procedures	Nasendoscopy Examination of nose and postnasal space Nasal biopsy

Topic	**Sinonasal neoplasms including anterior skull base tumours**
Category	Sinonasal neoplasms
Sub-category:	None
Objective	To understand the aetiology, clinical presentation and management of benign and malignant tumours of the nose andparanasal sinuses. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Knowledge of the anatomy of the nose and paranasal sinuses. Knowledge of the distribution of cervical lymph nodes Understanding of the pattern of spread of malignancy in the head and neck Knowledge of the different histological types of neoplasm in thenose, paranasal sinuses and skull base. Understanding of the principles of medical and surgicalmanagement of neoplasms of the nose and sinuses. Knowledge of the complications of both the diseases and theirmanagement. Understanding of the multidisciplinary approach to the management of sinonasal/skull base tumours
Clinical Skills	Ability to take a relevant history, perform an appropriate examination and interpret clinical findings correctly Demonstrate a rational approach to special investigations Participation in a multi-disciplinary team approach tomanagement of sinonasal neoplasms

Technical Skills and Procedures	Examination of nose under anaesthesia Biopsy of nose - external Biopsy of nose – internal Anterior skull base approaches including endoscopic Endoscopic medial maxillectomy Lateral rhinotomy Endoscopic excision nasal and sinus tumours Maxillectomy Midfacial degloving Bicoronal flap approach Endoscopic repair of anterior skull base csf leak Osteoplastic flap approach Craniofacial resection

Topic	**CSF LEAKS / SKULL BASE DEFECT**
Category	**Advanced Rhinology**
Sub-category:	None
Objective	To understand the aetiologies, pathophysiology and clinical features of nasal polyps. There should be a detailed knowledge ofthe diagnostic features, management and complications. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Anatomy of nose and paranasal sinuses Knowledge of aetiology of CSF leaks and meningoencephaloceles relevant to ENT Understanding of pathophysiology and complications of CSF leaks /skull base defects Understanding of the management of CSF leaks/skull base defects Understanding of principles of diagnosis and management of CSF leaks and skull base defects

Clinical Skills	Ability to take an appropriate history and perform an examination including nasal endoscopy. Awareness of and ability to interpret CT/MR imaging and otherrelevant assessments Lumbar puncture and lumbar drain management Ability to work in a multidisciplinary team
Technical Skills and Procedures	Endoscopic repair with free grafts for small defects Management of larger defects with pedicled nasal flaps Harvesting of nasoseptal flap

Topic	**Extended endonasal skull base procedures**
Category	Advanced Rhinology
Sub-category:	None
Objective	To understand the aetiology, clinical presentation and management of benign and malignant tumours of the nose and paranasal sinuses. This module gives some idea of the breadth anddepth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Knowledge of the anatomy of the nose, paranasal sinuses, and skull base Knowledge of tumours/disorders of skull base in the regions of theanterior and posterior fossa and pterygopalatine fossa Understanding of the selection of approaches, both endonasal andtranscranial. Principles of perioperative management Complications of surgery and principles of management. Understanding of the multidisciplinary approach to the management of sinonasal/skull base tumours
Clinical Skills	Principles of assessment and perioperative management of midline tumours Ability to interpret relevant CT and MR & angiography /embolization images Principles of lumbar puncture and lumbar drainage Participation in a multi-disciplinary team approach to management of skull base lesions

Technical Skills and Procedures	Examination of nose under anaesthesia Biopsy of nose - external Biopsy of nose – internal SPA ligation endonasal transmaxillary approach to pterygopalatine fossa Vidian neurectomy Anterior skull base approaches including endoscopic Endoscopic medial maxillectomy Lateral rhinotomy Endoscopic excision skull base tumours (team) Midfacial degloving approach to the sinuses Endoscopic repair of anterior / posterior skull base Repair csf leak Craniofacial resection Craniotomy

Topic	**Orbital disorders**
Category	Advanced Rhinology
Sub-category:	Intraorbital
Objective	To understand the aetiologies, characteristics and management ofconditions presenting with facial pain, including those causes not arising in the upper aerodigestive tract. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Anatomy and physiology of the orbit and its contents Assessment of visual loss and knowledge of tests of visual andorbital function Understanding of thyroid eye disease Understanding of disorders of the optic nerve as relevant tootolaryngologists Knowledge of the surgical approaches both open and endoscopic to the orbit

Clinical Skills	Ability to take a relevant history form a patient with an orbitaldisorder Ability to perform an appropriate ENT, neurological andophthalmic examination Understanding of the appropriate radiological and special
	investigations of visual and orbital function Ability to work in a team with ophthalmological colleagues
Technical Skills and Procedures	Nasal endoscopy Lateral canthotomy Medial orbital endoscopic decompression Medial open orbital decompression Optic nerve decompression

Topic	**Orbital disorders**
Category	Surgical Management of Epiphora
Sub-category:	Rhinology
Objective	To understand the aetiology and pathophysiology of epiphora. There should be detailed understanding of the presenting features,diagnosis, and management of this disorder. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Anatomy of the lacrimal systeml Intranasa anatomy Physiology of lacrimation Causes of epiphora 'Red Flag' symptoms

Clinical Skills	Take a comprehensive history from a patient presenting with epiphora Relevant ophthalmic examination Syringing of lacrimal system and understanding of results Dye disappearance test Understand indications for relevant investigations Team working with ophthalmologist
Technical Skills and Procedures	Nasal endoscopy EUA Nose Endonasal DCR

Topic	**Septorhinoplasty**
Category	Rhinology
Sub-category:	Facial Plastics
Objective	To understand the presenting features, assessment, management and complications of nasal and septal deformity. This module gives some idea ofthe breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Understanding of the anatomy of the nose, paranasal sinuses and facialskeleton. Understanding of the embryology of the nose Understanding of the mechanisms of trauma responsible for nasal and facialinjuries. Understanding of methods of assessment of the facial skeleton Knowledge of surgical techniques including use of grafts Knowledge of the specific complications of nasal surgery

Clinical Skills	Ability to take a relevant history and perform an appropriate clinical examination Ability to assess photographs and devise a surgical plan including onwards referral as appropriate
Technical Skills and Procedures	Septoplasty Septorhinoplasty including use of grafts Appropriate dressing and packing of nose

Topic	**Congenital abnormalities of the face**
Category	Rhinology
Sub-category:	Facial Plastics
Objective	To understand the aetiology, clinical features and management of congenitalfacial abnormalities. To understand how these may be associated with othersyndromes. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Knowledge of the anatomy and physiology of the facial structures. Knowledge of the embryology of the face including the nose, palate andneck. Knowledge of those conditions associated with congenital facial abnormalities. Understanding of how to manage congenital facial abnormalities in both theelective & emergency settings. Principles of genetics and counselling
Clinical Skills	Ability to take an appropriate history from the parent and child and performrelevant examinations. Nasendoscopy if appropriate

Technical Skills and Procedures	Examination under anaesthesia Excision facial skin lesion including reconstructive techniques Septorhinoplasty in cleft patients

Topic	**Cosmetic Surgery**
Category	Rhinology
Sub-category:	Facial Plastics
Objective	To understand the presentation and analysis of cosmetic deformity of the face. This involves a detailed understanding of the anatomy of the skin and deeper structures and knowledge of the different facial aesthetic units. Thismodule gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive.
Knowledge	Knowledge of relaxed skin tension lines Understanding of the blood supply and innervation of the face. Knowledge of the planes of dissection available. Knowledge of the methods used to analyse facial features. Knowledge of the various procedures used in cosmetic facial surgery. Knowledge of the limitations and complications of cosmetic facial surgery
Clinical Skills	Ability to take a relevant history and perform an appropriate clinical examination Ability to assess facial deformity and devise a management plan Nasendoscopy Resection of nasal lesion Be able to reconstruct defects with local flaps

Technical Skills and Procedures	Be able to reconstruct defects using Distant flaps Excision skin lesion Harvesting and use of split and full thickness skin grafts Facelift Tissue expansion techniques Neuromuscular blockade

Topic	**Skin Cancer**
Category	Skin cancer
Sub-category:	Facial plastics
Objective	To understand the aetiology, clinical presentation and management of benign and malignant tumours of the skin. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This listshould not be considered to be fully inclusive or exhaustive.

Knowledge	Know the anatomy and cellular composition of the skin. Know the zones of the face and relaxed skin contour lines. Know the physiology of skin. Understand the principles of carcinogenesis Know of the different types of skin cancer and their classification. Know the presenting features and appearance of different types of skincancer. Know the causes and predisposing factors of skin cancer. Know of the staging of different types of skin cancer. Know of the treatment of different types of skin cancer. Understand the rationale for the strategies to prevent skin cancer.
Clinical Skills	Be able to take a comprehensive history and examination from a patient presenting with symptoms of skin cancer Manage all patients within a multidisciplinary setting when indicated. Be able to recommend correct treatment options to patients Order appropriate imaging.
Technical Skills and Procedures	Skin biopsy Excision of skin cancer and primary closure Excision of skin cancer and reconstruction with local axial or randompattern flaps or grafts Harvesting and use of split and full thickness skin grafts Be able to reconstruct defects using Distant flaps

HEAD AND NECK

Topic	**Adenoid and tonsillar pathology in adults**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of benign adenotonsillar and pharyngeal disease.This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not beconsidered to be fully inclusive or exhaustive.
Knowledge	Demonstrate a detailed knowledge of the anatomy, physiology,pathology & microbiology of the oro and nasopharynx incl relevant anatomical relationships Know the presenting signs and symptoms of benignadenotonsillar & pharyngeal disease Know the complications of adenotonsillar infection. Understand the investigation, differential diagnosis andcomplications of adenotonsillar hypertrophy Know the 'red flag' indicators of malignant disease of the pharynx
Clinical Skills	Demonstrate expertise at eliciting an appropriate clinical historyand physical signs of benign adenotonsillar and pharyngeal disease and the complications of treatment including those involving the airway Diagnosis and medical management of post-operative haemorrhage following adenotonsillar surgery
Technical Skills and Procedures	Incision and drainage of peritonsillar abscess. Manage the compromised airway due to hypertrophy Tonsillectomy and adenoidectomy in adults Surgical management of post-operative bleeding following adenotonsillar surgery

Topic	**Airway obstruction in adults**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of patients presenting with upper airway disordersin the emergency situation in adults. This module gives some indication of the breadth and depth of required. Knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Demonstrate a detailed knowledge of the anatomy & physiology of the larynx, trachea, pharynx and oral cavity Understand the microbiology and pathology of disorders of the upper aerodigestive tract.
	Understand the classification of diseases that may present with airway obstruction. Understand the principles of patient management of patients presenting with airway obstruction. Know the different methods of securing an airway safely (surgical & non-surgical) in an emergency setting Understand the indications & techniques for surgical debulking of upper airway malignancies Understand the principles of the use of cricothyroidotomy and tracheostomy during a Can't Intubate, Can't Oxygenate Event.
Clinical Skills	Be able to elicit an appropriate clinical history and correctly interpret physical signs. Be aware of the role of appropriate investigation in the management of airway obstruction Demonstrate the ability to work effectively with anaesthetists and those involved in critical care who manage the 'shared airway'. Demonstrate expertise in the safe assessment of patients with critical airways.
Technical	Be competent at performing the following diagnostic procedures; fibreoptic nasopharyngoscopy, direct laryngoscopy, microlaryngoscopy, bronchoscopy, pharyngo oesophagoscopy Be competent at performing endotracheal intubation Be proficient at performing a surgical tracheostomy in the elective & emergency setting both under general and local anaesthesia Percutaneous tracheostomy

Skills and Procedures	Be competent at foreign body removal from the airway in adults Debulking procedures (laser/microdebrider) Tracheostomy change Emergency Front of Neck Airway procedures including cricothyroidotomy and tracheostomy

Topic	**Aetiology and management of craniocervical trauma in adults**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms andmanagement of a patient with craniocervical trauma. This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Understand the anatomy of the head and neck Understand the pathophysiological effects of blunt, penetratingand high and low velocity projectile trauma to the bones and soft tissues of the head and neck Understand the Le Fort classification of facial fractures and theireffects.
	Understand the classification of fractures of the mandible and their effects Understand the classification of fractures of the temporal bone and their effects. Understand the consequences and potential complications of injury to structures in the neck, in the 3 horizontal entry zones of the neck. Understand the principles underpinning the appropriate investigation of a patient with a penetrating injury of the neck Understand the principles of the Glasgow Coma Scale and the management of the patient with an altered level of consciousness. Understand the principles of management of traumatic injury to the head and neck, including the indications for urgent surgical exploration and the priorities underpinning the planning of investigation and management. Understand the need for a multidisciplinary approach to management of craniocervical trauma

	Understand the pathophysiology of chemical and thermal burn injury to the upper aerodigestive tract & principles of management
Clinical Skills	Be able to elicit an appropriate clinical history from a patient with craniocervical trauma (or from a third party witness). Be able to demonstrate the relevant clinical signs from a patient with craniocervical trauma. Be able to appropriately order and interpret the results of investigations in a patient with craniocervical trauma. Be able to coordinate the assembly of an appropriate multidisciplinary team to manage a patient with craniocervical trauma.
Technical Skills and Procedures	Tracheostomy Endotracheal intubation Be able to explore the traumatized neck and secure bleeding vessels. Be able to manage penetrating injury to the viscera of the upper aerodigestive tract Be able to undertake microsurgical re-anastomosis of divided nerves where appropriate

Topic	**Disorders of swallowing**
Category	Head and Neck
Sub-category:	None

Objective	To understand the aetiology, presenting signs, symptoms andmanagement of common disorders of swallowing, including dysphagia, globus pharyngeus ,neurological swallowing disorders, reflux disease, odynophagia and aspiration. This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not beconsidered to be fully inclusive or exhaustive
Knowledge	Know the anatomy of the pharynx, and physiology ofswallowing. Know the causes of odynophagia. Know the various hypotheses relating to the aetiology ofdysphagia. Understand the investigation and imaging of a patient withdysphagia. Understand the principles of medical and surgical managementof dysphagia Understand the pathophysiology of aspiration, its complicationsand the principles of management Understand the aetiology and management of globuspharyngeus Understand the aetiology and management oflaryngopharyngeal reflux Understand the aetiology and management of Eosinophilic oesophagitis
Clinical Skills	Elicit an appropriate clinical history and clinical signs. Be able to examine the pharynx and oesophagus withendoscopes in outpatients Be able to work in cooperation with Speech & languagetherapists in the management of dysphagia Be aware of 'red flag' symptoms in the differential diagnosis of dysphagia Interpretation of videofluoroscopic swallowing studies
Technical Skills and Procedures	Flexible fibreoptic nasopharyngolaryngoscopy Fibreoptic endoscopic evaluation of swallowing studies Endoscopic examination of pharynx, larynx and oesophagusunder general anaesthesia Removal of foreign bodies from the pharynx, larynx andoesophagus under general anaesthesia Endoscopic pharyngeal pouch surgery Open pharyngeal pouch surgery

Topic	**Aetiology and management of cervical sepsis**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of a patient with cervical sepsis. This module givessome indication of the breadth and depth of required knowledgeand surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the anatomy of the fascial compartments of the neck.Understand the pathogenesis(including congenital abnormalities) and clinical presentation of deep neck space infections. Know the microbiology of deep neck space infections. Understand the principles of medical and surgical managementof deep neck space infection, including image guided drainage procedures. Understand the complications of deep neck space infections and their management.
Clinical Skills	Be able to elicit an appropriate history from a patient with deepcervical sepsis. Be able to demonstrate the relevant clinical signs from a patientwith deep cervical sepsis. Be able to order and interpret the results of appropriate investigations, including imaging and microbiological cultures, ina patient with deep cervical sepsis. Be able to undertake treatment of a patient with deep cervical sepsis or complications thereof.
Technical Skills and Procedures	Be proficient in rigid endoscopic examination of the upperaerodigestive tract Be proficient in management of the compromised upper airwayin deep cervical sepsis, including tracheostomy. Manage the patient in conjunction withanaesthetists/intensivists Be competent in the incision and drainage of a deep cervicalabscess, as well as demonstrating awareness of the complications of such procedures.

Topic	Cervical lymphadenopathy in adults
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting symptoms & signs and management of patients presenting with cervical lymphadenopathy. This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not be considered to be fully inclusive and exhaustive.
Knowledge	Demonstrate knowledge of the aetiology & pathology of cervicallymphadenopathy including manifestations of systemic disease. Be able to order the appropriate investigations of neck masses Understand the anatomy of the neck, and distribution of cervical lymph nodes. Classify the lymphatic levels of the neck according to the MSK classification. Demonstrate knowledge of the differing histological andmicrobiological causes of cervical lymphadenopathy. Presentation, aetiology, investigations and pattern of metastaticspread of upper aerodigestive tract, salivary gland, cutaneous and thyroid malignancies. Demonstrate knowledge of the presentation, aetiology, investigations and principles of management of lymphoreticulardisease as it applies to the head and neck. Principles of management of patients with cervical lymphadenopathy including specifically the management of the unknown primary malignant neck lump. Demonstrate knowledge of the indications for medical & surgical management and the complications of management.
Clinical Skills	Be able to take a relevant detailed history and interpret clinical signs correctly.

Technical Skills and Procedures	Fine needle aspiration cytology Outpatient and in-patient endoscopy of the UADT. Excision of cervical lymph nodes and deal with the complications Radical neck dissection Selective neck dissection Modified radical neck dissection

Topic	**Head and neck malignancies in the upper aerodigestive tract excluding the oral cavity**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology of head and neck malignancies inthe upper aerodigestive tract, presenting signs, symptoms andmanagement of patients presenting with HNC. This module gives some indication of the breadth and depth of required. Knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive
Knowledge	Understand the classification of head and neck malignancies inparticular squamous carcinoma as it is the commonest type (HNC) and know the principles of TNM staging. Know the pathology of HNC Understand the presenting signs and symptoms of head andneck cancer. Understand the various hypotheses relating to the aetiology of squamous cell cancer including the cellular basis of oncogenesis.Understand the pattern of spread of malignant disease. Understand how HNC is managed in the multidisciplinarysetting. Know the indications for imaging in HNC and the use of relevantimaging modalities. Understand the functional consequences of head and neckcancer, and its treatment. Understand the principles involved in and evidence for the various medical and surgical methods of treatment available forhead and neck cancer. Understand the role of surgical and medical treatment inpalliative management of patients

	Understand the indications for reconstructive and rehabilitativesurgery (including surgical voice restoration) in HNC Know of the various reconstructive options available in HNC Be aware of national and local guidelines for the managementof HNC Know the complications of surgical and non-surgical treatmentof HNC and the multidisciplinary management of these complications Understand the basic science underpinning chemotherapy &radiotherapy Understand the principles of treatment of chemotherapy and radiotherapy and different techniques and regimes
Clinical Skills	Elicit a relevant clinical history and clinical signs including being able to perform an appropriate examination. Be able to work within the MDT, and recognise the contributions made by all team members. Demonstrate good communication skills with other professionals. Be able to break bad news sensitively and appropriately to patients and their families Demonstrate competence in the management of acute complications of head and neck surgery
Technical Skills and Procedures	Be able to perform the following diagnostic procedures; microlaryngoscopy, pharyngo-oesophagoscopy, tonsillectomy, examination of postnasal space, bronchoscopy, Fine Needle Aspiration Cytology (FNAC) Total laryngectomy Radical neck dissection Selective neck dissection Modified radical neck dissection Open and endoscopic excision of pharyngeal tumours Transoral laser surgery Reconstructive surgery with myocutaneous (pedicled) flaps Reconstructive surgery with free tissue transfer Be able to manage safely acute complications of head and neck surgery Be able to replace a tracheooesophageal valve in clinic.

Topic	**Investigation and management of the neck lump**
Category	Head and Neck
Sub-category:	None

Objective	To understand the aetiology, presenting symptoms & signs andmanagement of patients presenting with a neck lump. This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Understand the anatomy of the neck, and distribution of cervical lymph nodes. Classify the lymphatic levels of the neck according to the MSK(Memorial Sloane Kettering) classification. Know the differential diagnosis of a neck lump. Demonstrate knowledge of the aetiology & pathology of cervical lymphadenopathy including manifestations of systemic disease. Understand the presentation, aetiology, investigations and pattern of metastatic spread of upper aerodigestive tract, salivary gland, cutaneous and thyroid malignancies.
	Understand the appropriate investigation of neck masses and specifically the management of the unknown primary malignant lump. Demonstrate knowledge of the presentation, aetiology, investigations and principles of management of lymphoma and leukaemia as it applies to the head and neck. Understand the principles of medical and surgical management of patients with a neck lump Demonstrate knowledge of the potential complications of management.
Clinical Skills	Be able to take a relevant detailed history, perform appropriate examination and interpret clinical signs correctly. Demonstrate a rational approach to investigation of a neck lump
Technical Skills and Procedures	Perform FNAC Outpatient and inpatient endoscopy of the Upper aerodigestive tract Perform excision biopsy of cervical lymph nodes and deal with the complications. Radical neck dissection Selective neck dissection Modified radical neck dissection Branchial cyst excision and management of complications

Topic	**Neoplastic salivary gland disease**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of neoplastic salivary gland disease. This modulegives some indication of the breadth and depth of required knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the anatomy & physiology of the major & minor salivaryglands & their relations. Know the anatomy of the neck. Know the anatomy of the oral cavity. Know the pathology of salivary gland tumours. Understand the classification of salivary gland tumours. Know the presenting symptoms & signs of salivary glandtumours. Understand the modalities (cytological & imaging) available forinvestigating salivary gland tumours Know the differential diagnosis of salivary gland tumours andinflammatory swellings. Understand the principles of management of salivary glandtumours. Understand the potential consequences of salivary gland surgery and the complications of surgery Understand the principles of management (surgical & non surgical) of malignant salivary gland disease Understand the role of reconstructive and palliative surgery in the management of malignant salivary gland disease
Clinical Skills	Be able to elicit an appropriate clinical history and interpret physical signs correctly Demonstrate the ability to detect ‘red flag’ symptoms & signs of malignant disease. Order the most appropriate imaging modality Manage patients with malignant disease in a multidisciplinary team

Technical Skills and Procedures	FNAC Set up and use facial nerve monitor Be able to perform a submandibular gland excision Biopsy of a minor salivary gland tumour Be able to perform a superficial parotidectomy Total parotidectomy Radical neck dissection Selective neck dissection Modified radical neck dissection Facial nerve grafting Facio-hypoglossal anastomosis

Topic	**Non-neoplastic salivary gland disease**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of benign salivary gland disease. This module givessome indication of the breadth and depth of required. Knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the anatomy and physiology of the major and minorsalivary glands. Understand the pathological processes, both local & systemic,that can affect the salivary glands. Understand the classification of benign salivary gland diseaseincluding infection, inflammatory diseases, drugs and benign tumours Know the various imaging modalities for investigation of benignsalivary gland disease. Understand the principles of patient management. Know the medical and surgical management of salivary glanddisease, and the complications of surgery

Clinical Skills	Be able to elicit an appropriate clinical history and interpret clinical signs correctly. Be able to order the appropriate special investigations and correctly interpret images including plain radiographs, computerized tomography and Magnetic resonance imaging. Be able to counsel patients on the particular risks of salivary gland surgery.
Technical Skills and Procedures	Be able to excise a submandibular calculus Be able to perform submandibular gland excision Excision of ranula Minor salivary gland biopsy Parotidectomy for inflammatory disease

Topic	**Thyroid and parathyroid disease**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of Thyroid and Parathyroid disorders. This modulegives some indication of the breadth and depth of required knowledge and surgical skills. The list should not considered to be fully inclusive or exhaustive.

Knowledge	Understand the embryology, physiology, biochemistry andanatomy of the thyroid gland Understand the embryology, physiology, biochemistry andanatomy of the parathyroid glands. Understand the pathophysiology of endocrine dysfunction ofthe thyroid and parathyroid glands. Understand the classification of thyroid neoplasia. IncludingTNM Understand the principles of investigation of a patient withendocrine dysfunction of the thyroid gland. Understand the principles of investigation of a patient withendocrine dysfunction of the parathyroid glands. Understand the principles of investigation of a patient with aparathyroid or thyroid mass Understand principles of medical and surgical management ofendocrine dysfunction of the thyroid and parathyroid glands, including the peri operative management of thyrotoxicosis. Understand principles of medical and surgical management of neoplasia of the thyroid and parathyroid glands, including postoperative complications. Understand the need to work as part of an MDT in managementof malignant thyroid disease. Be aware of national and local guidelines for the management of thyroid malignancy. Understand the necessary genetic and endocrine testing required for thyroid malignancies that may be associated with multiple endocrine neoplasia (MEN) syndromes.

Clinical Skills	Be able to elicit an appropriate clinical history from a patient with thyroid or parathyroid gland disease. Be able to demonstrate relevant clinical signs in a patient with thyroid or parathyroid gland disease **Thyroid** Investigation protocols for thyroid cancer CT MR and PET scanning in thyroid disease Interpretation of thyroid function tests FNAC Core biopsy of thyroid US of thyroid Interpretation of isotope scans MDT discussion of thyroid cases Management of post thyroidectomy hypocalcaemia Management of post thyroidectomy hoarseness **Parathyroid** Investigation protocols for parathyroid disease CT MR and PET scanning in parathyroid disease Interpretation of Ca PTH and Vitamin D levels FNAC Core biopsy US of the neck Interpretation of Isotope scans MDT discussion of parathyroid cases Management of post thyroidectomy hypocalcaemia Management of hoarseness post parathyroidectomy including management of vocal cord palsy

Technical Skills and Procedures	Thyroid lobectomy Total Thyroidectomy Surgical treatment of retrosternal thyroid enlargement Revision thyroid surgery Extended operations in the neck for advanced thyroid cancer including operations on the trachea, oesophagus and larynx Exploration of the neck for post thyroidectomy bleeding Level 1-5 ND Level VI ND Re-exploration of the thyroid bed for residual or recurrent cancer Be able to obtain appropriate samples for fine needle cytology or core biopsy from a patient with a thyroid or parathyroid mass Parathyroid Parathyroidectomy Parathyroid surgery: reoperation Re exploration of the neck for post operative haemorrhage Transcervical thymectomy

Topic	**Oral pathology**
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of patients presenting with disorders of the oral cavity. This module gives some indication of the breadth and depth of required knowledge and surgical skills. The list should not be considered to be fully inclusive or exhaustive.

Knowledge	Understand the anatomy of the oral cavity Know the normal flora of the oral cavity and how oral diseasecan alter oral flora Understand the physiology of the oral phases of swallowing Know the physiology of salivary function Understand the consequences of oral disease on swallowing Understand the consequences of salivary gland dysfunction onoral health Know the causes of drooling and the principles of managementthereof. Understand the aetiology, pathophysiology, presentingsymptoms and signs of dental caries Know the pathophysiology, presenting symptoms & signs and management of mucosal oral disease including infection, inflammation, soft tissue and bony conditions Understand the aetiology of oral cancer Know the presenting symptoms and signs of oral cancer Understand the principles of management of oral cancer Understand the long and short term effects of chemotherapyand radiotherapy on oral health Understand the appropriate modalities for imaging oral disease
Clinical Skills	Be able to elicit an appropriate clinical history and interpretphysical signs correctly Demonstrate the ability to detect 'red flag' symptoms & signs of malignant disease. Order the most appropriate imaging modality Be able to interpret plain images of the oral cavity andassociated bony structures Manage patients with malignant disease in a multidisciplinaryteam Be able to diagnose dental related sepsis presenting in the neckor paranasal sinuses
Technical Skills and Procedures	Perform a biopsy of an oral lesion Remove and treat benign oral lesions Partial glossectomy Submandibular duct transposition for drooling Dental extractions Closure of oroantral fistulae Mandibulotomy and excision of floor of mouth lesion

Topic	Sleep related breathing disorders
Category	Head and Neck
Sub-category:	None
Objective	To understand the aetiology, presenting signs, symptoms and management of sleep related breathing disorders . This module givessome indication of the breadth and depth of required knowledge andsurgical skills. The list should not be considered to be fully inclusive or exhaustive.
Knowledge	Know the aetiology, presenting signs and symptoms of sleep related breathing disorders, including snoring, obstructive sleep apnoea / hypopnoea and central sleep apnoea in adults. Know of the pathophysiological sequelae of sleep related breathingdisorders including snoring, obstructive sleep apnoea / hypopnoea and central sleep apnoea Understand the principles of assessment and investigation of sleep related breathing disorders, including sleep nasendoscopy and sleepstudies / polysomnography. Understand the principles of management of sleep related breathing disorders including CPAP, mandibular advancement prostheses, nasaland pharyngeal surgery, tracheostomy and drug therapy. Understand the principles of midface and mandibular advancementsurgery.
Clinical Skills	Be able to elicit an appropriate clinical history and identify relevant clinical signs in a patient with a sleep related breathing disorder. Be able to make a correct diagnosis from the results of assessment and investigation of a patient with a sleep related breathing disorder, and synthesise an appropriate plan for their clinical management.
	Be able to perform palatal surgery for snoring/OSAS
Technical	Be able to perform surgery to correct nasal airway obstruction.
Skills and	Be able to perform sleep nasendoscopy or out patient flexible
Procedures	fibreoptic nasendoscopy
	Tracheostomy

LARYNGOPHARYNGOLOGY

Topic	**Laryngology and Voice Disorders**
Category	Head and Neck
Sub-category:	Laryngology. Airway surgery
Objective	To understand the aetiology, presenting signs, symptoms andmanagement of common voice and chronic airway disorders.This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
	Understand the physics of sound
	Understand the embryology of the larynx and congenital malformation of larynx
	Understand the maturational / developmental changes of the larynx
	Understand the anatomy, neuroanatomy and movements of the larynx
	Understand the physiology of phonation and articulation
	Understand the classification of dysphonias and the various hypotheses relating to the aetiology of dysphonias.
	Understand the classification of disorders of articulation
	Understand principles of videostroboscopic examination of the larynx, laryngography and analysis of pitch and periodicity of speech (including photodocumentation)
	Understand the principles of the medical and surgical management of patients with dysphonia (including instrumentation).
	Know the principles of Speech and Language Therapy
	Know the classification & aetiology of inflammatory and neoplastic laryngeal disorders
	Laser Physics
	Laser safety
	Understand the principles of anaesthesia in Laser surgery
	Understand the principles of laryngotracheal reconstruction in adults
	Understand the aetiology, pathophysiology and treatment of Vocal cord palsy

	Understand the aetiology, pathophysiology and treatment of Age related vocal cord atrophy
	Understand the material science in vocal cord injection materials
	Laryngeal reinnervation
	Laryngeal transplantation
Clinical Skills	Elicit an appropriate clinical history from and demonstrateclinical signs in a dysphonic patient Communication skills with Speech & Language therapists andability to work in a multidisciplinary team. Transnasal oesophagoscopy EMG in clinical decision making Imaging studies of the larynx, trachea and oesophagus Vocal function testing Laryngeal examination with mirrors and flexible fiberoptic endoscope in an outpatient setting Suspension Microlaryngoscopy Videostroboscopic laryngoscopy in an outpatient setting Microscopic / endoscopic laryngeal surgery and intralaryngeal injection techniques Isshiki type 1-4 thyroplasty
Technical Skills and Procedures	Arytenoid adduction and reduction. Type 2 thyroplasty for spasmodic dysphonia Vocal cord injection Laryngeal electromyography Laryngofissure Laser Thyroarytenoid myoneurectomy Laser supraglottoplasty Laser microflap and mini microflap surgery Office laser phonosurgery Transnasal KTP laser under local anaesthetic Laryngeal reinnervation procedures

Topic	**Tracheostomy Care Module (Adult)**
Category	Head & Neck
Sub-category:	Airway management
Objective	*To be able to manage patients with short and long term tracheostomies in an emergency, elective & community settingand provide an expert resource to other health professionals in the management of tracheostomies*
Knowledge	Anatomy of larynx, trachea and neckPhysiology of respiration Indications for tracheostomy In depth knowledge of different types of tracheostomy tubes andrelative indications for use Role of health professionals in the multidisciplinary managementof patients with tracheostomy Local and national guidelines for tracheostomy managementIndications for surgical & percutaneous tracheostomy Principles of weaning
Clinical Skills	Tracheostomy care; suction, inner tube care, humidification Appropriate selection of correct tube to suit patient Supervision of weaning and extubation Troubleshooting in a variety of situations Management of persistent trachea cutaneous fistulaManagement of patients with failed extubation Multi-disciplinary management of patients with long term tracheostomy tubes
Technical Skills and Procedures	Flexible nasendoscopy Management of blocked & displaced tube Tracheostomy change Repair of persistent tracheo cutaneous fistula

PAEDIATRIC OTOLARYNGOLOGY

Topic	**Foreign bodies in the ear canal and UADT**
Category	Paediatric Otolaryngology
Sub-category:	Foreign bodies in the ear nose and throat
Objective	Safe definitive management of children with suspected and actual foreign bodies in the ear nose and pharynx; primary management of inhaled foreign bodies to facilitate safe transferfor tracheobronchoscopy if required. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy and physiology of the paediatric airway Recognition of anatomical differences between the adult andpaediatric airway. Recognition of the clinical features of foreign bodies in the ear,nose, and throat Knowledge of the natural history and the complicationsassociated with foreign bodies. Concept of the shared airway and differing anaesthetic techniques
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carer Otoscopy Anterior rhinoscopy Flexible pharyngolaryngoscopy **DATA INTERPRETATION** Assessment of plain radiography (e.g. chest x-ray and soft tissue neck x-ray). **PATIENT MANAGEMENT**

	Recognition of the clinical signs of respiratory distress in children Emergency airway care in conjunction with anaesthetists and paediatricians.
Technical Skills and Procedures	Otomicroscopy and removal of foreign body Removal of nasal foreign body and examination with paediatric and rigid scopes Pharyngo-oesophagoscopy and foreign body removal Rigid bronchoscopy and foreign body removal from larynx and trachea

Topic	**Trauma to the ear, upper aero digestive tract and neck**
Category	Paediatric Otolaryngology
Sub-category:	Trauma to the head and neck
Objective	To be competent in the recognition of paediatric head and necktrauma and its management. To recognise when to refer complicated cases for further assessment and treatment. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Anatomy of the head and neck in children Recognition of anatomical differences between the adult and paediatric airway Mechanisms of trauma to the facial skeleton and soft tissues Know the causes and presentation of nasal septal haematomaKnow the causes and presentation of ear trauma (external, middle and inner) Know the causes and presentation of trauma to the neck,pharynx and larynx Knowledge of common aetiologies and awareness of the possible presentations of non-accidental injury to the ENTdepartment. Understand how child abuse is classified, how it may present tootolaryngologists and the mechanism of onward referral and management
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from child/parent Assessment of the external nose and nasal airway Clinical examination of the ear Assessment of the neck including the airway Otoscopy **DATA INTERPRETATION** Age appropriate hearing test, tympanometry **PATIENT MANAGEMENT** Recognition of the signs of respiratory distress in a child Resuscitation of a child in hypovolaemic shock secondary to bleeding Aware of the local protocol for the reporting of suspected non- accidental injury

Technical Skills and Procedures	Nasal fracture manipulation Laryngoscopy, Pharyngoscopy Drainage of septal haematoma Drainage of haematoma of pinna Exploration of neck Paediatric Tracheostomy

Topic	**Epistaxis in a child**
Category	Paediatric Otolaryngology
Sub-category:	Epistaxis
Objective	Optimum recognition and management of children with epistaxis; This module gives some idea of the breadth and depthof required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Nasal anatomy & physiology Pathophysiology, epidemiology, & natural history of paediatric epistaxis Current approach to treatment of epistaxis to include awareness of the evidence base for current treatment regimens. Understand the aetiologies of paediatric epistaxis (local including nasopharyngeal angiofibroma, and systemic including coagulopathies) Know the relevant investigation and treatments of paediatric epistaxis

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carer Anterior Rhinoscopy Flexible Nasendoscopy **DATA INTERPRETATION** Interpretation of full blood count & other haematological investigations; awareness of significance of coagulation tests **PATIENT MANAGEMENT** Medical and surgical management of epistaxis
Technical Skills and Procedures	Nasal cautery EUA nose Appropriate nasal packing in a child P aediatric SPA ligation Open and closed procedures for treatment of angiofibroma

Topic	**Rhinosinusitis; orbital and intracranial complications ofrhinosinusitis**
Category	Paediatric Otolaryngology
Sub-category:	Nose and Sinus infections
Objective	Optimum recognition and management of children with rhinosinusitis; particularly complicated sinus disease e.g. subperiosteal abscess, intracranial sepsis. This module gives some idea of the breadth and depth of required knowledge andsurgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Nasal anatomy & pathophysiology Epidemiology, natural history & presenting symptoms ofrhinosinusitis in children Current approach to treatment of infective rhinosinusitis to include awareness of the evidence base for current treatmentregimens. Recognition and competence in the emergency management of the complications of rhinosinusitis.
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carer Anterior Rhinoscopy Flexible NasendoscopyOtoscopy **DATA INTERPRETATION** Awareness of imaging techniques Assessment of abnormalities on CT scanning of the paranasalsinuses and MR brain.
	PATIENT MANAGEMENT Medical and surgical management of rhinosinusitis and itscomplications.
	EUA Nose
Technical Skills and Procedures	Endoscopic Nasal Polypectomy External drainage of subperiosteal abscess External drainage of the frontal sinus Endoscopic drainage of periorbital abscess
	External drainage of frontal sinus

Topic	**Airway pathology in childhood**
Category	Paediatric Otolaryngology
Sub-category:	Airway Disorders
Objective	Safe recognition of the main patterns of presentations and likely aetiologies of children with airway obstruction at birth, in infancy and in later childhood. Includes primary management toenable definitive treatment of main conditions. This module gives some idea of the breadth and depth of required knowledgeand surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the paediatric airway, and differences between theadult and child. Physiology of airway obstruction (Poiseuille's law, Reynolds number) Clinical features of airway obstruction Clinical measures to determine severity of obstruction Know the causes, presenting symptoms of airway pathology inchildren, Know the treatment options and natural history of main conditions causing airway pathology in children at different ages e.g. laryngomalacia, vocal cord palsy, subglottic cysts, haemangioma, RRP, Laryngeal cleft, tracheobronchomalacia,acute epiglottitis and laryngotracheobronchitis (croup). Understand the genetic disorders associated with airway pathology in children Understand the role of laryngopharyngeal reflux in airway pathology in children

	HISTORY AND EXAMINATION Ability to take a thorough history from the child/carer. Assessment of the airway in a child Flexible pharyngolaryngoscopy.
Clinical Skills	**DATA INTERPRETATION** Assessment of pulse oximetry findings, assessment ofradiography at a basic level e.g. recognition of gross abnormalities on chest radiograph and CT
	PATIENT MANAGEMENT Medical management in the acute and elective situation e.g.steroids, adrenaline, reflux. Emergency airway care in conjunction with anaesthetist and paediatrician.
	Paediatric flexible pharyngolaryngoscopy in the outpatients
Technical Skills and Procedures	Paediatric tracheostomy emergency and elective Paediatric tracheostomy care including tube change Diagnostic rigid airway endoscopy Therapeutic rigid airway endoscopy.
	Laryngotracheal reconstruction Balloon dilatation for subglottic stenosis Management of subglottic cysts

Topic	The Drooling Child
Category	Paediatric Otolaryngology
Sub-category:	
Objective	To be competent at assessing a child who presents with the symptom of drooling, and to understand the principles behind management of these patients. This module gives some idea of the breadth and depth of required knowledge and surgical skills.This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the major and minor salivary glands Anatomy of the oral cavity Physiology of salivation Know the causes and predisposing factors (including syndromes)for drooling Understand how multidisciplinary input is used in themanagement of drooling children. Understand the principles of non medical, medical and surgical management of drooling children
Clinical Skills	Undertake a comprehensive history and examination of a childwho presents with drooling Be able to communicate an effective management plan to the patient and his or her carer Work with colleagues from other specialties and disciplines to provide effective care for children presenting with drooling.
Technical Skills and Procedures	Tonsillectomy Adenoidectomy Flexible nasendoscopy Submandibular gland excision Transposition of submandibular ducts Neuromuscular blockade Sublingual gland excision Parotid and submandibular duct ligation Botox to parotid and submandibular glands

Topic	**Acute tonsillitis, Diseases of the adenoids and their complications**
Category	Paediatric Otolaryngology
Sub-category:	Tonsils
Objective	Definitive secondary-care management of adenotonsillar disease excluding OSA in otherwise healthy children. Management in syndromic and special needs children is often in a designated children's hospital. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the oral cavity, oropharynx and nasopharynx Microbiology of the oral cavity, oropharynx and nasopharynx Epidemiology, classification, aetiology and natural history of adenotonsillar disease. Thorough understanding of the evidence base that underpins current treatment approaches. Awareness of controversies. Understanding of specific management requirements in the very young, special needs and syndromic children
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a through history from child/parent. Otoscopy Examination of the oral cavity and oropharynx Ability to recognise the child with possible OSA. **DATA INTERPRETATION** Clinical assessment of the nasal airway **PATIENT MANAGEMENT** Medical and surgical treatment.

	Management of complications both of the disease (e.g. peritonsillar abscess) and of treatment
Technical Skills and Procedures	Tonsillectomy Adenoidectomy Arrest of adenotonsillar bleeding as an emergency Suction adenoidectomy Tonsillotomy Experience with CPAP and other non invasive options

Topic	**ENT-related syndromes and cleft palate**
Category	Paediatric Otolaryngology
Sub-category:	Congenital deformities affecting the head and neck
Objective	Appropriate primary management of children with ENT relatedsyndromes and cleft palate, awareness of the principles and challenges that underpin long-term care. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fullyI nclusive or exhaustive
Knowledge	Embryology of the head and neck, including palate. Anatomy of the head and neck in children Recognition of the common ENT related syndromes andassociations (e.g. Down's, Treacher Collins, Pierre Robin,Goldenhar, BOR, CHARGE, craniosynostosis). Knowledge of the ENT manifestations of the conditions listedabove Knowledge of the general clinical problems encountered in these conditions with particular reference to safety of anaesthesia. Basic understanding of the underlying genetics of these conditions.

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the patient or carer. Targeted examination of the child based on knowledge of the ENT manifestations of the condition. **DATA INTERPRETATION** Interpretation of age-appropriate assessment of hearing and overnight pulse oximetry Recognition of abnormalities on imaging **PATIENT MANAGEMENT** Able to participate in the multidisciplinary approach to children with complex needs. Management of airway obstruction in children with craniofacial abnormalities in conjunction with anaesthetists . Management of OME in children with cleft palate or Downs syndrome
Technical Skills and Procedures	Myringotomy & ventilation tube insertion Flexible pharyngolaryngoscopy Rigid airway endoscopy Paediatric tracheostomy

Topic	**Congenital and acquired neck masses**
Category	Paediatric Otolaryngology
Sub-category:	Neck Masses
Objective	Safe recognition of main patterns of presentations of children with neck swellings at birth, in infancy and in later childhood. Includes primary management to enable definitive treatment ofcommon conditions. This module gives some idea of the breadthand depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the head and neck and upper mediastinum. Applied embryology of thyroid gland with relation to thyroglossal cysts Applied embryology of the branchial arches. Anatomy of the neck spaces and understanding of the presentation, clinical features and primary management of abscesses and collections in these spaces Classification of vascular malformations and awareness oftreatment options Knowledge of the clinical presentation and management of the commoner congenital abnormalities (e.g. cystic hygroma, teratoma, branchial abnormalities, thyroglossal cysts, lingual thyroid) Awareness of the infective causes of neck lumps in children. (e.g. TB, HIV, other viral) Management of persistent cervical lymphadenopathy and the appropriate use of investigations and surgical intervention. Knowledge of the possible airway complications of neck masses and their management.

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from a patient or carer Systematic examination of the child with particular reference to the neck Be able to identify the signs of airway obstruction in a child **DATA INTERPRETATION** Be able to identify the most appropriate imaging options available e.g. sonography, CT, MR scanning. Interpretation of virology and microbiology investigations. Interpretation of head and neck images. **PATIENT MANAGEMENT** Be able to identify the most appropriate imaging options available e.g. sonography, CT, MR scanning. Surgical and non-surgical treatment options for the management of neck masses. Be able to work in a multidisciplinary team.
Technical Skills and Procedures	Flexible pharyngolaryngoscopy Incision & drainage neck abscess Biopsy neck node Excision thyroglossal cyst Diagnostic rigid airway endoscopy Paediatric tracheostomy

Topic	**Language delay and dysphonia in childhood**
Category	Paediatric Otolaryngology
Sub-category:	Speech and language development
Objective	Awareness of the aetiology of language delay. Awareness of congenital and acquired laryngeal disorders affecting speech.This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the larynx in children and the physiology of voiceproduction. The normal developmental milestones with an emphasis on speech and language acquisition. Common causes of delayed speech Understanding of how hearing loss impacts on language acquisition Management of laryngeal pathologies. Understanding of age appropriate hearing tests. Understanding of the controversies in the management of tongue tie.
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a through history from child/carer Otoscopy Flexible pharyngolaryngoscopy **DATA INTERPRETATION** Age appropriate hearing test Tympanometry **PATIENT MANAGEMENT** Multidisciplinary approach in the management of children with speech and other developmental problems

Technical Skills and Procedures	Flexible nasendoscopy and pharyngolaryngoscopy Division of tongue tie Ventilation tube insertion

Topic	**Head and neck malignancy in childhood**
Category	Paediatric Otolaryngology
Sub-category:	Oncology
Objective	Awareness of the epidemiology, presentation and principles ofmanagement of malignant disease in the head and neck. *This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive*
Knowledge	Knowledge of the common malignancies of the head and neckin childhood Knowledge of presentation, investigations and managementoptions in childhood cancers. Understanding of issues relating to the management of the childand family with cancer including palliative care e.g. management of epistaxis and hearing loss. Understanding of the need for a multidisciplinary approach tochildhood cancer and the need for early referral to a regional Oncology centre when malignancy is suspected.
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a through history from child/carerExamination of the head and neck Examination of the cranial nerves Otoscopy Flexible pharyngolaryngoscopy **PATIENT MANAGEMENT**

	Multidisciplinary approach to the management of childhood cancer Know the range of diagnostic tests available particularly imaging
Technical Skills and Procedures	Flexible pharyngolaryngoscopy Neck node biopsy after liaison with regional oncology services Biopsy of tumours after liaison with regional oncology services Paediatric thyroid surgery Paediatric neck dissection Paediatric salivary gland surgery

Topic	**Congenital abnormalities of the ear**
Category	Paediatric Otolaryngology
Sub-category:	Disorders of the external ear in children
Objective	Recognition and classification of the principle congenital anomalies of the ear. This module gives some idea of the breadth and depth of required knowledge and surgical skills.This list should not be considered to be fully inclusive or exhaustive
Knowledge	Understanding of the anatomy & embryology of the ear andrelated structures Physiology of hearing Knowledge of the clinical problems associated with dysplasia ofthe ear Knowledge of common grading systems for microtia and atresia.Knowledge of bone anchored auricular prosthesis and autologous pinna reconstruction.

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carerInspection of the external ear and recognition of main anomalies; Otoscopy Clinical assessment of hearing **DATA INTERPRETATION** Age-appropriate assessment of hearing;Tympanometry; **PATIENT MANAGEMENT** Demonstrate the ability to present the options for therehabilitation of hearing loss in microtia; Appropriate referral for ear reconstruction/prostheses. Counselling of child and carers with microtia and other major anomalies of the external ear.
Technical Skills and Procedures	Otomicroscopy Excision of preauricular sinus Excision of simple lesions in and around the external ear Surgery for prominent ears Bone anchored hearing aid Surgical management of 1st branchial arch anomalies Implant placement for prosthetic ear in microtia Other implants for hearing loss including ME implants

Topic	**Congenital deafness**
Category	Paediatric Otolaryngology
Sub-category:	Deafness excluding otitis media and its complications
Objective	Awareness of the epidemiology and presentation of deafness, knowledge of range of causes, awareness of diagnostic and investigative strategies and knowledge of the principles that underpin rehabilitation including amplification and cochlear implantation. *This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list shouldnot be considered to be fully inclusive or exhaustive*
Knowledge	Embryology of the ear including congenital deformities of theear and their relationship to deafness Physiology of hearing Knowledge of the molecular basis of genetic, syndromic andnon-syndromic deafness Knowledge of acquired causes including congenital infections(e.g. CMV, rubella) Fundamental understanding of age appropriate audiologicaltesting including universal neonatal screening (OAE,ABR). Appropriate investigations for the congenitally deaf child(bilateral or unilateral) e.g. TORCH screen, dipstix for haematuria, MRI, genetic review Multidisciplinary approach to the rehabilitation of the deaf child(bilateral and unilateral). Knowledge of rehabilitative options including hearing aids Knowledge of candidacy criteria for cochlear implantation andnature of surgery involved. Awareness of the range of investigative options available including imaging (sonography, CT, MR scanning)

Clinical Skills	HISTORY AND EXAMINATION Ability to take a thorough history from child/parent.Otoscopy Clinical assessment of hearing DATA INTERPRETATION Age appropriate hearing test
	Tympanometry PATIENT MANAGEMENT Appropriate referral for hearing aids
Technical Skills and Procedures	Microscopic examination of the ear Myringotomy & ventilation tube Cochlear implant

Topic	**The Dizzy Child**
Category	Paediatric Otolaryngology
Sub-category:	Dizziness
Objective	To be competent in the assessment, investigation and management of a child presenting with dizziness
Knowledge	Anatomy of the ear and vestibular system Physiology of balance Knowledge of the causes of balance disord ers in children Knowledge of the genetic causes of hearing loss associated withvestibular symptoms e.g. Ushers, NF2, Jervell-Lange-Nielson Knowledge of appropriate investigations and subsequent management of vestibular disorders
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carerOtoscopy Clinical assessment of vestibular function e.g. Dix Hallpike Neurological examination including cranial nerves **DATA INTERPRETATION** Age appropriate hearing test Tympanogram Identification of significant abnormalities from diagnosticimaging e.g. MRI, CT **PATIENT MANAGEMENT** Explanation of diagnosis to child and family Commencement of conservative, medical or surgical management of underlying vestibular pathology Appropriate referral to allied health professionals or other specialties

Technical Skills and Procedures	Myringotomy and ventilation tube insertion Cholesteatoma surgery

Topic	**Otitis media (acute, chronic and with effusion) and complications and conditions of the external auditory canal**
Category	Paediatric Otolaryngology
Sub-category:	Otitis media and its complications
Objective	Definitive secondary-care management of middle and externalear disease and its complications. This module gives some ideaof the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive orexhaustive
Knowledge	Anatomy of the external and middle ear cleft and surrounding structures Physiology of hearing Epidemiology, classification, aetiology and natural history ofeach variant of otitis media. Know the indications for imaging Know the evidence base which underpins current treatmentapproaches. Demonstrate an understanding of the surgical management ofcholesteatoma and the complications of otitis media Knowledge of the indications for, and surgical principles of, bone anchored hearing aids and middle ear implants.

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a through history from child/parentOtoscopy Neurological examination including cranial nerves Clinical assessment of hearing. **DATA INTERPRETATION** Age appropriate hearing tests (including ABR, OAE, VRA, playaudiometry) Tympanometry Identification of significant abnormalities from diagnosticimaging e.g. CT scan, MRI Laboratory investigations e.g. blood tests, bacteriology results **PATIENT MANAGEMENT** Medical, conservative and surgical management Appropriate referrals and team working for children withcomplications of acute otitis media
Technical Skills and Procedures	Otomicroscopy and aural toilet Ventilation tube insertion Myringoplasty Ossiculoplasty Cortical Mastoidectomy Cholesteatoma surgery Bone anchored hearing aid

Topic	**Facial palsy in childhood**
Category	Paediatric Otolaryngology
Sub-category:	Facial Palsy
Objective	Safe primary management of children with facial palsy, recognition of clinical pathologies that present with facial palsy.This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the facial nerve, and related structures knowledge of the aetiologies (congenital and acquired) of facialpalsy. Knowledge of the initial investigations and management of achild with facial palsy Knowledge of the natural history of childhood facial palsy. Know when to refer to tertiary centre. Awareness of the range of diagnostic tests and the principles that govern their use e.g. electroneuronography, imaging of thefacial nerve

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a history from child/parentOtoscopy Examination of the head and neck Assessment of the cranial nerves in children and grading offacial palsy Clinical assessment of hearing **DATA INTERPRETATION** Interpretation of specific investigations e.g.electroneuronography **PATIENT MANAGEMENT** Pharmacological management (e.g. steroids, anti-viral agents) Eye protection
Technical Skills and Procedures	Myringotomy and ventilation tube insertion Cortical mastoidectomy & Drainage of mastoid abscess Cholesteatoma surgery

Topic	**Rhinitis**
Category	Paediatric Otolaryngology
Sub-category:	Inflammatory nasal disease (including allergic rhinitis)
Objective	Optimum recognition and management of children with rhinitis.This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive

Knowledge	Anatomy and embryology of the nose and sinuses. Nasal physiology Knowledge of the pathophysiology, epidemiology,symptomatology and natural history of rhinitis Know the basic science of allergy Knowledge of the scientific principles of common investigations e.g skin prick tests, RAST Knowledge of the evidence base for current treatment ofallergic rhinitis Knowledge of imaging techniques; assessment of abnormalitieson CT scanning of the paranasal sinuses Understanding of scientific basis and methodology behind desensitisation in allergy
Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carer Anterior Rhinoscopy Flexible Nasendoscopy Otoscopy **DATA INTERPRETATION** Skin prick tests for allergies; Blood tests for allergies;immunological tests, ciliary function tests. **PATIENT MANAGEMENT** Conservative, medical and surgical management of rhinitis
Technical Skills and Procedures	Turbinate surgeryEUA Nose & PNS Nasal biopsy Advanced FESS in paediatric patient

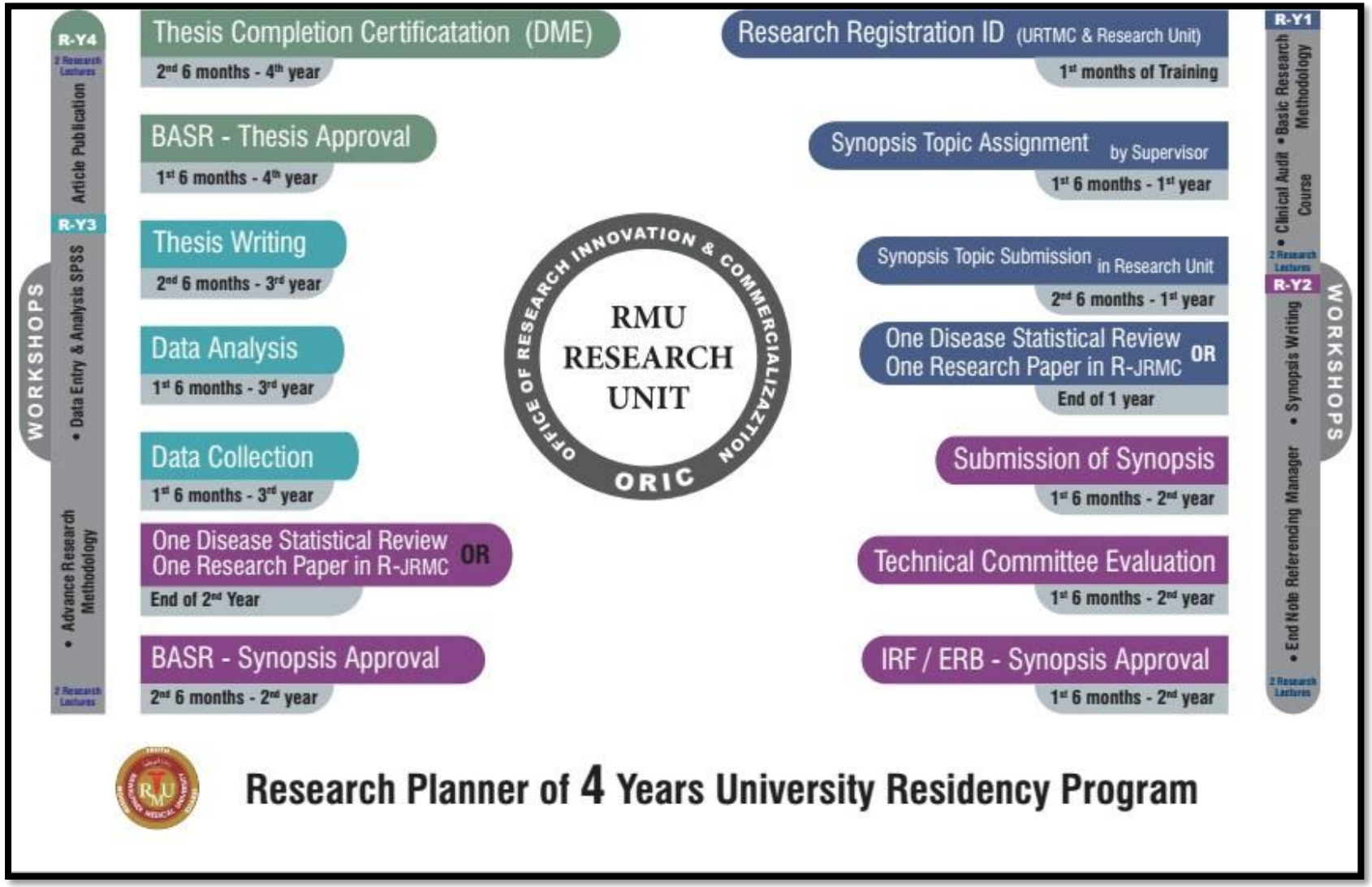
Topic	**Nasal Obstruction**
Category	Paediatric Otolaryngology
Sub-category:	Nasal Polyps in Children
Objective	To be competent at the diagnosis of inflammatory nasal disease,the differential diagnosis and management of inflammatory nasal disease. This module gives some idea of the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy and embryology of the nose and sinuses .Nasal physiology Knowledge of the aetiology, clinical features and management of nasal polyps in children including their association with cysticfibrosis Knowledge of the aetiologies of nasal obstruction at birth, ininfancy and in later childhood e.g. choanal atresia, rhinitis, encephocele, glioma, angiofibroma. Knowledge of the investigations (including imaging) andtreatment of the above conditions. Knowledge of related systemic conditions involving the nose e.g. Wegeners granulomatosis

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child or carer Anterior Rhinoscopy Flexible Nasendoscopy Otoscopy **DATA INTERPRETATION** Assessment of abnormalities on CT scanning of the paranasalsinuses Immunological tests, ciliary function tests **PATIENT MANAGEMENT** Medical and surgical management of nasal polyposisInvestigation of nasal masses
Technical Skills and Procedures	Endoscopic Nasal Polypectomy Endoscopic sinonasal surgery Nasal biopsy Examination nose and PNS Choanal atresia surgery Surgery to congenital pyriform aperture stenosis Open and closed procedures for angiofibroma Nasal stenting

Topic	**Obstructive sleep apnoea**
Category	Paediatric Otolaryngology
Sub-category:	Airway obstruction in childhood
Objective	Optimum recognition and management of children with possible obstructive sleep apnoea. This module gives some ideaof the breadth and depth of required knowledge and surgical skills. This list should not be considered to be fully inclusive or exhaustive
Knowledge	Anatomy of the upper airway Physiology of sleep Knowledge of multi-level obstruction Knowledge of the concept of sleep disordered breathing Knowledge of the complications of upper airway obstruction Knowledge of appropriate investigations and treatment. Knowledge of the relevance of co-morbidities Assessment of low versus high risk patients and appropriatereferral

Clinical Skills	**HISTORY AND EXAMINATION** Ability to take a thorough history from the child/carer Examination of the oral cavity, oropharynx and chest wall Anterior Rhinoscopy Flexible Nasendoscopy **DATA INTERPRETATION** Interpretation of sleep studiesECG/CXR/echo manifestations PATIENT MANAGEMENT Conservative, medical and surgical management of OSA
Technical Skills and Procedures	EUA PNS and adenoidectomy Tonsillectomy Paediatric tracheostomy

APPENDIX 3: RESEARCH PLANNER



APPENDIX 4: TABLE OF SPECIFICATION (TOS)

First In-Training Assessment (MCQ=100)		Mid-term Assessment			Third In-training Assessment (MCQ=100)	Final Assessment				
		Paper 1 (Basics) (75)	Paper 2 (Advanced) (75)	OSCE (150)		Paper 1 (MCQ=100)	Paper 2 (SAQ=10 each of 10 marks)	Clinical	OSCE (200)	Thesis (100)
Principles of Otorhinolaryngology	30	15	15	20 OSCE stations each of 5 marks=100	05	15	01	Long case=100 marks	25 OSCE stations each of 6 marks=150	-----
Otology	25	15	15		25	20	02	Short cases=200		--------
Rhinology	25	15	15		25	20	02			
Laryngopharyngology	10	10	10		15	20	02			
Head & Neck Tumors	05	10	10		25	20	02			
General Surgery	03	01	---							

Neurosurgery	02	01	01	2 stations of VIVA =25 marks each	----------				2 stations for viva each of 25 marks	
Maxillofacial Surgery	-	08	09		----------					
Plastic Surgery	-	----------			05	05	01			