NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA

RHINOLOGY AND ALLERGY SUBSPECIALTY

RESIDENCY TRAINING PROGRAMME

FACULTY OF OTO-RHINO-LARYNGOLOGY (HNS)

APPROVED BY THE SENATE ON 3RD MARCH, 2022

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COLLEGE REGISTRAR

NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA

FACULTY OF OTORHINOLARYGOLOGY-HEAD & NECK SURGERY

RHINOLOGY & ALLERGY SPECIALTY
Residency Training Programme

FACULTY OF OTORHINOLARYNGOLOGY -HEAD & NECK SURGERY

NATIONAL POSTGRADUATE MEDICAL COLLEGE OF NIGERIA

MISSION STATEMENT

TO TRAIN OTOLARYNGOLOGISTS-HEAD AND NECK SURGEONS WHO WILL EXCEL IN CLINICAL DUTIES, COMMUNITY HEALTH SERVICE, EDUCATION AND RESEARCH.

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PREFACE

DESCRIPTION OF RESIDENCY PROGRAMME IN ORLHNS

The programme is a 6-year course which commences in an accredited institution after passing the Primary Fellowship examination of the Faculty. The training is in two parts, the junior and the senior residency programmes.

The **Junior Residency** training is a 3-year programme, which consists of 18 months rotation in ORLHNS of which one month will be spent in Audiology Immersion, 3 months rotation in Accident and Emergency, 6 months rotation in General Surgery, 2 months rotation in either Plastic Reconstruction Surgery or Maxillofacial Surgery, 2 months rotation in Neurosurgery, 2 months rotation in Cardiothoracic Surgery, 2 months rotation in Ophthalmology and one month rotation in Anaesthesia. On completion of the posting, candidate can apply to sit for the Part 1 Fellowship Examination in ORLHNS, submit the log book and must have **acquired** the **minimum surgical skills** approved by **the Faculty Board** before the candidate will be eligible to sit for this exam.

The **senior residency** training is a 3-year programme to be spent in ORLHNS in an accredited institution. The training commences after passing the Part 1 Fellowship Exam. Residents in this cadre will continue to improve their clinical and surgical skills, teach juniors in areas of surgery and patient care and exercise management skills. The Senior Residency is divided into two segments: first year of Otorhinolaryngology-Head and Neck Surgery and a Final two years for super specialty training. In these last two years candidates can choose to continue with General Otorhinolaryngology-Head and Neck Surgery or branch out into one of the following: Otology, Rhinology and Allergy, Head and Neck Surgery, or Paediatric

Otorhinolaryngology. After completion of the 3 years senior residency training rotation and submission of the dissertation to the College, the candidate can apply to sit for the Part II Fellowship Examinations. Candidate must also submit the log book and must have acquired the minimum surgical skills approved by the Faculty Board before the candidate will be eligible to set for this exam.

Candidates may also choose to undertake the Postgraduate Doctor of Medicine in ORLHNS (Postgraduate MD). Those who choose this route will defend their Postgraduate MD thesis at least 30 months after Passing Part I examination, and before sitting for Part II Final Fellowship examination. Those who have successfully defended their postgraduate MD thesis will only sit the oral examination in their Part II Final Fellowship examination (The requirement of Part II Fellowship dissertation is deemed to have been fulfilled by the Postgraduate MD Thesis).

GUIDELINES FOR USE

1. Upon registration as an Associate Fellow in an ORLHNS Residency Programme, each Resident must obtain a Log Book at the current price. It is his/her responsibility to ensure that it is kept safe and intact throughout his/her period of training.
2. It is the Resident's responsibility to enter each case s/he manages and/or operates on in the appropriate column with date and the Supervising Consultant must sign each entry singly. **No block signing of procedures**.
3. Supervising Consultant in each surgical rotation must assess the operative skill of the resident according to the criteria listed in the log book for surgical procedures/clinical skills **performed** by the Resident.
4. When s/he has completed his/her posting and meets the **minimum criteria set by the Faculty Board on surgical skill acquisition in all the rotation and on level of training,** it is his/her responsibility to present himself/herself to his/her Consultant/Trainer.

5. The Consultant will then assess the Resident and complete the column in respect of his/her own judgment as to the level of knowledge and competence demonstrated by the Resident and sign his/her name in the column provided.
6. It is important that the assessment exercise takes place continuously throughout the posting. Both Resident and Consultant must avoid a situation where this Log Book is completed in a rush in the last days of posting.
7. If there are competency areas identified, taught and assessed in a particular training institution that are not contained in the print out, the programme coordinator should feel free to add on such areas in the blank pro-forma included.

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Secretary, Faculty Board of ORLHNS.

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Chairman, Faculty Board of ORLHNS.

AIM

The aim of the programme is to train aspiring surgeons in Otorhinolaryngology-Head & Neck Surgery so as to produce specialists who will be well equipped to practice as competent Ear Nose Throat, Head & Neck Surgeons.

LEARNING OBJECTIVE:

The objective of the programme is to train a highly qualified Specialist/ Consultant Otorhinolaryngologist-Head and Neck Surgeon competent to manage all ORLHNS disorders at various levels.

The Trainee by the end of the programme shall:

- Be able to, independently, manage ORLHNS problems to the highest level of competence.
- Be able to set up, organize and manage surgical services in the district/regional/tertiary hospitals.
- Provide consultancy services where ever is needed, and therefore will increase access to quality ORLHNS care,
- Teach residents, medical officers, medical students and other health care providers in ORLHNS.
- Engage in research activities

ADMISSION REQUIREMENT:
Candidates must have a qualification registrable by the Medical & Dental Council of Nigeria.

Candidates must have served the pre-registration year/years in their own country or in any other country accepted by the Medical & Dental Council of Nigeria and must have been fully registered. Candidates must have had at least one year of post-graduation experience, which should be of general clinical duties acceptable to the College.

COURSE DURATION:
A minimum of 6 years made up of:
- 3 years for the Junior Residency (Part I)
- 3 years for the Senior Residency (Part II) is considered adequate (comprising one year of General ORLHNS and 2 years of super-specialty training in Rhinology and Allergy).

COURSE STRUCTURE:
The course is structured into:
1. Primary
2. Part I
3. Part II (with or without MD prior to Part II Final Fellowship Examination)

COURSE CONTENT:

COURSE CONTENT FOR PRIMARY IN ORLHNS
This is essentially a Pre-Residency training. It shall consist of the following Basic Sciences subjects.

ORL 910 Anatomy (6 Credit Units)

2.1.1 **Head and Neck**
Osteology of the skull, jaws and cervical vertebrae
The Scalp
The Face

Topography of the Neck
The root of neck (Thoracic Inlet)
Anatomy of the vessels and nerves of the Head and Neck
The lymphatic drainage of the Head and Neck
The oral cavity and contents
Anatomy of the Pharynx, Larynx, Trachea and Oesophagus
Infratemporal and pterygopalatine fossae
Temporomandibular joint
The Orbit and its contents
The Nose and paranasal Sinuses
The Auditory apparatus
The major Salivary glands
Thyroid and Para thyroids

2.1.2 **Developmental Anatomy**

Development of the Pharynx, Larynx, Trachea, Oesophagus, Oral Cavity, Nose and Sinuses. Development of the Ear (External, Middle Ear Cleft, Inner ear), Face and major vessels of the Head and Neck in relation to congenital anomalies of the Ear, Nose and Throat.

2.1.3 **Neuro-Anatomy**

The brain- surface anatomy and major divisions, cranial nerves meninges, venous sinuses and cerebral vessels. Brain stem and its centres and connections. Anatomy of circulation of the cerebrospinal fluid. Essentials of development of brain in relation to ENT Autonomic nervous system.

2.1.4 **Thorax:**

Anatomy of:
- Thoracic wall and diaphragm
- The Thoracic cavity – heart and lungs
- The Tracheobronchial tree and oesophagus

2.1.5 **Abdomen**

Anatomy of the abdominal wall
Gross anatomy of abdominal viscera

2.1.6 **Radiologic Anatomy** Plain and contrast radiography of the head, neck, thorax and upper gastro-intestinal tract. Ultrasound scan Computerized tomography scanning and Magnetic Resonance imaging (MRI), PET Scan and Interventional radiology.

2.1.7 **Histology:**

Microscopic structure of normal tissues
Intercellular Anatomy
Basic principles of Histochemistry
Brief introduction to Electron Microscopy
Nasal and Paranasal Sinuses
External, Middle and Inner Ear

Oral cavity – Pharynx, Larynx, Oesophagus, Tracheobronchial tree, Salivary glands, Thyroids and Parathyroids.

ORL911 APPLIED PHYSIOLOGY: (INCLUDING BIOCHEMISTRY, CHEMICAL PATHOLOGY AND PHARMACOLOGY) (6 Credit Units)

2.2.1 **General Physiological Principles:**

- Structure of Living Matter
  Biological interaction
  - The living cell, functions and changes in its mechanism
  - Function of nucleoproteins in the integration of the cell as a unit of living matter
- Energy Changes in the living system:
  - Thermodynamics of the living organism and its potential energy status
  - Oxygen – utilisation of the living cell
  - Heat production and Heat loss. (Basal metabolism, specific dynamic action, regulation of body temperature)
  - Energy transformation
  - Homeostasis
- General Considerations in Water, Electrolytes and Acid-Base Balance:
  - Distribution of water and electrolytes in extra and intracellular

spaces of the body.
- Brief survey of biological transport of water and solutes
- Water and electrolytes balance
  Causes and effects of dehydration and oedema
  Sodium and Potassium Metabolism

- Acid-Base Balance
  - PH Regulation:
    pH of the body fluids and buffer systems of the body
    Respiratory and metabolic acidosis and alkalosis as encountered in surgical practice.
- Enzymes and Co-Enzymes
  - Effects of enzymes in intermediary metabolism
  - General aspects of metabolism of carbohydrates, lipids and proteins and nucleoproteins
- General principles of nutrition in surgery including parenteral nutrition, vitamins, folic acid, vitamin deficiencies
- Mineral Metabolism
  - Iron. Calcium/Phosphate/ Magnesium, Vitamin D and Parathyroid Hormones
- Effects of Physical Agents:
  - Radiation
  - Hypothermia
  - Hyperthermia
  - Hyperbaric Oxygen
- Principles of Electronics

ORL 912 Systematic Physiology (4 Credit Units)

2.3.1 **Haemodynamics**

- Flow – Basic principles of Cardio-Vascular Physiology
- B.P. – Changes in Hypertension, Hypotension, Shock, Syncope
- Venous circulation and venous pressure
- Haemorrhage – Clotting mechanism

2.3.2 **Auditory Apparatus:**

- Functions of External, Middle and Inner Ear

2.3.3 **Respiratory System**

- Physiology of the Nose and Paranasal sinuses
- Physiology of the Larynx
- Pulmonary ventilation and control
- Protective mechanism of the lungs

2.3.4 **Mouth, Pharynx and Oesophagus**

- Mechanism of deglutition
- Oesophageal function

2.3.5 **Special Senses**

- Taste and smell

2.3.6 **Applied Physiology or Muscles**

- Electromyography

2.3.7 **Endocrines**

- Pituitary, Thyroids and Parathyroids
- Adrenals – Steroids, Corticosteroids and their actions
- Metabolic and Endocrine response to surgery

2.3.8 **Nervous System**

- Consciousness and higher integrated functions.
- Sensation, Motor System, Pyramidal and Extra pyramidal systems, maintenance of muscle tone.

2.3.9 **Physiology of Pain**

ORL 913 Pharmacology (4 Credit Units)

2.4.1 **General Principles of Pharmacology**

- Route of Administration, Absorption, Distribution and Excretion of Drugs
- Mechanisms of Drug Action
- Dose – Effect relationship, biological assay
- Factors Modifying Drug Effects:

o Age, Body Weight, Route of Administration, Timing, Distribution,

Excretion, Environmental and Genetic Factors, Drugs interaction
- Drugs Toxicity
- Development, Evaluation and Control of Drugs: Clinical Trial

2.4.2 Specific Classes of Drugs
- Anaesthetic agents, Antibiotics, Steriods, Chemotherapeutic agents
- Drugs action on the autonomic nervous system
- Choline and anti-choline drugs: Sympathetic and Adrenergic Drugs.
- Drugs acting on the cardiovascular system
- Antituberculous, Antihelminthic and Antiamoebic Drugs
- Cancer Chemotherapy
- Antiretroviral therapy

ORL 914 **General Pathology (3 Credit Units)**
This shall be largely concerned with general pathology, General principles underlying disease process:
Inflammation, Trauma, Degeneration, Repair, Hypertrophy, Hyperplasia, Blood coagulation, Thrombosis, Embolism, Infarction – Ischaemia, Neoplasia, Oedema, Principles underlying tissue replacement.

ORL 915 **Microbiology (3 Credit Units)**
Routine diagnostic methods, identification of Bacteria, Viruses (HIV, HPV and EBV) and other organisms of surgical importance, Common parasitic and fungal diseases in the tropics.

Principles of sterilization and disinfection
Principles of immunology, toxic antibodies, allergy: the immune diseases.

Methods of action of antibodies.

ORL 916 Chemical Pathology (3 Credit Units)
Basic principles of fluid and electrolyte balance
Blood chemistry

Liver metabolism: hepatic function tests, jaundice, detoxication

Kidney:

- Principles of urinalysis
- Tests for secretory function
- Renal handling of Na+ and K+

ORL 917 **Haematology (3 Credit Units)**

Blood Groups

Haemoglobin Genotype

Blood Transfusion

- Indications
- Complications

Common Haematological diseases

- Anaemia
- Sickle cell disease
- Leukaemia
- Disorders of coagulation

PART I COURSE:

This is divided into 2 clusters of 12 months and 6 months duration respectively for the ORLHNS I & ORLHNS II and 18 months of surgical specialty training.

ORL 918 ORLHNS I:

12 months in Otorhinolaryngology-Head and Neck Surgery. Candidates should acquire basic skills in examination of patients as well as perform basic operations in ENT such as:

Removal of foreign bodies in the Ear Nose and Throat

Tonsillectomy

Adenoidectomy

Drainage of mastoid abscess

Nasal operations

Para-nasal sinus operation and other head and neck operations

Drainage of abscesses in the head and neck

SURGICAL SPECIALTY TRAINING

18 months of rotation in the following related specialties

ORL 919 2 months in Ophthalmology
ORL 920 2 months in Neurosurgery
ORL 921 2 months in Cardiothoracic surgery
ORL 922 6 months in General Surgery
ORL 923 3 months in Accident and Emergency medicine
ORL 924 2 months in Maxillofacial or Plastic and reconstructive surgery
ORL 925 1 month in Anaesthesia

ORL 926 ORLHNS II:
This should consist of ORLHNS Training of 6 months at a relatively more advanced nature.

Log book should be obtained at the inception of Part I ORLHNS to document operative surgery and other activities.

PART II: FELLOWSHIP IN ORLHNS with or without super-specialty certification

Duration: 3 Years Post Part I

After passing the Part I examination, the candidate must spend three years acquiring higher surgical/clinical skills in ORLHNS in an accredited institution. Skills must be acquired in the following surgical/Clinical procedures.

Laryngectomy and Voice rehabilitation
Neck dissection
Pharyngectomy
Maxillectomy (partial and total)
Surgery of the Salivary glands

All types Sinus Surgery including Functional Endoscopic Sinus Surgery (FESS)

Plastic operations in ORLHNS

Mastoid Surgery and Middle & Inner Ear Surgery
Microlaryngeal surgery and Laser Surgery
Panendoscopy and Bronchoscopy

ROUTINE FOR RESIDENTS

- Daily morning ward rounds by the Trainee and evening ward rounds by trainee on call
- Weekly teaching ward rounds with the Consultant
- Attendance at outpatient clinic with the Consultant available for advice and discussion
- Weekly tutorials with the Consultant
- At least twice a week operation session
- Monthly clinic-mortality and clinical audit meetings with the Consultant
- Monthly journal club meeting with the Consultant
- Monthly Clinico-Histopathology Seminars
- Monthly Clinico-Radiology Sessions
- Monthly seminars in specific topics with Consultants
- Weekly head and neck oncology joint clinics
- Trainees will conduct clinical research and publish a paper with the Consultant
- The College will organize regular skills workshop for Trainees

COURSE CREDIT UNITS FOR JUNIOR RESIDENCY TRAINING IN OTORHINOLARYNGOLOGY-HEAD AND NECK SURGERY

- One (1) hour of Lecture/Tutorial/Seminar every week for 15 weeks (Semester Equivalent) = 15hours =1 credit unit.
- Three (3) hours of Clinical exposure/skills acquisition every week for 15 weeks (Semester Equivalent) =45hours = 1 credit unit
- Clinical exposure/Skills acquisition:
    - 8 hours regular work day for five working days= 40 hours a week
    - 40 units of call duty per month (40 X 8 hours) = 320 hours (or

320/4 = 80 hours a week)

- Total exposure per week = 40 + 80 = 120 hours

- Residency Program is a continuum except for annual leave; hence 52 Weeks less 4 weeks annual leave = 48 working weeks = 3 semester equivalent.

POSTINGS	DURATION IN MONTHS	CONTACT LECTURES HRS/WK	CONTACT CLINICALS HRS/WK	CREDIT UNITS
ORL 918 ORLHNS I	12	5	120	16+128 = 144
ORL 919 OPTHALMOLOGY	2	5	120	3+21 = 24
ORL 920 NEUROSURGERY	2	5	120	3+21 = 24
ORL 921 CARDIOTHORACIC SURGERY	2	5	120	3+21 = 24
ORL 922 GENERAL SURGERY	6	5	120	8+64 = 72
ORL 923 ACCIDENT AND EMERGENCY	3	5	120	5+32 = 37
ORL 924 MAXILLOFACIAL SURGERY OR PLASTIC AND RECONSTRUCTIVE SURGERY	2	5	120	3+21 = 24
ORL 925 ANAESTHESIA	1	5	120	1+11 = 12
ORL 926 ORLHNS II	6	5	120	8+64 = 72
ORL 927 Basic Surgical Skill Course.				2
ORL 928 Temporal Bone Dissection Course				2
ORL 929 Endoscopic Sinus Surgery Course.				2
PMC 901 Advanced Trauma Life Support				2
TOTAL	**36**			**441**

A minimum of 441 credit units over a period of 36 months in the appropriate postings will make a candidate eligible to sit for the Part I Fellowship Examinations.

COURSE CREDIT UNITS FOR SENIOR RESIDENCY TRAINING IN OTORHINOLARYNGOLOGY-HEAD AND NECK SURGERY.

- One (1) hour of Lecture/Tutorial/Seminar every week for 15 weeks (Semester Equivalent) = 15hours =1 credit unit
- Three (3) hours of Clinical exposure/skills acquisition every week for 15 weeks (Semester Equivalent) =45hours = 1 credit unit
- Clinical exposure/Skills acquisition:
  - 8 hours regular work day for five working days= 40 hours a week
  - 40 units of call duty per month (40 X 8 hours) = 320 hours (or 320/4 = 80 hours a week)
  - Total exposure per week = 40 + 80 = 120 hours
- Residency is a continuum except for annual leave; hence, 52 Weeks less 4 weeks annual leave = 48 working weeks = 3 semester equivalent.

POSTINGS	DURATION IN MONTHS	CONTACT LECTURES HRS/WK	CONTACT CLINICALS HRS/WK	CREDIT UNITS
ORL 930 OTOLOGY I	**3**	**5**	**120**	5+32 = 37
ORL 931 RHINOLOGY I	**3**	**5**	**120**	5+32 = 37
ORL 932 HEAD AND NECK SURGERY I	**3**	**5**	**120**	5+32 = 37
ORL 933 PAEDIATRIC ORLHNS I	**3**	**5**	**120**	5+32 = 37
ORL 936 RHINOLOGY II AND ALLERGY	**24**	**5**	**120**	32+256 = 288
PMC 951 Research Methodology				2
PMC 952 Health Resources Management				2
PMC 953 Ethics in Clinical Practice				2
ORL 999 PART II DISSERTATION	**24**			**12**
TOTAL				**454**

A minimum of 454 credit units over a period of 36 months in the appropriate postings will make a candidate eligible to sit for the Part II FINAL Fellowship Examinations.

Where a candidate has difficulties fixing into appropriate accredited centres in Nigeria, postings in accredited centres acceptable to NPMCN outside the country will be countenanced for ORL 936.

GUIDELINES FOR VETTING OF APPLICATION FORM FOR PART I AND PART II IN THE FACULTY OF ORLHNS

Below are the guidelines for preliminary screening in Faculty of Otorhinolaryngology.

1. Candidate must be an associate fellow and in good standing.
2. Must be presented for examination on a platform of an accredited training institution.
3. Must submit along with the examination form his training Log Book.
4. Must submit at the end of January of every year. Annual report on the trainee duly signed by ORLHNS trainers in the department or the unit of ORLHNS.

In addition to the above

5. The submitted application form must be screened for
    i. Verification of facts
    ii. Mandatory postings,
    iii. Date of postings.
    iv. Verification of postings and signatures
    v. Verification of fellow who signed the form.
6. Logbook verification
    i. Verification of entries of procedures.
    ii. Verification of cognitive programme and courses.

For part I candidate.

Must show evidence that he/she has attended the mandatory courses before sitting for Part I.

i. ORL 927 Basic Surgical Skill Course. 2 Credit Units
ii. ORL 928 Temporal Bone Dissection Course. 2 Credit Units

iii. ORL 929 Endoscopic Sinus Surgery Course. 2 Credit Units
iv. PMC 901 Advanced Trauma Life Support (Surgical based Residents) 2 Credit Units.

Where, for logistic reasons, a candidate is able to attend two of the three courses he/she would be allowed to sit the examinations on the proviso that he/she attends the third course before sitting Part II examinations.

For part II candidate

i. PMC 951 Research Methodology 2 credit Units.
ii. PMC 952 Health Resources Management 2 credit Units.
iii. PMC 953 Ethics in Clinical Practice 2 credit units.

TRAINING ASSESSMENT:

1. Primary (entrance examination)

The assessment will be in form of examinations and portfolio for:

1. Part I
2. Part II

PRIMARY: This examination is in multiple choice question formats with questions spread across all aspects in basic medical sciences with emphasis on aspects related to Otorhinolaryngology-Head and Neck Surgery.

Primary Fellowship Examination in Otorhinolaryngology-Head and Neck Surgery (Multiple Choice Questions).

TEST BLUE PRINT 2021

200 questions

SUBJECT	SUBJECT SUB-SPECIALTY						TOTAL
ANATOMY (with emphasis on Head and Neck) **60**	Gross anatomy (ear, nose, pharynx, larynx, thyroid gland, neck) 30	Embryology 6	Histology 6	Osteology 6	Neurology 6	Organs/thorax/ abdomen 6	**60**
PHYSIO/pharmacology **40**	General 6	Respiratory 6	Special senses 14	Cardiovascular 6	Pharmacology 8		**40**
BIOCHEM **30**	General 6	Carbohydrate 6	LIPIDS 6	Nucleic acid 6	Body fluids 6		**30**
PATHOLOG Y **60**	General 24	Morbid anatomy 8	Chem. Path 6	Haematology Blood transfusion 10	Immunuology 6	Microbiology 6	**60**
OTHERS **10**	Lab investigations 2	Clinical tests/ measurements 4	ENT Clinical procedures 4				**10 (GRAND TOTAL 200)**

LEVEL OF DIFFICULTY OF TEST ITEMS

The determination of the level of difficulty of test items shall be based on the principles of the Bloom's Taxonomy of Educational objectives. The focus of the questions will be to test the ability of the candidate in application, analysis and synthesis (3, 4, 5 below) which should constitute at least 80-90 percent of the questions. Questions that test knowledge or recall will not be used at this level.

1. Knowledge Recall, or recognition of terms, ideas, procedure, theories, etc.
2. Comprehension Translate, interpret, extrapolate, but not see full implications or transfer to other situations, closer to literal translation.
3. Application Apply abstractions, general principles, or methods to specific concrete situations.
4. Analysis Separation of a complex idea into its constituent parts and an understanding of organization and relationship between the parts. Includes realizing the distinction between hypothesis and fact as well as between relevant and extraneous variables.
5. Synthesis Creative, mental construction of ideas and concepts from multiple sources to form complex ideas into a new, integrated, and meaningful pattern subject to given constraints.
6. Evaluation: candidates make judgements about value of ideas, items and materials.

MODIFIED ANGOFF Standard setting method will be used for determining the Pass mark in each segment of the examination.

PART I:

- Formative assessment by log book
- Evaluation through annual report on each Resident by the training Department.
- Attendance at prescribed courses.

Examination: This will be in 3 parts:

1. Written

One paper of MCQ, one essay paper in principles of General Surgery and ORLHNS and a third paper in operative surgery and surgical pathology in ORLHNS.

LEVEL OF DIFFICULTY OF TEST ITEMS

The determination of the level of difficulty of test items shall be based on the principles of the Bloom's Taxonomy of Educational objectives. For the theoretical components of the examinations, including the MCQs and Essay questions, the focus of the questions will be on the ability of the candidate in application, analysis and synthesis (3, 4, 5 below) which should constitute at least 80-90 percent of the questions. Questions that test knowledge or recall will not be used at this level.

1. Knowledge Recall, or recognition of terms, ideas, procedure, theories, etc.
2. Comprehension Translate, interpret, extrapolate, but not see full implications or transfer to other situations, closer to literal translation.
3. Application Apply abstractions, general principles, or methods to specific concrete situations.
4. Analysis Separation of a complex idea into its constituent parts and an understanding of organization and relationship between the parts. Includes realizing the distinction between hypothesis and fact as well as between relevant and extraneous variables.
5. Synthesis Creative, mental construction of ideas and concepts from multiple sources to form complex ideas into a new, integrated, and meaningful pattern subject to given constraints.
6. Evaluation: candidates make judgements about value of ideas, items and materials.

A Clinical Examination in General Surgery.
A Clinical Examination consisting of long cases in ORLHNS.
Objective Structured Clinical Examination in ORLHNS
An oral Examination in ORLHNS.

There should be external examiner (s) in General Surgery in addition to ORLHNS Examiners.

NPMCN ORLHNS Part 1 Fellowship Examinations in Otorhinolaryngology-Head and Neck Surgery.

Theory Papers
Paper 1: MCQ
TEST BLUEPRINT

Specialty	Total questions	Domain of the Test				Remarks
		General principles	Operative surgery	Surgical pathology	OSCE	
Cardiothoracic	**6**	4	2			
Ophthalmology	**6**	2	2		2	
Neurosurgery	**6**	2	2		2	
Accident/Emer	**10**	4		2	4	
Plastic/Maxilo	**12**	4	2	2	4	
General Surgery	**20**	6	6	4	4	
Sub total	*60*	*22*	*14*	*8*	*16*	
Audiology/Hearing Aid	**10**	6			4	
Otology	**30**	14	4	6	6	
Rhinology	**30**	14	4	6	6	
Laryngology	**30**	14	4	6	6	
Allergy	**10**	4		4	2	
Endoscopy	**6**		2	2	2	
Head/Neck Surgery	**20**	6	6	4	4	
Speech/Language	**4**	2		2		
Sub Total	***140***	*60*	*20*	*30*	*30*	
Grand Total	**200**	**82**	**34**	**38**	**46**	

The determination of the level of difficulty of test items shall be based on the principles of the Bloom's Taxonomy of Educational objectives. For the theoretical components of the examinations, including the MCQs and Essay questions, the focus of the questions will be on the ability of the candidate in application, analysis and synthesis (3, 4, 5 below) which should constitute at least 80-90 percent of the questions.

Questions that test knowledge or recall will not be used at this level

Paper 2: General Principles

a. General Surgery 2 questions
b. Otorhinolaryngology-Head and Neck Surgery 3 questions (one each in otology, rhinology, head and neck surgery, or Paediatric ORLHNS)

Paper 3: Operative Surgery and Surgical Pathology 5 questions (distributed evenly over otology, rhinology, head and neck surgery, or Paediatric ORLHNS).

Clinicals and Orals

General Surgery: Long Case
Otorhinolaryngology-Head and Neck Surgery: Long Case
OSCE
Orals

(distributed evenly over otology, rhinology, head and neck surgery, or Paediatric ORLHNS).

A candidate is deemed to have PASSED if he passes in all areas/parts of the examination including a PASS in CLINICALS.

A Candidate is deemed to have FAILED if he FAILS the Clinicals; his passing the other areas/parts of the examination notwithstanding.

The College approved Standard setting method will be used for determining the Pass mark in each segment of the examination:
MCQ: MODIFIED ANGOFF Standard setting method will be used for determining the Pass mark in each segment of the examination.

ESSAY

Borderline regression method shall be used

CLINICAL

OSCE: Manned Station - Borderline group method shall be used. Unmanned Station - Modified Angoff Method shall be used.

ORALS

Oral examination shall be structured to allow all candidates have the same questions. Standard setting method - Borderline group method shall be used.

PART II

Formative assessment will include

- The log book
- Mandatory Faculty and College courses in Research Methodology, Management Course, and Ethics.

Examinations

a. Dissertation Defence
b. Oral examination I (Radiology films and histopathology pots specimen).
c. Oral examination II (instruments and operative surgery in ORLHNS/RHINOLOGY).
    - A candidate is deemed to have passed if he passes ALL the 2 component parts (Defence of Dissertation and Viva Voce).
    - Where he/she successfully defends the dissertation but fails the Viva component, he is REFERRED in the component he failed.
    - Where he/she did not successfully defend the dissertation but passes the Viva component, he is REFERRED in the component he failed.
    - He/she is expected to resit that component at the next Fellowship examinations. The date of PASS is the date he/she passed the referred component of the examination.
    - Candidates who choose the MD route, and successfully defended their thesis, will be deemed to have satisfied the dissertation component of the Part II Final Fellowship Examination. Hence, they will only sit the Orals component of the examination.
    - The College approved Standard setting method will be used for determining the Pass mark in each segment of the examination: Oral examination shall be structured to allow all

candidates have the same questions. Standard setting method - Borderline group method shall be used.

LEARNING METHODS: This will be through the following:

- Clinical apprenticeship.
- Hands-on training in clinic, wards and theatre.
- Formal lectures, tutorials, case presentations, seminars.
- Self-directed learning, research and reading.
- Senior residents to teach and supervise junior residents.
- College and faculty courses and workshops (some of which are mandatory).
- Attendance at medical conferences.

ORL 918 & ORL 926 JUNIOR OTORHINOLARYNGOLOGY-HEAD AND NECK SURGERY ROTATION (216 Credit Units)

OBJECTIVES

1. Learn and master Basic Ear/Nose/Throat/Head and Neck examination using otoscope, head mirror, head light, pharyngeal/laryngeal mirrors, nasal and ear specula and rigid/flexible endoscopes.
2. Learn and acquire basic knowledge of audiological/ vestibular tests.
3. Learn about the imaging of the Ear, Nose, Throat, Head and Neck and attend joint radiology/ENT seminars.
4. Learn about histopathological specimen and attend joint histopathology/ENT seminars.
5. Teaching of Clinical interns.

6 Learn, assist and perform basic E.N.T operations.

SURGICAL SKILLS EXPECTED TO BE ACQUIRED DURING ROTATION.

	MINIMUM REQUIREMENTS	
Removal of foreign bodies in the external ear	A(10)	P (5)
Aural examination and dressing with microscope	A10	P10
Myringotomy under LA in Adults	A5	P5
Myringotomy under GA in children	A5	P5

Myringoplasty	A5	P5
Excision of preauricular sinus	A5	P5
Excision of post auricular cyst	A5	P5
Removal of foreign bodies in nose	A10	P10
Antral Lavage	A10	P10
Intranasal antrostomy	A10	P10
Diathermy to turbinates/SMR	A5	P5
Partial turbinectomy	A5	P5
Nasal polypectomy	A10	P10
Septal surgery	A5	P5
T & A in children	A10	P5
Tonsillectomy in adults	A10	P5
Tracheostomy in adults	O5 / A5	P5
Tracheostomy in children	A10	P5
Removal of foreign body in larynx	A5	P5
Pharyngoscopy Rigid/Flexible	A10	P5
Direct Laryngoscopy Rigid/Flexible	A10	P5
Oesophagoscopy	A10	P5
Branchial cyst excision	O2/ A2	P5
Removal of superficial lesion	A5	P5
Drainage of peritonsillar abscess	***A5***	***P5***
Drainage of Retropharyngeal abscess	A5	P5

WHERE

O	**=**	**OBSERVE**
A	**=**	**ASSIST**
P	**=**	**PERFORM**
A/P	**=**	**EITHER ASSIST OR PERFORM**

AUDIOLOGY ROTATION (EMBEDDED IN ORLHNS I)

OBJECTIVES/SKILLS EXPECTED

Resident should be able to:

1. Understand and appreciate the need for standardization and calibration in auditory testing.
2. Perform and interpret accurate air and bone conduction hearing thresholds.

3. Understand the theory of masking techniques and perform.
4. Understand the theory, perform and interpret impedance audiometry with special reference to measurement of middle ear pressure and identification of stapedial reflexes.
5. Perform and interpret speech audiometry.
6. Understand the theory, interpret and to be able to perform evoked response audiometry
7. Understand the theory, interpret and to be able to perform Otoacoustic emission audiometry.
8. Understand the difficulties and the needs of the hard of hearing.
9. Understand the full range of assistive devices for the hard of hearing, and their application.
10. Understand the indications for prescribing a hearing aid.
11. Understand the full range of electronic hearing aids and the advantages and disadvantages of each type.
12. Understand hearing aid batteries and be able to make ear mould.
13. Understand (have participated in) the hearing aid selection procedure.
14. Understand (have participated in) and appreciate the value of auditory counselling.
15. Understand the risk factors for neonatal hearing loss.
16. Understand neonatal screening programs.
17. Understand the steps to be taken when hearing loss is suspected in a young child.
18. Be aware of the full range of support programs available to the hard of hearing in Nigeria.
19. Understand the theory and construction of cochlear implants, together with patient selection and post implantation auditory assessment and counselling.
20. Be aware of and sensitive to the attitude of the Deaf Community as it relates to intervention by the medical profession. by visiting the Deaf school.
21. Understand the theory, perform and interpret vestibular assessment results.
22. Understand the theory of Speech and Language disorders and the various rehabilitation modalities.

SKILLS EXPECTED TO BE ACQUIRED DURING ROTATION

Pure Tone Audiometry	O5	P10
Speech Audiometry	O5	P10
Tympanometry	O5	P10
Otoacoustic Emission	O5	P10
ABR	O5	P10
Ear Mould Making	O5	P10
ENG	O5	P10

ORL 919 OPHTHALMOLOGY (24 Credit Units)

Objectives

1. To acquire ophthalmology skills in the management of ENT related diseases
2. Acquiring knowledge/skills in the clinical management and diagnosis of various ophthalmology diseases.

Skills to be acquired	**Minimum Requirements**	
1. Ophthalmoscopy	P10	
2. Removal of FB	A5	
3. Removal of Pterygium	A5	
4. Evisceration	A5	
5. Enucleation	A5	
6. Cataract Extraction	A5	
7. Repair of Laceration of the Eyelid	P5	
8. Cannulation of the nasolacrimal duct	A5	P10

ORL 920 NEUROSURGERY (24 Credit Units)

OBJECTIVES

1 To acquire neurosurgical skills helpful in the management of ENT related diseases.

2 Acquiring knowledge/skills in the clinical management and diagnosis of various neurosurgical diseases.

Skills expected to be acquired

1. Exploratory burr holes	A5	P
2. Use of operating microscope in neurosurgical procedures	A5	P
3. Lumbar Puncture	A	P5
4. Craniotomy	A5	P
5. Laminectomy	A5	P
6. Shunts	A5	P
7. Excision of Myelomeningoceles	A5	P

ORL 921 CARDIOTHORACIC SURGERY (24 Credit Units)

OBJECTIVES

1. Assessment of cardiovascular and respiratory systems.
2. Understand the interaction of cardio-pulmonary disease on medical and surgical treatment of otolaryngology head/neck patients.

Skills expected to be acquired

(1) Bronchoscopy / Oesophagoscopy	A5	P5
(2) Techniques of arterial/venous access	A10	
(3) Thoracentesis	A5	P5
(4) Tube Thoracostomy Physiologic monotony techniques O_2 saturation, Cardiac output		P5
(5) Pleural Biopsy	A5	
(6) Lung Biopsy	A5	
(7) Mediastinoscopy	A5	
(8) Thoracotomy	A5	

ORL 922 **GENERAL SURGERY (72 Credit Units)**

OBJECTIVES

1. Acquire Basic Surgical Skills
2. Acquire skills in Surgical procedures
3. Learn the rudiments of pre-operative and post-operative care
4. Learn to work as a team

Skills expected to be acquired	Minimum Requirements	
1. Incision making/ Skin suturing/Knot tying	A5	P10
2. Selection of abdominal incisions	A5	P10
3. Laparotomy incision and closure of abdominal wall	A5	P10
4. Excision of Skin/ Subcutaneous Lesion	A5	P10
5. I & D Subcutaneous abscess	A5	P10
6. Suture of Laceration	A5	P10
7. Excision of benign/malignant breast lesion	A5	P10
8. Biopsy of enlarged nodes cervical, axillary, inguinal submandibular	A5	P10
9. Endoscopy of Digestive System	A5	P10
Proctoscopy/Sigmoidoscopy		
Oesophagoscopy Gastroscopy Anoscopy		
10. Gastric Surgery	A5	P10
Pyloroplasty, Gastroenterostomy		
Closure of Perforated Ulcers		
11. Intestinal Colostomy	A5	P10
Resection and anastomosis of small bowel	A5	P10
AP resection	A5	
Lysis of Adhesions	A5	
Appendectomy	A5	P5
Excision of hemorrhoid	A5	P5
12. Liver		
Incisional Liver Biopsy, Local Excision of Liver Lesion,	A5	
13. Biliary Tract Cholecystostomy Cholecystectomy		
Exploration of common bile duct	A5	
14. Pancreas Whipple procedure	A5	
15. Laparotomy for acute abdomen, Splenectomy	A5	P5
Abdominal sepsis, Drainage of intra abdomen sepsis	A5	P5
17. Hernia and abdominal wall	A5	P10
Repair of inguinal, femoral and ventral hernia		

ORL 923 ACCIDENT & EMERGENCY SURGERY (37 Credit Units)

OBJECTIVES

1. Acquire skill in patient reception/Principles of Triage.
2. Stabilize and care for critically injured and ill patients.
3. Acquire knowledge technical skills and decision making in the management of critically ill patients.
4. Exposure to trauma and polytrauma.

Skills expected to be acquired	**Minimum Requirement**	
1. Maintenance of airway including orotracheal, nasotracheal Intubation, tracheostomy	A5	P10
2. Techniques of Cardiac/Trauma life support	A5	P10
3. Techniques of arterial/venous access and venous cut-downs	A5	P10
4. Acquire skills on skin suturing techniques and cast application	A5	P10
5. Initial management of severely injured patients, burns patients, corrosive ingestion	A5	P10
6. Head injuries	A5	P10
7. Initial management of Hand infections Wound debridement and suturing	A5	P10
8. Preoperative management of intestinal obstruction, open and blunt abdominal injury intra-abdominal sepsis, head injury, neck injuries and chest injuries	A5	P10
9. Initial management of simple limb fracture joint dislocations, care of compound fractures A/P	A5	P10
10. Emergency management of urinary retention, hematemesis, epistaxis red eye, FB in nose, ear and throat A/P	A5	P10

ORL 924 PLASTIC/RECONSTRUCTIVE SURGERY OR MAXILLOFACIAL (24 Credit Units)

OBJECTIVES

Comprehension of skin lesions benign and malignant
Wound revision and closure acquire skills in optimal incision
Various method of wound approximation
Wound healing problems e.g. Immunocompromised

Skills expected to be acquired	Minimum Requirements	
1 Anticipation of surgical manouvres, gentle traction on tissues etc	A5	P5
2 Excision of skin tumours	A5	P5
3 Skin topical care and preparation of wound closure	A5	P5
4 Variety of wound closure design of incision Z plasty, Flaps	A5	P5
5 Split thickness skin graft	A5	P5
6 Plating of facial fractures jaw wiring	A5	P5
7 Debridement of wounds	A5	P5
8 Local treatment and dressing of burns, eschar removal Occlusive Treatment and dressing	A5	P10
9 Reconstruction of cleft lip	A5	P5
Reconstruction of cleft palate	A5	P5

ORL 925 ANAESTHESIA (12 Credit Units)

OBJECTIVES

1. To be able to assess, determine suitability and fitness of a patients booked for general anaesthesia.
2. Learn the process and management of general, regional and local anaesthesia. Appreciate the shared airway.
3. Learn General, regional and local Anaesthetic Agents: injectable and gaseous and their complications.

Anaesthetic Complications

Skills expected to be acquired

(1)	Preoperative anaesthetic assessment		A5	P5
(2)	Induction of Anaesthesia		A10	
(3)	Endotracheal Intubation		A5	P5
(4)	Monitoring of patients under General Anaesthesia	O5	A5	
(5)	Reversal of Anaesthesia		A5	
(6)	Postoperative monitoring of a patient recovering from Anaesthesia		A5	

COMPETENCE BASED GRADING OF PERFORMANCE
GRADES OF PERFORMANCE SCORES

PERFORMANCE GRADE	DESCRIPTION
A	Adequate knowledge; Performs skill without supervision; can reproduce skill on request; five to six points on Affective domain.
B	Adequate knowledge; performs skill with minimal supervision; reproduces skill with minimal guidance; four to five points on Affective domain.
C	Adequate knowledge; performs skill with supervision; barely reproduces skill; 3-4 points on Affective domain.
D	Inadequate knowledge; performs skill with supervision; Unable to reproduce skill; 2 - 3 points on Affective domain.
E	Gross inadequate knowledge; unable to perform task; unable to reproduce skill; 1-2 points on Affective domain.

AFFECTIVE DOMAINS FOR ASSESSING CANDIDATES DURING TRAINING:

1. Attendance to work
2. Punctuality
3. Prompt delivery of assignments
4. Group work and interaction
5. Obeying instructions
6. Respect for patient care

GENERAL TRAINING FOR JUNIOR RESIDENTS

OBJECTIVES

Education course

Basic surgical skill course is a compulsory course for all residents before Part I fellowship examination. It is advisable that resident attend the course shortly after starting residency training or before going on general surgical rotation.

Temporal bone dissection course, Audiology course and Endoscopic sinus surgery course are compulsory courses for all residents before sitting for Part 1 fellowship examination respectively.

Research

Residents must key-in into a research work in collaboration with his/her Consultant.

Conferences

Residents are to attend local and International Conferences especially as related to ORLHNS and Surgery.

The Faculty specifically identifies **ORLSON Conference**, and it is a **mandatory** that Residents should attend.

Residents must present at least **one scientific paper** at the conference before sitting for part I fellowship examination.

POSTGRADUATE DOCTOR OF MEDICINE IN ORLHNS

MD by Course work and Thesis

This optional pre-fellowship program is available for Associate Fellows of the National Postgraduate Medical College who are currently at the Senior Resident level. Applicants will be expected to complete the online application available on the College website and in addition submit a 500 word Concept note summarizing their Research proposal and a Compact signed by the prospective supervisor.

MD by Thesis only

This option is available to interested Fellows who passed their part 1 examination, completed their part II training but dissertation was not a prerequisite for their part II examination. Younger Fellows who do not meet the MD by publication criteria can also apply. Candidates are to complete the online form and submit a 500 word Concept note and a Compact signed with their prospective supervisor. Those who did not complete the NPMCN post part I training will be required to do remedial courses.

MD by Publication

This option is available to senior Fellows of the National Postgraduate Medical College who have been in good financial standing for at least 10 years. Prospective candidates would have contributed maximally to postgraduate medical education primarily in the area of Part 2 Resident Dissertation supervision for any of the listed Colleges or for University Ph.D programs, evidenced by 5 successfully defended dissertations. In addition the candidates would be accomplished medical researchers who have authored a minimum of 5 original research articles available in Pubmed in a focused narrow area as lead or corresponding author. Fellows of the West African College of Physicians and the West African College of Surgeons with 15 years Post Fellowship who meet the above can also apply.

FACULTY OF OTORHINOLARYNGOLOGY HEAD AND NECK SURGERY MD PROGRAMME COURSE CODES

COLLEGE BASED COURSES

PRE- PART 1 COURSES

PMC 901 Advanced Trauma Life Support (Surgical based Residents) 2 Credit Units

POST PART 1 COURSES

PMC 951 Research Methodology 2 credit Units
PMC 952 Health Resources Management 2 credit Units
PMC 953 Ethics in Clinical Practice 2 credit unit

MD COURSES

PMC 994 Medical Education 2 credit units
PMC 995 Advanced Research Methodology 2 credit units
PMC 996 Advanced Health Resources Management 2 credit units
PMC 997 Assessments and Examination Methods 2 credit units

SYNOPSES OF COLLEGE BASED M.D. COURSES

MEDICAL EDUCATION PMC 994

This course is designed for medical and dental resident doctors. The need for doctors, involved with teaching in the medical school and postgraduate medical training to have training in teaching is widely recognized. The skills in Medical Education course has been designed to meet this need. The course is aimed at resident doctors who are new to teaching and at Fellows with years of experience who would like an update on current best practice and a greater understanding of the basic principles. The course recognizes that, with appropriate help, all teachers, even those with considerable experience, can improve their skills in teaching. The topics to be taught are, standard setting in educational assessment; assessment of clinical skills; threshold concepts in medical statistics and evidence based practice; numeracy issues in learning about research; mapping and revising the learning and teaching of research; e-learning and blended in medical education; problem based learning; programme development; educational; computer

communication networks; community-institutional relations; reproducibility of result; patient simulation; databases, factual; clinical decision making; selection of medical students.

ADVANCED RESEARCH METHODOLOGY PMC 995

OBJECTIVE

To facilitate acquisition of basic knowledge and necessary skills for research in Medicine and Proposal/Dissertation writing.

COURSE CONTENT

Definition, Spectrum and Types of Health Research Design; defining Research problems; Setting Objectives; Statistics and Research; Methods; writing Research Proposals; (Planning, Protocol Development and Report Writing); Good Clinical Practices and Clinical Trials; Role of Computer in Medical Research (EPI Info and SPSS) Literature review; Use of Physical and Virtual Library; Use of Internet; Search Engines; Systematic Reviews and Meta-analysis; Ethical considerations in medical research. Clinical Governance; Writing –Up; presentation and Defense of Dissertation Faculty Based Group Discussion on Research Proposal (Practical Group Session); Evidence Based Health Care; Statistical Methods (Summary, Inferences and Interpretation); Basic Principles and Method of Writing Papers for Publications Practical Sessions on Processing of Proposal and Presentation to the College.

ADVANCED HEALTH RESOURCES MANAGEMENT PMC 996

OBJECTIVE

To facilitate acquisition of knowledge and necessary skills required for management of health resources in institutions and for programme.

COURSE CONTENT

Principles and application of Management; Strategic Management; Health Care Planning; Health Policy formulation and evaluation; Health Resources mobilization; Health Resources allocation; Human Resources Management; Organization; Monitoring and

Evaluation of Health Services; Performance Management; Sustainable Development; Problem Solving and Decision Making skills; Emotional Intelligence; Leadership; Management of Change; Risk Management, Legal Aspect of Medical Practice; Financial Management; Material Resources Management; Quality assurance in health and equity in health; Public/Private Partnership; Case studies/Scenarios.

ASSESSMENT AND EXAMINATION METHODS PMC 997

Multiple Choice Questions and Objective Tests; Oral Examinations; Patient Management Problems; The long clinical case; the objective structured long examination record' (OSLER), the short clinical case; objective structured clinical examination (OSCE); objective structured practical examination (OSPE); objective structured picture examination (OSPicE); workplace-based assessment; mini-CEX (mini-Clinical Evaluation Exercise); direct observation of procedural skill (DoPS) and Multi-source feedback (MSF); Simulated Patients; Observed Clinical Situations; Ensuring safe and effective patient care through training; Establishing and maintaining an environment for learning; Teaching and facilitating learning; Enhancing learning through assessment; Supporting and monitoring educational progress; Guiding personal and professional development; Continuing professional development as an educator; use of standardized patient (SP) encounters; Data gathering technique (history and physical examination); Interpersonal communication; Clinical management (diagnostic strategy and treatment plan); Professional documentation (post encounter note or PEN); Checklists; Patient Simulators.

FACULTY BASED COURSES:

Candidates may choose any of the following Faculty Based Courses. It is advised as a guide for candidates to choose a course in the specialty where he/she intend to spend the last one year of Senior Residency. The title of candidate's thesis is expected to also fall in line with candidate's choice.

ORL 941 Advanced Otolaryngology /Head and Neck Surgery 2 Credit units
ORL 942 Advanced Otology 2 Credit units
ORL 943 Advanced Rhinology 2 Credit units
ORL 944 Advanced Laryngology / Head and Neck Surgery 2 Credit units
ORL 945 Advanced Paediatric Otorhinolaryngology 2 Credit Units

Seminars and Thesis are compulsory for candidates pursuing MD with Course Work
ORL 998 Seminar 6 credit units
ORL 999 Thesis/Dissertation 12 credit units

COURSE SYNOPSES

ORL 941 Advanced Otolaryngology/Head and Neck Surgery 2 credit units.

This is a course that takes care of general otorhinolaryngology. The course content incorporates knowledge on all basic Ear, Nose and Throat, Head and Neck diseases. The global Otorhinolaryngologcal disease epidemiology and management (Medical and Surgical) are covered. Histopathology, Radiology and audio logical tests/procedures are covered.

ORL 942 Advanced Otology 2 Credit

This is a subspecialty course with focus on the study the Ear, its related diseases, management and rehabilitation procedures. The study of temporal bones, skull base, Otological and neurotological diseases , relevant audio logical studies(Audiometry, Tympanometry, Otoacoustic Emission, Automated Brain Response Audiometry etc) and rehabilitation are covered .Surgeries of the External, Middle, Inner Ears, Base of the skull and facial nerves are components of the course. The recent advances in this field should also be thought.

ORL 943 Advanced Rhinology and Allergy 2 Credit
It is a subspeciality course in Nose and paranasal sinuses and its diseases. The Histology including through knowledge of the Osteomeatal complexes, Nasal bones, sinuses, skull base are important.

The Management of the Rhinological disorders such as Infections, Trauma, Allergies, Benign/Malignant tumours, Endoscopic Sinus Surgeries and its complications including recent advancements in the field are inherent component of this course.

ORL 944 Advanced Laryngology/Head and Neck Surgery 2 Credit
This is a study of airways, Voice and food passages. The related diseases and its management are inherent component of the course. Rehabilitative concepts and methods for voice and post-surgical measures to improve the quality of life are important. Infections, Trauma (including foreign bodies), tumors (Benign/Malignant), voice disorders.

ORL 945 Advanced Paediatric Otorhinolaryngology/Head and Neck Surgery 2 Credit Units
This is a course that takes care of general otorhinolaryngology/ Head and Neck Surgery in the paediatric age group. The course content incorporates knowledge on all basic Ear, Nose and Throat, Head and Neck diseases. The global Otorhinolaryngologcal disease epidemiology and management (Medical and Surgical) are covered. Histopathology, Radiology and audio logical tests/procedures are covered.

Admission Criteria for NPMCN Resident Doctors
1. Associate Fellows of the College who have been admitted into the residency program.
2. Passed the NPMCN Part 1 fellowship examination in the Faculty of ORLHNS.
3. Any other qualification deemed equivalent to NPMCN Part 1 and acceptable to the Senate of the College.

The program to be undertaken in a nearby approved center and not necessarily the one the resident is employed.

The seminars which carry 3 units each; and will be presented and graded in the local training center.

Faculty courses will be examined centrally by Faculty.
College based courses will be examined by College.

Current Residents who may have had their proposals accepted may seamlessly migrate to the MD program if they so desire but the first defense will be at least 15 months after Senate approval of the program.

Admission Criteria for Resident Doctors of other Postgraduate Medical Colleges

These Resident Doctors may be admitted provided that before starting the MD program they would have passed the compulsory College courses applicable before Part 1 [ATLS] and any compulsory Faculty courses at that level

Nature of Thesis

1. A recommendation of 50,000 to 100,000 total word count for MD thesis.
2. Candidate may publish aspects of the work before defense in a manner similar to other PhD programs.
3. Arrangement of the other structures to be similar to College Part II dissertation.
4. Successful Defense to take place at least 6 months before final fellowship exam.
5. Dissertation component of Part II to-be waived for successful MD defenses.
6. Binding colors as determined by College.

DUTIES/ROLE OF SUPERVISORS FOR COLLEGE MD PROGRAMME.

1. To sign application letters for Residents.
   The College has developed a research compact with each MD

candidate. Please ensure the candidate is working in your field or a field you qualify and are ready to supervise. You will be required to review the candidate's concept paper and work plan and if you are satisfied, you will be expected to sign the research compact with the candidate.

2. To sign Proposals and assist with ethical approval.
   To work with the candidates and help transform his / her concept paper to a workable proposal. This proposal will be handled like the Fellowship proposal- sent to assessors and if approved, you will supervise the candidate through data collection, analysis and write up for thesis defense. Please note that candidates with Part II proposals previously accepted by the College and who may wish to use such for the MD programme will only be requested to attach a letter of acceptance of proposal by the College.

3. To sign Progress reports every semester.
   The experience with the residency programme has shown that the residents are a bit slow in presenting their proposals. To guard against this, the supervisors will be expected to present a report each semester to help monitor the progress of residents. This report will be initiated by the MD candidate and sent to the College through the supervisor.

4. Will be required by the College to serve as coordinator for the programme in their centers.
   Each department will appoint one of the supervisors as the Departmental Coordinator. The College will appoint one of the Departmental Coordinators as Center Director. The Center Director will relate with all Departmental Coordinators and report on center and departmental activities at the training center to the College.

5. Will be required to liaise with the Centers Director and Departmental Coordinators on seminar presentations and scoring of same along the guidelines provided by the College.
   The Departmental Coordinators will report to the Center

Director on seminar presentations done in the department.

6. Will be allowed to witness the MD thesis defense as observers only. Supervisors are usually not allowed to attend Fellowship defense but you will be allowed to attend the MD as observers.

7. You are to encourage candidates to go for Faculty and College based courses.
   The course work for the MD programme consists of one (1) Faculty based course and four (4) College based courses. Residents not running the MD programme will be at liberty to attend the Faculty courses. These courses will be held every Wednesday with the College courses alternating with the Faculty courses, each candidate will be required to present a seminar to the others in the Faculty (for the Faculty course) and all the MD candidates (for the College based courses). A pass will be required for both the Faculty courses (in an examination conducted by the Faculty) and seminar presentations to all MD candidates.

8. To encourage the institutions to allow the candidates to attend courses. Supervisors will be expected to encourage all the MD candidates to attend the Annual Scientific Conference and All Fellows Congress (ASCAF) and other professional association conferences and to encourage the Institutions to sponsor such candidates.

Supervisor/Candidate Compact

Purpose of the compact

The compact between MD candidates and their Supervisors enables their relationship to be open and predictable. The work should be jointly designed by the supervisor and the candidate taking their time in relation to other things into consideration, in order for the research to be completed within the stipulated time. Though the success of the MD programme is not guaranteed by this Compact.

The Persons listed below have gone into a Compact to carry out this MD research programme.

(Name of Candidate) Faculty: Otorhinolaryngology-Head and Neck Surgery

(Name of Supervisor) Faculty: Otorhinolaryngology-Head and Neck Surgery

Duties and responsibilities of the Supervisor(s)

(1) The Supervisor should familiarize the candidate with the current rules applying to MD programme at the host training institution.
(2) The Supervisor should strive to provide the appropriate working conditions for the candidate.
(3) The Supervisor should commit to regularly and professionally advise the candidate and should also commit to attending meetings regularly about the work in progress of the candidate, taking into consideration the work plan and the work schedule.
(4) The Supervisor should encourage the candidate to work independently and also support the candidate by allowing access to his patients, medical students and residents. He should also provide access to scientific environments (national and international), by introducing her/him to working groups and scientific networks, by encouraging her/him to take part in seminars, workshops and conferences, by helping her/him to prepare presentations, by providing her/him with information on possibilities to publish articles and by helping her/him in the writing process.
(5) The Supervisor should support the candidate regarding her/his career plan and should mention possibilities for further disciplinary and interdisciplinary qualification.
(6) The Supervisor should assess the work submitted by the candidate promptly and in a neutral way.
(7) If there are any disputes with the candidate, the supervisor should accept arbitration with the Court of Examiners.

Duties and responsibilities of the Candidate

(1) The candidate should produce a detailed and structured work

plan and work schedule and submit to the supervisor for approval. (S)he must inform the supervisor if there are changes made to the work plan or schedule.

(2) The candidate must get permission from the supervisor to attend specific courses related to the programme.

(3) The candidate must regularly report on the work in progress to the supervisor(s). The report (approximately 1-page long) should contain a description of the achievements since the last report or since the start of the MD programme, the overall progress on the research, and the participation to lectures, conferences, guest lectures, and specific workshops. In addition, the candidate must submit part of the results (e.g. chapter of the research work, draft of article) to the supervisor(s) following the work plan and the work schedule.

(4) The candidate must strive to present her/his scientific results to the scientific community by publishing articles in peer-reviewed journals and by presenting these results at conferences.

The persons signing this Compact agree to comply with the principles of good scientific practice and ethical guidelines.

Signature: Signature:
Name of Candidate: Name of Supervisor:
Date: Date:
Attachment: -Work plan
Work Schedule

ACADEMIC REGULATIONS FOR POSTGRADUATE DOCTOR OF MEDICINE (MD)

ACADEMIC SESSION: An academic session consists of two semesters. Each semester comprises 15 weeks of teaching and two weeks of examinations.

MODULAR SYSTEM: All postgraduate programmes shall be run on modular system, commonly referred to as Course Unit System. All courses should therefore be sub-divided into more or less self-sufficient and logically consistent Packages that are taught within a

semester and examined at the end of that particular semester. Credit weights should be attached to each course.

DEFINITION OF CREDIT UNIT

Credits are weights attached to a course. One credit is equivalent to ONE CREDIT UNIT and consists of:

1 hour / week of lectures or tutorials or Self instruction per semester of 15weeks =[15 Lecture hours] or

3 hours/ week of term paper work per semester of 15 weeks = [4 5 term-paper hours] or

3 hours/ week of practicals/clinicals per semester of 15 weeks. = [45 Practicals or Clinicals hours]

REQUIREMENTS FOR GRADUATION OF THE DOCTOR OF MEDICINE (POSTGRADUATE MD PROGRAMME) – A minimum workload of 54 credit units of which:

12 credit units are for the thesis,

30 credit units are for coursework and

6 credit units are for three departmental seminars.

2 credit units for Mandatory College research methodology workshop

2 credit units for Mandatory College Management workshop

2 credit unit for departmental specialty course

SENIOR RESIDENCY TRAINING

OBJECTIVES OF SENIOR ORLHNS/RHINOLOGY AND ALLERGY SPECIALTY.

1. Refinement of skills in clinical examination, consultation, radiological imaging and pathology.
2. Teach junior in examination patient care, and surgery.
3. Management skill.
4. Improve surgical skills and operative experience.

SKILLS EXPECTED TO BE ACQUIRED

EAR

1.	Removal of meatal masses		P5
2.	Surgery of meatal atresia	A5	P5
3.	Partial reconstruction of the pinna		P5
4.	Surgical approaches to the middle ear and mastoid	A5	P5
5.	Cortical mastoidectomy	A5	P5
6.	Radial mastoidectomy	A5	P5
7.	Myringoplasty (P) and Ossiculoplasty	A5	P5
8.	Stapedectomy	A5	P5
9.	Surgery of Glomus Tumours of the ear	A5	
10.	Surgery of the facial nerve	A5	

NOSE

1.	Turbinectomy		P5
2.	Lateral rhinotomy	A5	P5
3.	Surgery of Tumours of the external Nose and Nasal Cavity	A5	P5
4.	Caldwell-Luc and allied operation	A5	P5
5.	Surgery of blow-out injuries of the orbit	A5	P5
6.	Simple and Radical Maxillectomy	A5	P5
7.	Surgery of the pterygopalatine fossa	A5	
8.	Oro-antral fistula surgery		P5
9.	Trephination of the frontal sinus	A5	P5
10.	External operations of frontal ethmoidal and sphenoidal sinuses	A5	P5
11.	Nasoendoscopy	A5	P20
12.	Nasoendoscopy/Biopsy	A5	P10
13.	Endoscopic sinus surgery	P10	

NASOPHARYNX

1.	Adenoidectomy	P5	
2.	Transpalatal approach to the post nasal space	A5	P5
3.	Surgery of angiofibroma of nasopharynx	A5	P5

OROPHARYNX

1.	Tonsillectomy by dissection		P5
2.	Division of a long styloid process in the tonsillar fossa		P5
3.	Division of the glossopharyngeal nerve in the Tonsillar fossa		P5
4.	Surgery of Peritonsillar abscess		P5
5.	Surgical treatment of parapharyngeal and retropharyngeal abscess		P5
6.	Tumours of oropharynx	A5	P5

LARYNGO PHARYNX AND OESOPHAGUS

1.	Oesophagoscopy		P5
2.	Pharyngotomy and partial pharyngectomy	A5	P5
3.	Intubation of the Oesophagus	P5	
4.	Diathermy Treatment of laryngeal pouch	A5	P5
5.	Cricopharyngeal sphincterotomy	A5	P5
6.	Excision of pharyngeal pouch	A5	P5
7.	Pharyngolaryngectomy	A5	
8.	Fibreoptic Laryngoscopy		P20

LARYNX AND TRACHEBRONCHIAL TREE

1.	Laryngoscopy	A5	P5
2.	Bronchoscopy	A5	P5
3.	Tracheostomy	A5	P5
4.	Surgery of laryngotracheal stenosis	A5	
5.	Surgery of laryngocoele	A5	P5
6.	Surgery of laryngeal paralysis	A5	P5
7.	Radical neck dissection	A5	P5
8.	Laryngofissure	A5	P5
9.	Laryngectomy	A5	P5

OPERATION OF HEAD AND NECK

1.	Ligation of the external carotid artery	A5	P5
2.	Surgical treatment of branchial cyst	A5	P5
3.	Partial parotidectomy	A5	P5
4.	Total parotidectomy	A5	P5

5.	Removal of the submandibular salivary gland	A5	P5
6.	Removal of calculi of salivary ducts	A5	P5
7.	Surgery of cancer of the oral cavity	A5	P5
8.	Neck dissections operation	A5	P5
9.	Head/neck flap reconstruct procedures	A5	P5

COMPETENCE BASED GRADING OF PERFORMANCE
GRADES OF PERFORMANCE SCORES

PERFORMANCE GRADE	DESCRIPTION
A	Adequate knowledge; Performs skill without supervision; can reproduce skill on request; five to six points on Affective domain.
B	Adequate knowledge; performs skill with minimal supervision; reproduces skill with minimal guidance; four to five points on Affective domain.
C	Adequate knowledge; performs skill with supervision; barely reproduces skill; 3-4 points on Affective domain.
D	Inadequate knowledge; performs skill with supervision; Unable to reproduce skill; 2 - 3 points on Affective domain.
E	Gross inadequate knowledge; unable to perform task; unable to reproduce skill; 1-2 points on Affective domain.

AFFECTIVE DOMAINS FOR ASSESSING CANDIDATES DURING TRAINING:

1. Attendance to work
2. Punctuality
3. Prompt delivery of assignments
4. Group work and interaction
5. Obeying instructions
6. Respect for patient care

ORL 936 Rhinology and Allergy Super Specialty (288 Credit Units)

Rhinology and Allergy is a sub-specialty in the Faculty of Otorhinolaryngology, Head and Neck Surgery, National Postgraduate Medical College of Nigeria. The goal of the sub-specialty is to provide intellectual support for clinical skill acquisition and conduct of credible, innovative research in rhinology, allergy and allergy related diseases. The Faculty has developed a Curriculum which contained compendium of topics, diseases and disorders affecting the nose, paranasal sinuses, anterior skull base and adjoining anatomical structures to be learned as well as surgical and laboratory skills to be acquired. The Curriculum will meet the professional training needs of Resident Doctors whose area of interest is Rhinology and Allergy. This Curriculum will be a prerequisite for the examinations leading to the award of Fellowship in Otorhinolaryngology, Head and Neck Surgery.

SPECIFIC OBJECTIVES

Upon completion of this Fellowship programme in Rhinology and Allergy super-specialty, participants should be able to:

a. Obtain a super-specialty fellowship certification in Rhinology/Allergy of the National Post-graduate Medical College of Nigeria in the faculty of ORLHNS.
b. Function effectively as clinicians, teachers and researchers in the health and medically related industry in the area of Rhinology and allergy.
c. Apply scientific knowledge and principles acquired to solve human and environmental problems relating to rhinology and allergy related diseases.
d. Design, conduct, analyze and write-up a research project on topics related to rhinology and allergy related diseases.
e. Critically appraise published research work.
f. Exhibit advanced clinical knowledge for the diagnosis and management of rhinology and allergy related diseases.
g. Demonstrate basic laboratory (immunology) skills useful in

allergy

h. Possess some leadership and entrepreneurship skills relevant to the field of Rhinology and allergy
i. Understand minimum social responsibilities and be mindful of accepted norms and ethics in otorhinolaryngological practice and more especially as related to rhinology and allergy.

TEACHING AND LEARNING METHODS

The curriculum will be delivered through didactic lectures/seminar presentations, clinical interaction and surgical apprenticeship.

MODE OF INSTRUCTION

Participants are required to acquire a minimum of 40 credit units. One unit is equivalent to either a period of 15-hour lectures/tutorials/seminars, or 15-hour laboratory procedures, or 20-hour clinic interaction, or 10-hours surgical apprenticeship.

DURATION OF TRAINING

Rhinology and Allergy Fellowship training shall be a total of 24 months period divided into three segments. The first segment will be two months of didactic lectures/tutorial/seminar presentations. The second segment will be a block posting in an accredited immunology laboratory for two month and the third segment will be twenty months rotation in an accredited department of Otorhinolaryngology, Head & Neck Surgery of the National Postgraduate Medical College of Nigeria for the acquisition of hands on clinical and surgical skills. The rotation will take place during the second and third years or last 24 months of Senior Residency training programme.

REQUIREMENTS OF THE AWARD OF FELLOWSHIP IN RHINOLOGY AND ALLERGY OF THE FACULTY OF OTORHINOLARYNGOLOGY, HEAD & NECK SURGERY

All candidates must compulsorily offer 40 units of courses as shown in the table below.

	RHINOLOGY CURRICULUM	Duration in hours	Credit unit
Fundamental knowledge	Anatomy of the Nose and Paranasal Sinuses	2	1
	Embryology of the Nose	1.5	
	Physiology of the Nose and Paranasal Sinuses	1.5	
	Olfaction	2	
	Gustation	2	
	Nasal and Paranasal Sinus Immunology/Inflammation	1	
	Physical Examination	2	
	Radiological imaging	3	
Diseases, Disorders and Conditions		12	
Surgical Concepts		3	1
Seminar topic in Rhinology		15	1
Total lecture and seminar durations and credit units		**45**	**3 units**
	ALLERGY CURRICULUM	Duration in hours	Credit unit
Fundamental Knowledge	Immunology of Allergic Ear, Nose and Throat Disorders	1	1
	Inhalant Allergic Disorders	1	
	Hypersensitivity Disorders	1	
	Diagnosis of Allergic Ear, Nose and Throat Disorders	1	
	Diagnostic Testing for Allergic Ear, Nose and Throat Disorders	1	
Diseases, Disorders and condition	Allergic Rhinitis	1	
	Allergic Ocular Disease and Conjunctivitis	1	
	Allergic Disease and Middle Ear Dysfunction	1	
	Allergic Disease and Inner Ear Dysfunction	1	
	Allergic Disorders and Rhinosinusitis	1	
	Allergic Disease and Laryngeal Dysfunction	1	
	Allergic Disease and Asthma	1	
	Latex Hypersensitivity	0.5	
	Allergic Manifestations of Chemical Sensitivity	1	
	Non-Allergic Rhinitis	1	
Habilitation/Rehabilitation		0.5	
Seminar topics in allergy and immunology		15	1
Total lecture and seminar durations and credit units		**30**	**2units**
	PRACTICAL/CLINICALS	Duration in hours	Credit unit
Rhinology and allergy clinic attendance		200	10
Immunology laboratory work	Allergy tests	60	4
Rhinology and anterior skull base surgeries		210	21
Total practical and clinical durations and credit units		**470**	**35 units**

RHINOLOGY CURRICULUM

I. Fundamental Knowledge

A. Anatomy and Physiology of the Nose and Paranasal Sinuses

1. Unit Objective

a. At the completion of this unit, the resident understands the anatomy of the nose and paranasal sinuses, along with pertinent neural structures of the anterior skull base, vascular supply, and adjacent anatomic areas.

2. Learner Objectives

a. Upon completion of this unit, the resident:

i. Understands the bony and soft tissue anatomy of the nose paranasal sinuses and their relationship to related vascular, neural, orbital, and intracranial structures of the anterior and lateral skull base.

ii. Knows the surgical anatomy, neural, vascular, and osseous components of the nose and paranasal sinuses and

iii. Understands the surgical relationship of the neural, vascular, and osseous components of the nose and paranasal sinuses to the anterior and lateral skull base.

iv. Knows operative approaches to the nose and paranasal sinuses.

3. Contents

a. Structural surface anatomy

i. External nasal anatomy

ii. Septum

   a) Quadrangular cartilage
   b) Perpendicular plate of the ethmoid
   c) Vomer
   d) Sphenoid rostrum
   e) Maxillary crest

iii. Lateral nasal wall structures

iv. Choana

v. Olfactory cleft

b. Bony anatomy

i. Maxillary bone
   a) Anatomic subunits
   b) Relationship to pertinent anatomy
      i. Infraorbital nerve
      ii. Orbit
      iii. Alveolus
      iv. Pterygomaxillary space

ii. Ethmoid bone

a) Anatomic subunits
   i. Uncinate process
   ii. Ethmoidal bulla
   iii. Basal lamella
   iv. Lamina papyracea
   v. Cribriform plate
      (a) Lateral lamella
      (b) Lamina cribrosa
      (c) Middle turbinate
   vi. Perpendicular plate
   vii. Crista galli

b) Extramural ethmoid cells
   i) Agger nasi
   ii) Other

iii. Sphenoid bone
   a) Anatomic subunits
      i) Rostrum
      ii) Greater wing
      iii) Lesser wing
      iv) Planum sphenoidale
      v) Clivus
      vi) Pterygoid plates
   b) Intra-sphenoid surface topography
   c) Relationship to surrounding structures
      i) Optic nerve
      ii) Carotid artery
      iii) Cavernous sinus
      iv) Other

iv Palatine bone
- a. Anatomic subunits
- b. Relationship to surrounding structures
  - i) Pterygopalatine fissure
  - ii) Foramina
- c. Functional anatomy
  - i) Nasal valve
- d. Vascular relationships
  - i) External carotid
    - a) Superior labial artery
    - b) Internal maxillary artery
  - ii) Internal carotid
    - a) Anterior ethmoidal artery
    - b) Posterior ethmoidal artery
- e. Neural relationships
  - i. Olfactory nerve
  - ii. Trigeminal nerve
    - a) Ophthalmic division
      - i) Nasociliary nerve
        - (a) Anterior ethmoidal nerve
        - (b) Posterior ethmoidal nerve
    - b) Maxillary division
      - i) Infraorbital nerve
      - ii) Nasopalatine nerve
      - iii. Parasympathetic innervation
        - a) Sphenopalatine ganglion
        - b) Vidian nerve
      - iv. Optic nerve
- f. Diagnostic skill
  - i. Radiology
    - a) CT
    - b) MR
    - c) Cisternogram
  - ii. Endoscopy

4. Clinical Skills

a. During the training period, the resident:

i. Recognizes the normal and abnormal anatomy of the nose and the paranasal sinuses

ii. Interprets test to diagnose anatomic abnormalities of the nose and paranasal sinuses

iii. Performs surgical procedures that utilize anatomic knowledge of the nose and paranasal sinuses

B. Embryology of the Nose

1. Unit Objective

a. At the completion of this unit, the resident understands the embryology of the nose and paranasal sinuses.

2. Leaner Objectives

a. Upon completion of this unit, the resident:

i. Knows the normal embryological development of the nose and paranasal sinuses

ii. Understands how embryological development impacts the anatomy of the nose and paranasal sinuses.

3. Content

a. Development of the nasal cavity and paranasal sinuses

i. Nasal development

ii. Olfactory placode

iii. Maxillary

iv. Ethmoid

   a) Ethmoturbinals

   b) Primary furrows – form recesses and meati

v. Sphenoid

vi. Frontal

b. Patterns of pneumatization

i. Ethmoid

   a) Anterior ethmoid cells

   b) Posterior ethmoid cells

c) Variant patterns of pneumatization
ii. Frontal
iii. Maxillary
iv. Sphenoid
    c. Cleft palate
    d. Encephalocele
    e. Dermoid

4. Clinical Skills

a. During the training period, the resident:
i. Recognizes the normal embryologic development of the nose and paranasal sinuses and its impact on the fixed and variable anatomy of the paranasal sinuses.
ii. Recognizes how variations in paranasal sinus pneumatization contribute to subtle variations in surgical anatomy in a predictable fashion.
iii. Interprets imaging and endoscopic studies that demonstrate variations and disorders of the embryologic development of the nose and paranasal sinuses.
iv. Performs surgical procedures that utilize the embryologic knowledge of the nose and paranasal sinuses.

C. Physiology of the Nose and Paranasal Sinuses

1. Unit Objective

a. At the completion of this unit, the resident understands the normal physiology of the nose.

2. Learner Objectives

a. Upon completion of this unit, the resident understands:
i. How normal function of the nasal mucosa contributes to the homeostasis of the nose and paranasal sinus.
ii. The role of nasal airflow in the function of the nose.

3. Content

a. Mucosa and mucociliary function

i. Mucosa
   a) Respiratory epithelium
   b) Pseudostratified columnar epithelium
   c) Cilia structure
i) Ciliary ultrastructure
ii. Vascular dynamics
   a) Autonomic control
   b) Nasal cycle
iii. Glandular anatomy
   a) Goblet cells
   b) Seromucinous glands
iv. Mucus
   a) Composition
   b) Motility
   c) Immune function
v. Mucociliary flow
   a) Function
   b) Flow pathways
b. Air flow
   i. Air flow characteristics
   ii. Nasal air processing

4. Clinical Skills

a. During the training period, the resident:
i. Uses knowledge of nasal physiology to interpret causes of nasal disease.
ii. Performs surgical procedures, understanding their potential impact upon nasal and paranasal sinus physiology.

D. Olfaction

1. Unit Objective

a. At the completion of this unit, the resident understands nasal contribution to olfaction.

2. Learner Objectives

a. Upon completion of this unit, the resident understands:
i. The relationship between normal function of the nasal mucosa

and olfactory function.
ii. The role of nasal airflow contributes to olfaction.
iii. Neural pathways of olfaction.

3. Content

a. Neuroanatomy
i. Olfactory neuroepithelium
   a) Histology
   b) Diffusion of odorants
i) Role of mucus
ii. Olfactory tract neuroanatomy
   a) Peripheral
   b) Central
b. Dynamics of olfaction
i. Odorants
ii. Airflow dynamics at olfactory mucosa
iii. Odorant diffusion
iv. Olfactory transduction and coding
v. Central processing
c. Olfactory testing
i. Sensorineural tests
ii. Imaging
iii. Lab

4. Clinical Skills

a. During the training period, the resident demonstrates:
i. Ability to evaluate and treat causes of olfactory dysfunction.
ii. Understanding of the potential impact of various treatments upon olfactory function.

E. Gustation

1. Unit Objective

a. At the completion of this unit, the resident understands nasal contribution to gustation

2. Learner Objectives

a. Upon completion of this unit, the resident understands:

i. The relationship between normal function of the nasal mucosa and gustatory function
ii. The role of nasal airflow contributes to gustation
iii. Neural pathways of gustation

3. Content

a. Neuroanatomy
i. Taste neuroepithelium
   a) Histology
   b) Diffusion of odorants
   c) Role of mucus
ii. Gustatory tract neuroanatomy
   a) Peripheral
   b) Central
b. Dynamics of gustation
i. Odorants
ii. Airflow dynamics at taste buds
iii. Odorant / chemical diffusion
iv. Gustatory transduction and coding
v. Central processing
c. Gustatory testing
iv. Sensorineural tests
v. Imaging
vi. Lab

4. Clinical Skills

a. During the training period, the resident demonstrates:
i. Ability to evaluate and treat causes of gustatory dysfunction.
ii. Understanding of the potential impact of various treatments upon gustatory function.

F. Nasal and Paranasal Sinus Immunology/Inflammation

1. Unit Objectives

a. At the completion of this unit, the resident understands the role of the immune system in maintaining nasal and paranasal sinus homeostasis

2. Learner Objectives

a. Upon completion of this unit, the resident:

i. Understands the role of the immune system in maintenance of nasal and paranasal sinus homeostasis

ii. Recognizes the role of inflammation in common diseases of the nose and paranasal sinuses

3. Content

a. Immunology
   - i. General aspects
   - ii. Triggers of the immune response
   - iii. Components
     - a) Inflammatory
     - b) Immunoglobulins
     - c) Inflammatory mediators

b. Microbiology

c. Endocrinology

d. Neurology

e. Diagnostic interpretation

4. Clinical Skill

a. During the training period, the resident demonstrates ability to:
   - i. Recognize the role inflammation plays in chronic and acute disorders of the nose and paranasal sinuses.
   - ii. Evaluate for underlying causes of inflammation.
   - iii. Maximize medical evaluation as a component of the management of patients with non-emergent inflammatory paranasal sinus disease.
   - iv. Appropriately select candidates based upon knowledge of underlying inflammatory disorders.

G. Physical Examination

1. Unit Objectives

a. At the completion of this unit, the resident demonstrates the components of a thorough physical examination as it relates to the nose and paranasal sinuses.

2. Learner Objectives

a. Upon completion of this unit, the resident:
   i. Understands the individual components of the physical examination as it relates to the nose and paranasal sinus.
   ii. Performs a comprehensive physical examination as it relates to the nose and paranasal sinuses.
   iii. Interprets physical findings accurately.

3. Content

a. External nasal examination
b. Evaluation of nasal valve Function
c. Anterior rhinoscopy
d. Indirect nasopharyngoscopy
e. Nasal endoscopy
   i. Rigid
   ii. Flexible
f. Olfactory testing
g. Nasopharyngeal culture
h. Sinonasal aspirate/culture
   i. Antral puncture
   ii. Endoscopic middle meatal culture
i. Evaluation for CSF fistula
j. Interpretation of findings

4. Clinical Skills

a. During the training period, the resident:
i. Develops the ability to perform a comprehensive physical examination directed to the nose and paranasal sinuses
ii. Accurately interprets results of the physical examination
iii. Uses information gathered during physical examination to develop diagnostic/treatment plans for diseases of the nose and paranasal sinuses.

H. Radiological imaging in rhinology

1. Unit Objective

a. At the completion of this unit, the resident understands

contribution of different radiological imaging techniques for diagnosing nose and paranasal sinus diseases.

2. Learner Objectives

a. Upon completion of this unit, the resident understands:
   i. Different radiological imaging techniques used in rhinology.
   ii. How different anatomical structures of the nose, paranasal sinuses and anterior skull base appear on radiological imaging.
   iii. How to identify vascular and neural structures on radiological imaging, their location/position as well as relationship to one another.
   iv. Differences between normal and abnormal structures of the nose, paranasal sinuses and anterior skull base on radiological imaging.

3. Content

a. Paranasal sinus x-rays.
b. CT scan of the paranasal sinuses and brain.
   a. Axial, coronal, sagittal reconstruction views
   b. With and without contrast
   c. Different contrast media
c. Magnetic Resonance Imaging
   a. Axial, coronal, sagittal reconstruction views
   b. With and without contrast
   c. Different contrast media
d. Angiography (Conventional, CT & MRI)
   a. Contrast medium
e. Ultrasonography (Doppler, Duplex)

4. Clinical Skills

a. During the training period, the resident demonstrates:
   i. Ability to read and interpret various radiological films.

II. Diseases, Disorders and Conditions

A. Unit Objective

1. At the completion of this unit, the resident can recognize, assess, diagnose, and manage diseases and disorders of the nose and

paranasal sinuses, and anterior skull base.

B. Learner Objective

1. Upon completion of this unit, the resident:
   a. Recognizes the signs and symptoms of diseases and disorders of the nose, paranasal sinuses, and anterior skull base.
   b. Uses the appropriate diagnostic tests to assess diseases and disorders of the nose, paranasal sinuses, and anterior skull base.
   c. Develops a diagnosis of diseases and disorders of the nose, paranasal sinus, and anterior skull base.
   d. Understands the surgical and non-surgical management of diseases and disorders of the nose, paranasal sinus, and anterior skull base.

C. Content

1. Olfactory Disorders
a. Neurosensory olfactory disorders
   i. Viral
   ii. Trauma
   iii. Neoplasm
   iv. Demyelinating or degenerative CNS disorder
b. Conductive malformations
   i. Inflammatory rhinosinusitis
2. Nose
a. Congenital malformations
b. Genetic disorders
   i. HHT
c. Trauma
d. Foreign body
e. Anatomic obstruction
   i. Nasal valve collapse
   ii. Inferior turbinate hypertrophy
   iii. Septal deviation
f. Infections
   i. Vestibulitis

ii. Rhinitis

g. Inflammation
   i. Allergic rhinitis
   ii. Non-allergic rhinitis

h. Epistaxis
   i. Neoplasms

3. Paranasal sinuses

a. Congenital malformations

b. Trauma/foreign body

c. Developmental
   i. Mucocele

d. Inflammatory
   i. Chronic inflammatory rhinosinusitis with polyposis
   ii. Chronic inflammatory rhinosinusitis without polyposis
   iii. Allergic fungal rhinosinusitis
   iv. Relationship between rhinosinusitis and asthma

e. Infectious
   i. Acute rhinosinusitis
   ii. Chronic infectious rhinosinusitis
   iii. Invasive fungal
   iv. Infectious complications of CRS or ABRS
      a) Orbital
      b) Intracranial
      c) Facial soft tissue

f. Granulomatous

g. Cystic fibrosis

h. Autoimmune

i. Complications of paranasal sinus surgery
   a) Intracranial
   b) CSF fistula
   c) Orbital
   d) Recurrence/persistence of disease
   e) Neoplasms

4. Skull base

a. Congenital

b. Developmental

c. Trauma
d. Neoplasm
5. Pathology of regions adjacent to the paranasal sinuses
a. Orbital/Lacrimal
i. Dacryocystitis
ii. Grave's exophthalmia
b. Intracranial
i. Pituitary adenoma, etc.

D. Clinical Skills

1. Upon the completion of this unit, the resident can:
   a. Obtain a comprehensive history, perform a focused physical examination, order appropriate laboratory and diagnostic studies to develop a through differential diagnosis, and arrive at a definite diagnosis of the above diseases of the nose, paranasal sinuses and adjacent structures.
   b. Discuss the nonsurgical as well as surgical management of the diseases and disorders of the nose, paranasal sinuses and adjacent structures.
   c. Discuss the procedures and strategies necessary to treat the diseases and disorders of the nose, paranasal sinuses, skull base, and adjacent structures.

III. Surgical Concepts

A. Unit Objectives

1. At the completion of this unit, the resident understands the treatment strategies and procedures for the surgical management of disease of the nose, paranasal sinuses, skull base, and adjacent structures.

B. Learner Objectives

1. Upon completion of this, the resident:
   a. Understands the surgical strategies necessary to treat diseases and disorders of the nose, paranasal sinuses, skull base, and adjacent structures.
   b. Performs surgical procedures to treat diseases and disorders

of the nose, paranasal sinuses, skull base, and adjacent structures.

C. Content

1. General
    a. Basic principles
        i. Local anesthesia
        ii. Principles of hemostasis
    b. Open approaches to the paranasal sinuses and anterior skull base
    c. Laser principles
    d. Equipment/instruments
    e. Intra-operative image guidance
    f. Graft materials

2. Specific surgical procedures

a. Endoscopic
    i. Nasal endoscopy
    ii. Inferior turbinoplasty
    iii. Endoscopic septoplasty
    iv. Maxillary antrostomy
    v. Ethmoidectomy
    vi. Sphenoidotomy
    vii. Frontal sinusotomy
        a) Draf I
        b) Draf II
        c) Draf III
    viii. Trans-pterygoid approach to:
        a) Pterygomaxillary fissure
        b) Sphenoid sinus
    ix. Repair of CSF fistula (access to encephalocele/meningocele)
        a) Ethmoid
        b) Sphenoid
    x. Concha bullosa
    xi. Orbital decompression
    xii. Dacryocystorhinostomy

xiii. Medical maxillectomy
xiv. Hypophysectomy
xv. Laser ablation of telangiectasia (HHT)

b. Non-endoscopic
i. Septoplasty
ii. Inferior Turbinoplasty
iii. Anterior antrostomy
iv. External ethmoidectomy
v. Frontal
a) Trephine
b) Osteoplastic flap
c) Obliteration
d) Cranialization
e) Ablation
vi. Transeptal sphenoid sinusotomy
vii. Medial maxillectomy
viii. Septal dermoplasty

D. Clinical Skills

1. At the completion of this unit, the resident:
a. Understands the surgical strategies and procedures to manage diseases and disorders of the nose, paranasal sinuses, skull base and adjacent structures.
b. Selects the most appropriate surgical procedures to treat diseases and disorders of the nose paranasal sinuses, skull base and adjacent structures.

ALLERGY CURRICULUM

I. Fundamental Knowledge

A. Immunology of Allergic Ear, Nose and Throat Disorders

1. Unit Objectives

a. At the completion of this unit, the resident understands the structure and function of the immune system with its related

cellular and humoral functions as it relates to allergic respiratory disorders.

2. Learner Objectives

a. Upon completion of this unit, the resident understands

i. The complex structure and function of the immune system as it relates to cellular and humoral function along with the cells and related cytokines that are produced during the allergic reaction.

ii. The structural anatomy of the respiratory tract and related functions of conjunctive, middle ear, tracheal and bronchial mucosa and sinus and nasal mucosa.

3. Contents

a. Definition of immunity, anaphylaxis, allergic, atopy

b. Role of innate and adaptive immunity
   - i. Non-specific responses
   - ii. Specific responses
     - a) Specificity
     - b) Memory
     - c) Self-limitation
     - d) Self-recognition (non-reaction to self)
     - e) Amplification
     - f) Feedback control
     - g) Recruitment of secondary defense mechanisms

c. Components of the immune system
   - i. Cells of the immune system
     - a) Classes of lymphocytes including T cells, B cells, null cells
       - i) TH-1 and TH-2 cells
       - ii) Suppressor T-cells
     - b) Mononuclear phagocytes and macrophages
       - i) Role of antigen-presenting cells
     - c) Mast cells and basophils
     - d) Eosinophils
     - e) Neutrophils and platelets
   - ii. Antibodies and antigens

a) Immunoglobins
b) Antibodies
c) Antibody response to antigen challenge

iii. Nonspecific mediators' cytokines and lymphokines
a) Role of interferon. GM-CSF. TNF-alpha, TNF-beta, role of interleukins

iv. Complement
a) Classic and alternate pathway activation in the complement cascade.

v. Hypersensitive reactions: Gell and Coombs reactions
a) Type 1: immediate (anaphylactic) hypersensitivity reaction along with early and late phase reactions.
b) Type II: antibody dependent cytotoxicity
c) Type III: immune complex-mediated hypersensitivity reactions
d) Type IV: cell-mediated hypersensitivity
e) Other hypersensitivity reactions

4. Clinical Skills

a. At the completion of this unit, the resident understands the clinical impact of immunologic disorders of the head and neck.

B. Inhalant Allergic Disorders

1. Unit Objectives

a. At the completion of this unit, the resident understands the nature of inhalant allergic and their impact on the patient with allergic and respiratory disorders

2. Learner Objectives

a. Upon completion of this unit, the resident understands

I. Relevant inhalant allergens giving rise to allergic disorders and the cross reactivity of these allergens.

ii. Nature of food allergy, types of food allergens and different food allergy reactions.

iii. Categories of antibodies, their production stimulation and secretion.

3. Contents (nature of allergic antigens)

a. Categories of inhalant allergic
   - i. Pollens
     - a) Tree, grass, weed pollens
     - b) Thommen's postulates
   - ii. Fungi
   - iii. Bacteria
   - iv. House dust mite
   - v. Animal dander

b. Nature of food allergens and food allergy
   - i. Immunologic reactions to foods
   - ii. Cyclic food allergy
     - a) Various stages of cyclic food sensitivity
     - b) Masked sensitization and food addiction
     - c) Diagnostic techniques for cyclic food allergy
   - i) Oral challenge test
   - ii) Skin testing techniques
     - (a) Intradermal testing technique
     - (b) In vitro food tests
   - iii. Fixed food allergy
   - iv. Signs and symptoms of food allergy
   - v. Theory of action of neutralization treatment of food sensitivity

c. Development of antibodies
   - i. Immunoglobulins: development of five different classes of the immunoglobulins distinguished by antigenic and structural characteristics
   - ii. Production of immunoglobulins by transformation of B cells into plasma cells

4. Clinical Skill

a. At the completion of this unit, the resident understands the pathophysiology behind immunotherapy treatment of inhalant allergy.

C. Hypersensitivity Disorders

1. Unit Objectives

a. At the completion of this unit, the resident understands the development types of hypersensitivity reactions on the patient with allergic and respiratory disorders.

2. Learner objectives

a. Upon completion of this unit, the resident understands
   i) Different types of hypersensitivity reactions that give rise to allergic disorders.
   ii) The nature of mechanisms of control of hypersensitivity reactions.

3. Contents

a. Gell and coombs hypersensitivity reactions.
   i) Type I: immediate hypersensitivity reaction
   ii) Type ii: antibody-dependent cytotoxicity
   iii) Type iii: immediate complex-mediate hypersensitivity
   iv) Type iv: cell- mediate hypersensitivity

b. Additional hypersensitivity reactions.

4. Clinical Skills

a. At the completion of this unit, the resident understands the pathophysiology behind hypersensitivity reactions.

D. Diagnosis of Allergic Ear, Nose and Throat Disorders

1. Unit Objectives

a. At the completion of this unit, the resident understands the diagnostic methods to determine the presence of an allergic disorder in the ear, nose and throat patient.

2. Learner Objectives

a. Upon completion of this unit, the resident:
   i. Understands the relevant history, chief complaints and medical history that demonstrate a diagnosis of upper respiratory allergy.

ii. Understands the physical examination characteristics of a patient with respiratory allergy including the conjunction middle ear, tracheal and bronchial mucosa and sinus and nasal mucosa.
iii. Understands the rational diagnostic methodologies and physical examination of the patient with allergic disorders.
iv. Can formulate a plan of management for a patient with ear, nose and throat allergic disorders.

3. Contents

a. History, pertinent medical history, review of system.
b. Family history: awareness of the possibility of familial involvement of inhalant respiratory allergies.
c. Specific physical examination and physical findings.
   i. General
      a) Observation
   ii. Skin
      a) Urticaria, eczema
   iii. Eyes
      a) Allergic shiners
      b) Acute allergic conjunctivitis
      c) Atopic keratoconjunctivitis
   iv. Ears
      a) External ear: Id reaction.
      b) Middle ear: recurrent serous otitis media and eustachian tube dysfunction.
   v. Nose
      a) Chronic nasal congestion
      b) Allergic hypertrophic inferior turbinates
      c) Nasal crease
      d) Nasal polyposis
   vi. Oral cavity/oropharynx
      a) Chronic mouth breathing
      b) High arched palate
      c) Professor oropharyngeal cobblestone formation

vii. Larynx
a) Edema of larynx
viii. Chest and pulmonary tract
a) Asthma and classic expiratory wheezes

4. Clinical Skills

a. At the completion of this unit, the resident can diagnose:
i. Allergic disorders from history.
ii. Allergic disorders from physical examination.

E. Diagnostic Testing for Allergic Ear, Nose and Throat Disorders

1. Unit Objectives

a. At the completion of this unit, the resident understands the methods of inhalant and in vitro testing techniques for the proper diagnosis of allergic respiratory disorders.

2. Learner Objectives

a. Upon completion of this unit, the resident:
i. Understands the different methods of skin and their result.
ii. Understands the methods of in vitro testing for respiratory and food allergens and the results.
iii. Can formulate a plan of management for a patient with ear nose and throat allergic disorders.

3. Contents

a. Skin testing techniques
b. Role of scratch testing
c. Skin prick testingi
i. Single prick techniques
a) Wheal and flare response
b) Method of measurement
ii. Multiple prick testing technique
a) Different types of multiple prick testing methods
d. Intradermal testing

i. Placement of a known quantity of antigen into the dermis
ii. Skin endpoint titration (SET)
iii. Screening for allergic using skin testing

e. In vitro testing techniques
f. RAST testing
g. Enzymatic in vitro techniques
h. Indications for in vitro testing
i. Allergy screening using in vitro techniques
j. Immunotherapy based on in vitro test results
k. Combining in vitro and skin testing techniques
l. Diagnostic techniques for food allergy
   i. History of food allergy reactions of patient
   ii. In vitro testing
   iii. Skin testing techniques

4. Clinical Skills

i. At the completion of this unit, the resident can diagnose allergic disorders using different diagnostic tests

II. Diseases, Disorders and condition

A. Unit Objectives

i. At the completion of this unit, the resident understands the different conditions of upper respiratory tract disorders and how allergy may relate to the disease and to symptoms.

B. Learners Objectives

i. Upon completion of this unit, the resident can
   a. Diagnose common allergy problems.
   b. Formulate a plan of management for patient with ear, nose and throat allergic disorders.

C. Contents

1. Allergic Rhinitis

a. Unit Objectives

i. At the completion of this unit, the resident understands the nature and etiology of common allergic, as well as the mechanism of management

b. Learners Objectives

i. Upon completion of this unit, the resident.
   a) Understands the development of allergic rhinitis and signs and symptoms of the problem.
   b) Understands the nasal anatomy and physiology and its relation to allergic disease.
   c) Can formulate a plan of management for a patient with symptoms of allergic rhinitis.
   d) Understands the differential diagnosis of allergic rhinitis and other types of rhinitis.

c. Contents

i. Seasonal intermittent rhinitis
ii. Springing allergy and related pollens
iii. Fall allergy and related pollens
iv. Perennial persistent rhinitis
   a) Relative allergens causing the perennial symptoms.
v. Persistent rhinitis
vi. Rhinitis medicamentosa
vii. Rhinitis of pregnancy
viii. Vasomotor rhinitis

d. Clinical Skills

i. At the completion of this unit, the resident can diagnose and treat common rhinologic problems related to allergy and inflammation.

2. Allergic Ocular Disease and Conjunctivitis

a. Unit Objectives

i. completion of this unit, the resident understands the manifestation of ocular disorders and inhalant allergies.

b. Learners Objectives

i. Upon the completion of this unit, the resident
   a. Understands the signs and symptoms of allergy i.e. ocular disease.
   b. Can formulate a plan of management of a patient with allergic ocular disorders

c. Pathophysiology of the allergic reaction in the eye
d. Classification of ocular allergy.

c. Contents

i. Seasonal/perennial allergic conjunctivitis
ii. Vernal keratoconjunctivitis
iii. Atopic keratoconjunctivitis
iv. Giant papillary conjunctivitis
v. Drug-induced allergic conjunctivitis
vi. Therapy for allergic ocular disease
   a) Topical antihistamines
   b) Topical mast cell stabilizers
   c) Nonsteroidal anti-inflammatory medications
   d) Corticosteroid therapy

d. Clinical Skills

i. At the completion of this unit, the resident can diagnose and treat common ophthalmologic disorders related to allergy and inflammation.

3. Allergic Disease and Middle Ear Dysfunction

a. Unit Objectives

i. At the completion of this unit, the resident understands the different manifestations of middle ear disease as it relates to inhalant allergy.

b. Learner Objectives

i. Upon completion of this unit, the resident:
a) Understands the role of IgE reactions and development of middle ear problems in the allergic patient.
b) Can formulate a plan of management for a patient with ear, nose and throat allergic disorders.

c. Contents

i. Mucous membrane and the middle ear.
ii. Manifestations of serious otitis media.
iii. Eustachian tube dysfunction.

d. Clinical Skills

i. At the completion of this unit, the resident can diagnose and treat common middle ear disorders related to allergy and inflammation.

4. Allergic Disease and Inner Ear Dysfunction

a. Unit Objectives

i. At the completion of this unit, the resident understands the different manifestations of inner ear disorders and how they relate to symptoms of patients.

b. **Learner Objectives**

i. Upon completion of this unit, the resident:
   a) Understands the rationale of the development of signs and symptoms of inner ear dysfunction with allergic symptoms.
   b. Can formulate a plan of management for a patient with inner ear allergic disorders.

c. Contents

i. Meniere's syndrome and indications for allergy testing.
ii. Vertigo induced from hypersensitivity.

d. Clinical Skills

i. At the completion of this unit, the resident can diagnose and treat common inner ear disorders related to allergy and inflammation.

5. Allergic Disorders and Rhinosinusitis

a Unit Objectives

i. At the completion of this unit, the resident understands the mechanism of the development of Rhinosinusitis in the patient with allergic symptomatology.

b Learner Objectives

i. Upon completion of this unit, the resident:
   a) Understands the relationship of allergies to subsequent development of inflammatory and possible bacterial Rhinosinusitis.
   b) Can formulate a plan of management for a patient with Rhinosinusitis.

c Contents

i. Pathophysiology of paranasal sinus disorders
ii. Acute rhinosinusitis
iii. Recurrent acute rhinosinusitis
iv. Chronic Rhinosinusitis
v. Allergic fungal rhinosinusitis (AFRS)
   a) Diagnostic criteria of allergic fungal Rhinosinusitis
   b) Pathophysiology of allergic fungal rhinosinusitis
   c) Role of fungal antigens in evaluation
   d) Testing for fungal allergy
   e) Therapy for AFRS
   f) Immunotherapy in the patient with AFRS

d Clinical skills

i. At the completion of this unit, the resident understands the association between allergy and Rhinosinusitis and can treat accordingly.

6. Allergic Disease and Laryngeal Dysfunction

a Unit objective

i. At the completion of this unit, the resident understands the different conditions of laryngeal and pharyngeal disorders and how they relate to symptoms of patients with allergy.

b Learner Objectives

i. Upon completion of this unit, the resident:
   a) Understands the anatomy and physiology of the larynx and pharynx and the signs and symptoms of allergic laryngeal disorders.
   b) Can formulate a plan of management for a patient with laryngeal and pharyngeal allergic disorders.

c Contents

i. Laryngopharyngeal anatomy
ii. Acute laryngopharyngitis: anaphylaxis
iii. Allergic angioedema and laryngitis
iv. Angioedema and urticarial of the larynx
v. Role of ACE inhibitors

vi. Oral allergy syndrome
vii. LPR and GERD

d **Clinical skills**

i. At the completion of this unit, the resident understands the association between allergy and laryngeal dysfunction and can treat accordingly.

7. Allergic Disease and Asthma

a. **Unit Objectives**

i. At the completion of this unit, the resident understands the different symptoms of asthma in allergic patients.

b. **Learner Objectives**

i. Upon completion of this unit, the resident:
   a) Understands the mechanisms of asthma and pathophysiology of this problem.
   b) Can formulate a plan of management for a patient with asthma and understand the pertinent medications to control symptoms.

c. Content

i. Asthma diagnosis
ii. Auscultation
iii. Pulmonary function testing
   a) Role of flow-volume loop
   b) Peak flow measurements
iv. Pathophysiology of asthma
v. Asthma severity
vi. Pharmacotherapy of asthma

d Clinical skills

i. At the completion of this unit, the resident understands the association between allergy and asthma

8. Latex Hypersensitivity

a. Unit objective

i. At the completion of this unit, the resident understands the nature latex hypersensitivity.

b. Learners Objectives

a) Understands the role of latex reactions and cross-reactivity.
b) Can formulate a plan of management for a patient with latex hypersensitivity.

c. Contents

i. Latex hypersensitivity.
ii. Cross reactions and latex hypersensitivity.
iii. Mechanism of management of the patient with latex hypersensitivity.

d. Clinical skills

i. At the completion of this unit, the residents understand and can treat latex by hypersensitivity reactions.

9. **Allergic Manifestations of Chemical Sensitivity**

a. Unit Objective

i. At the completion of this unit, the resident understands the different manifestations of chemical sensitivity.

b. Learner Objectives

i. Upon completion of this unit, the resident:
   a) Understands the symptoms of possible chemical sensitivity in the allergic patient
   b) Can formulate a plan of management for a patient with e-chemical sensitivity and other allergic disorders.

c Contents

i. Nature of chemical sensitivity
ii. Mechanisms of chemical injury
   a) Acute poisoning
   b) Chronic poisoning
iii. Total allergic load
iv. Chemical hypersensitivity tests
v. Treatment of Chemical sensitivity.

d Clinical skills

i. At the completion of this unit, the resident understands and can treat chemical sensitivity disorders.

10. Non-Allergic Rhinitis

a. Unit Objectives

i. At the completion of this unit, the resident understands the signs and symptoms of a patient with rhinitis not due to any allergic sensitivities.

b. Learner Objectives

i. Upon completion of this unit, the resident:
   a) Understands the manifestations of symptoms of non-allergic rhinitis.
   b) Can formulate a plan of management for a patient with symptoms of non-allergic disorders.

c. Contents

i. Vasomotor rhinitis
ii. Management of symptoms of non-allergic rhinitis.

d Clinical Skills

i. At the completion of this unit, the resident understands and can treat non-allergic rhinitis.

III. **Habilitation/Rehabilitation**

A. Unit Objectives

1. At the completion of this unit, the resident understands the methods to improve a patient's symptoms of allergic rhinitis with development of avoidance techniques, environmental controls, pharmacotherapy and potential immunotherapy.

B. Learner Objectives

1. Upon completion of this unit, the resident:
   a. Understands the rationale for the use of environmental controls.
   b. Can utilize appropriate pharmacotherapy to help control symptoms of inhalant allergy.
   c. Can formulate a plan of management using appropriate allergen immunotherapy treatment.
   d. Understands the potential reactions that may occur in the patient undergoing immunotherapy treatment.

C. Content

1. Environmental controls and avoidance techniques.
   a. Prevention of allergy
   b. Specific environmental controls
      i. Pollen controls
      ii Mold controls
      iii Dust mite control
      iv Epidermal avoidance
      v Other allergens and their controls
      vi Role of use of air filters and air conditioning.

2. Pharmacotherapy

a. First- and second-generation antihistamines
   i Uses of classic antihistamines
   ii Benefits of second-generation antihistamines
   iii Combination decongestant and antihistamine therapy
b. Decongestant therapy
c. Mast cell stabilizers
d. Corticosteroids
   i. Topical
      a) Different topical medications
      b) Adverse reactions to topical intranasal steroids
   ii Systemic
e Anti-leukotrienes
f Mucolytic agents
g Monoclonal antibody therapy

3. Allergen immunotherapy

a. Indications for immunotherapy
b. Contraindications to immunotherapy
c. Interpretation of allergy tests
d. Mixing immunotherapy vials
e. Immunotherapy escalation schedules
f. Maintenance immunotherapy
   i. Symptoms-relieving dose of treatment
   ii. Maximally tolerated dose treatment
   iii. Optimal-dose treatment
g. Immunotherapy safety

D. Clinical skills

1. At the completion of this unit, the resident understands and can:
   a. Recommend environmental controls and avoidance techniques.
   b. Treat with pharmacotherapy
   c. Treat allergic disorders with immunotherapy.

COMPETENCE BASED GRADING OF PERFORMANCE GRADES OF PERFORMANCE SCORES

PERFORMANCE GRADE	DESCRIPTION
A	Adequate knowledge; Performs skill without supervision; can reproduce skill on request; five to six points on Affective domain.
B	Adequate knowledge; performs skill with minimal supervision; reproduces skill with minimal guidance; four to five points on Affective domain.
C	Adequate knowledge; performs skill with supervision; barely reproduces skill; 3-4 points on Affective domain.
D	Inadequate knowledge; performs skill with supervision; Unable to reproduce skill; 2 - 3 points on Affective domain.
E	Gross inadequate knowledge; unable to perform task; unable to reproduce skill; 1-2 points on Affective domain.

AFFECTIVE DOMAINS FOR ASSESSING CANDIDATES DURING TRAINING:

1. Attendance to work
2. Punctuality
3. Prompt delivery of assignments
4. Group work and interaction
5. Obeying instructions
6. Respect for patient care

GENERAL TRAINING FOR SENIOR RESIDENCY

OBJECTIVES

Management course
Resident must endeavour to attend Management Course before sitting for Part 2 Fellowship examination.

Education course
Head and neck surgical dissection course is a **recommended** course for all residents **before** Part 2 Fellowship examination.

Research Training/Methodology
National postgraduate Medical College organizes a research methodology course and it is mandatory that Residents must attend before sitting for Part 2 Fellowship examination. Resident must key-in into a research work in collaboration with his/her consultant.

Conferences
Residents are to attend local and International Conferences especially as related to ORL and Surgery.

The faculty specifically identifies **ORLSON Conference**, and it is a **mandatory** that Residents should attend.

Residents must present at least **one scientific paper** at the conference before sitting for Part 2 Fellowship examination.

REFERENCE

1. J. M. Nedzelki, Derek Birt. Assessment of operative skills – Department of Otolaryngology, University of Toronto, Departmental Handbook. 1995, 144-145.

2. Harmonized Curriculum for Otorhinolaryngology-Head and Neck Surgery in the Anglophone West African Sub region.

APPENDIX I

CRITERIA FOR ACCREDITATION OF INSTITUTIONS FOR TRAINING OF ORLHNS RESIDENTS (2020)

1. QUALIFIED AND EXPERIENCED PERSONNEL (15 points)

S/N	Descriptions and minimum number of staff	Score Guideline	Points scored
1.	ORLHNS Consultant: At least 4 consultants of which minimum of one (1) must not be less than 5 years post Fellowship of the College.	Two (2) points per consultant (10 points max), (2 part time consultants are equivalent to 1 full time consultant)	
2.	Audiologist/Audiometrician – 2;	1 point each (2points max)	
3.	Speech pathologist/therapist – 1	1 point	
4.	ENT trained Nurses deployed in outpatient and wards	1 point each (2points max)	

2. APPROPRIATE INFRASTUCTURE (10 points)

A. Basic: Water, Light, Sewage etc (Maximum 1 point)

B. Core Departments Present - Outpatient Clinic (Maximum of 15 points)

S/N	Description and minimum number	Score Guideline	Points scored
1	Consulting stations minimum of 6 ENT consoles with patient chair and Doctors chair (6) Basic ENT Clinic based instruments a. Jobson horne probes (25), b. Suction nozzles(25), c. Tilleys dressing forceps(25), d. Crocodile forceps(25), e. Cawthorne aural forceps(25), f. Nasal specula(50), g. Aural specula(15), h. Tongue depressors(50), i. Tuning forks(20), j. Laryngeal mirrors(50), k. Otoscopes(10), l. Head-mirrors(10), (suction machines(6) optional if consoles requirements are met)	1/2 point per station 1 point each ½ point per set of instrument (maximum 5 points)	
2	Treatment Room with accessories	1 point	

A. Support Departments Present (Maximum 4 points)

The training Institution must have full accreditation in General Surgery by the Faculty of Surgery of the National Postgraduate Medical College of Nigeria or a Sister College. (1 point).

This will include the hospital having the following surgical units for the postings of Otorhinolaryngology Head and Neck Surgery (ORLHNS) Residents:

Cardiothoracic (1/2), Plastic and Reconstructive Surgery (or Maxillofacial) (1/2),
Neurosurgery (½), Ophthalmology (1/2) (2 points)

Other departments in the hospital with adequate facilities especially with regard to ORL patient care: Anaesthesiology, Radiology, Pathology departments, Blood banking; Pharmacy **(1point)**

Comment: Multiply total score (/20) in section 2 by 0.5 to get score /10.

3. EQUIPMENT (20 points)

Core Equipment (E. N. T. Laboratory and other Facilities) - (Maximum 20 points)

	Description and minimum number	Score guidelines	Points scored
1	Audiology Lab ; Pure tone audiometer (1), Tympanometer(1), OAE machine(1), ABR machine(1) Audio booth or sound proof room(1)	7 points	
2	Vestibular Lab: ENG machine (1) Caloric machine (1)	3 points	
3	Temporal bone dissection laboratory with facilities – drills, burrs, bone holder, microscope/loupe); Ear instruments accessories	3 points	
4	Endoscopy/Otomicroscopy room for out-patient procedures telescopes and flexible laryngoscope CCU/Camera/Monitor , Microscope	3 points	
5	Speech Lab: Stroboscopy machine and accessories	1 point	
6	Rhinometric Lab: Rhinometer and accessories	1 point	
7	Sleep Lab: Polymosonogragh and other accessories	1 point	
8	Seminar room with audio-visual aid, multimedia facilities	1 point	

* OAE---Oto acoustic Emission Machine
* ABR-Auditory Brain Response Audiometer
* ENG—Electronystagmography
* CCU—Camera Circuit Unit

4. WELL STRUCTURED TRAINING PROGRAMME (15 Points)

A. Administration (Maximum of 3 points)

S/N	Description	Score Guideline	Points scored
1.	The Department should be an autonomous ORLHNS department of a hospital and/or College of Medicine, as appropriate. It may be a stand-alone hospital/institution.	1 point	
2.	It shall be headed by a Fellow of the College.	1 point	
3.	There shall be adequate funding of the Departmental activities especially its training programme.	1 point	

B. In-Patient Wards : (Maximum of 9 points)

There shall be Ward dedicated to ORL in patients and has a minimum of 20 bed spaces.

In-patient register of the past three years to be sighted.

S/N	Description and minimum number	Score Guidelines	Points scored
1	Bed space of 20, Males -7, Females 7 and Children 6	1 point for each 5 beds dedicated ward 3 points non dedicated ward 1point	
2	Ward treatment room	1 point	
3	Call room space for Residents	1 point	

C. Lectures/Tutorials (3 points)

Departments to provide portfolio of Departmental grand Rounds, Seminars, clinical conferences, clinic-pathological conferences, joint meetings with other departments, revision courses in the department, etc.

S/N	Description and minimum number	Score Guidelines	Points scored
1	Departmental Seminars/ Ground Rounds	1 point	
2	Training Programmes of the Department in the past three years	1 point	
3	Clinico-Radiological/ Clinico-Pathological Conferences	1 point	

5. OPPORTUNITIES/EVIDENCE OF SKILL ACQUISITION (15 Points)

Operating Theatre: (Maximum of 15 points)
Operation Register in the past three (3) years shall be provided for inspection. The instruments will be inspected.

S/N	DESCRIPTIONS AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	ORL theatre room space and sessions Minimum of two operating sessions	1 point per op. session per week max 2points	
2	Sets of instruments for the common ORL operations a. Tonsillectomy/Adenoidectomy set b. Nasal tray, Antrostomy tray and Caldwell luc tray c. Middle ear set and Mastoid set d. Basic surgery (Minor and Major sets) e. Laryngoscope (Adult and Paediatric f. Oesophagoscope (Adult and Paediatric) g. Bronchoscope (Adult and Paediatric) h. Endoscope forceps and suction nozzles	1 points per set of instruments max 8points	
3	Operating microscope with teaching arm or camera; -	2 points	
4	Endoscopic Surgery instrument sets; telescopes CCU/Camera/Monitor	2 points	
5	Intensive Care Unit, well-equipped	1 point	
	Procedure register, Theatre list and Log book should be inspected		

6. ACCESS TO NEW INFORMATION /KNOWLEDGE (15 Points)

A. Learning Resources of the Department (Maximum of 5 points)

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	Departmental Library with ENT reference books and current journals	1 point	
2	Institution's Library, if Residents have easy access	1 point	
3	ICT facilities with Internet access	1 point	
4	Museum for pathology pots, etc,	1 point	
5	NPMCN Journal	1 point	

*ICT – Information and Communication Technology

B. Departmental Hands –On Learning Resource (Maximum 10 points)

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	Departmental Temporal Bone Cadaver Dissection Activities by Residents	5 points	
2	FESS Cadaver Dissection Activities by Residents	5 points	

* FESS – Functional Endoscopic Sinus Surgery

7. REGULAR FEED BACK AND EVALUATION (10 Points)

Patient Work – load - (Maximum of 10 marks)

Patient load should reflect variety in number and types of ORL clinical conditions handled per annum in the training institution vis a vis the number of Residents in the training Department.

New Out-patient load/annum

Points Scored

- □ 500 - 1/2 point
- 501 - 1000 1 point
- 1001 - 2000 2 points
- 2001 - above 3 points

In-patient load (Total admissions)

- < 50 - ½ point
- 51 - 100 1 point
- 101 - 150 2 points
- 151 - above 3 points

Patients operated upon:

- Up to 50 patients/ annum - 1 point
- Equal to and more than 51 patients - 2 points
- Variety of operations - Poor - ½ point
  - Average - 1 point
  - Good - 2 points

8. Accreditation status to recommend:

Accreditation status will be determined by the total scores within the following guidelines:

8a. The Department shall meet the following minimum spread of the scores from various segments of section.

Section	Minimum Score	Actual score
1. Qualified and Experienced Personnel	**7.5**	
2. Appropriate Infrastructure	**5**	
3. Equipment	**10**	
4. Training Programme	**7.5**	
5. Skill Acquisition	**7.5**	
6. Access to new information	**7.5**	
7. Feed-back and Evaluation	**5**	
Total	**50**	

If the criteria set out in 8a are fulfilled, the Department becomes eligible to be considered further for accreditation as stated hereunder:

Recommendation:

8b. **FULL ACCREDITATION:**

(i) Score of 75 points plus.
(ii) Minimum of 1 Consultant Fellow in ORLHNS of the College of at least 5 years post qualification.
(iii) Full accreditation for General Surgery department.
(iv) Criteria set out in 8a above.

Then full accreditation for 5years.

PARTIAL ACCREDITATION:

(i) Score of 50 – 74 points.
(ii) Minimum of 1 Consultant Fellow of the College in ORLHNS of at least 5 years post qualification.
(iii) Criteria set out in 8a above.

Then partial accreditation for 2years.

DENIAL OF ACCREDITATION

(i) Score < 50 points
(ii) No Fellow of NPMCN
(iii) Failure to meet criteria set out in 8a above

Then denial of accreditation.

Trainers/Trainee Ratio

The number of Residents to be approved for the junior and senior stages will be determined by taking into cognisance the number and experience of personnel on ground, quality and variety of infrastructure in the Department, inherent strengths and comparative advantages of the training programme mounted in the department, the track record of the Department and the patient work load.

The ratio of Residents to Consultants should be minimum of 3:1 or Maximum of 4:1. That is, One (1) Senior Registrar and Two (2) Registrars OR Two (2) Senior Registrars and Two (2) Registrars to one Consultant.

Number of Residents Recommended for training:

Junior:
Senior:

……	……
Full Names/Signature	Full Names/Signature
Chairman/Team Leader	**Team Member**
…….....	……..……
Full Names/Signature	Full Names/Signature
Panel Member/Secretary	**Panel Member**

CRITERIA FOR ACCREDITATION FOR STAND ALONE TRAINING INSTITUTION OR E.N.T HOSPITAL FOR TRAINING OF OTORHINOLARYNGOLOGY RESIDENTS (2015)

SECTION A: Surgical Units of the Institution: (Maximum of [8] points)

The stand- alone training Institution must have affiliation to a surgical department of another hospital with memorandum of understanding regarding rotations and training of O.R.L residents (a copy of the Legal document must be presented to the accreditors). The General Surgical department of the hospital must have full accreditation by the Faculty of Surgery of the National Postgraduate Medical College of Nigeria. (4 points).

This will include the hospital having the following surgical units for the postings of Otorhinolaryngology (ORL) Residents:

CardioThoracic (1), Plastic and Reconstructive Surgery (1) or Maxillofacial) (1), Neurosurgery (1), Ophthalmology (1), (4 points)

SECTION B: Other Departments

The stand -alone hospital or training Institution must have the following departments within the hospital. These departments in the hospital must have adequate facilities especially with regard to training and ORL patient care: **(Maximum [7] points)**

	Description	Score guidelines	Points scored
1	Anaesthesiology department	(½ point)	
	Appropriate & adequate facilities	(1/2 point)	
2	Radiology department	(1/2 point)	
	Appropriate & adequate facilities (Digital plain X-ray machine, Ultra Sound Scan machine, CT Scan, MRI others.)	(1/2 point)	
3	Radiotherapy department	(1/2 point)	
	Appropriate & adequate facilities (cobalt or linear accelerator machine)	(1/2point)	
4	Pathology departments	(1/2 point)	
	Appropriate & adequate facilities	(1/2 point)	
5	Heamatology and blood banking department	(1/2 point)	
	Appropriate & adequate facilities	(1/2 point)	
6	Pharmacy department	(1/2 point)	
	Facilities for quality control	(1/2 point)	
7.	Others	(1point)	

SECTION C: Otorhinolaryngology: (Departments, Administration/Staff)

1. Departments (Maximum of [20] points)

a. The stand-alone hospital or training Institution shall be headed by a Fellow of the NPMCN or equivalent College.(1 point)

b. The stand-alone hospital or training Institution must have at least 3 of the following sub- specialties under Otorhinolaryngology as functioning units namely: 1. Otology 2. Rhinology 3. Laryngology 4. Head Neck Surgery 5. Paediatric O.R.L 6. Audiological medicine 7. Phoniatrics. (7 points)

c. There shall be adequate funding of the various departmental activities especially as it concerns training programme. (1 point)

Administration/Staff

S/N	DESCRIPTION AND MINIMUM NUMBER OF STAFF	SCORE GUIDELINE	POINTS SCORED
1.	Each sub specialities must have a minimum of two ORL Consultants: Minimum of 14 consultants in the hospital of which at least 8 of them must be not less than 5 years post Fellowship of the College;	(1/2) point per consultant to up maximum (10 points); (3 part time consultants are equivalent to 1 full time consultant)	
	1. Otology (2 consultants)		
	2. Rhinology (2 consultants)		
	3. Laryngology (2 consultants)		
	4. Head Neck Surgery (2 consultants)		
	5. Paediatric O.R.L (2 consultants)		
	6. Audiological medicine (2 consultants)		
	7. Phoniatrics (2 consultants)		
	8. Others(2 consultants)		
2.	Audiologist (BSc, AuD) –minimum of 2; Audiologist Technician minimum of 2	(1/2 point per staff} (3 points max)	
3.	Speech pathologist/therapist – minimum of 2	(1/2 point per staff) (1 point max)	
4.	ENT trained Nurses deployed in outpatient, and wards	(1/2 point per staff) (6 points max)	

SECTION D

1. Non -otorhinolaryngology (Departments, Administration/Staff) (Maximum of [8] points)

Departments

The non-**otorhinolaryngology departments of** stand-alone hospital or training Institution must have at least a minimum of two consultants of which one must be a Fellow of the College.

S/N	DESCRIPTION AND MINIMUM NUMBER OF STAFF	SCORE GUIDELINE	POINTS SCORED
1.		(1/2 point per consultant) (3 part time consultants are equivalent to 1 full time consultant)	
	1. Anaesthesiology department (2 consultants)	(1 point max)	
	2. Radiology department (2 consultants)	(1 point max)	
	Pathology		
	3. (Morbid anatomy and mortuary department (2 consultants)	(1 point max)	
	4. Micro biology department (2 consultants)	(1 point max)	
	5. Biochemistry department (2 consultants)	(1 point max)	
	6. Haematology and blood banking department (2 consultants)	(1 point max)	
	7. Radiotherapy department (2 consultants)	(1 point max)	
	8. Others	(1 point max)	

SECTION E

Medical Consultant Staffs (Visiting/Honorary) (Maximum of [7] points)

The stand- alone hospital or training Institution must appoint honorary visiting consultants in the following specialities to assist in collaborative patient care and training with minimum basic facilities to work with. (1/4 point per consultant and ½ point for minimum basic facilities).

	Description	Score guidelines	Points scored
1	Cardiothoracic surgery	(1/4 point)	
	Minimum basic facilities	(1/2 point)	
2	General surgery	(1/4 point)	
	Minimum basic facilities	(1/2 point)	
31.	Neuro surgery	(1/4 point)	
	Minimum basic facilities	(1/2 point)	
4	Ophthalmology	(1/4 point)	
	Minimum basic facilities	(1/2 point)	
5	Paediatrics	(1/4 point)	
	Minimum basic facilities	(1/2 point)	
6	Internal medicine	(1/4 point)	
	Minimum basic facilities	(½ point)	
7.	Others	(1/2 point)	

SECTION F. Outpatient Clinic (Maximum of [10] points)

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINE	POINTS SCORED
1	Consulting stations minimum of 20 of which 14 must be ENT based. Minimum of (14) ENTconsoles with patient chair and Doctors' chair. Basic ENT Clinic based instruments a. Jobson horne probes (50), b. Suction nozzles(50), c. Tilleys dressing forceps(50), d. Crocodile forceps(50), e. Cawthorne"aural forceps(50), f. Nasal specula(50), g. Aural specula(50), h. Tongue depressors(50), i. Tuning forks(20), j. Laryngeal mirrors(20), k. Otoscopes(15), l. Head-mirrors(20), (suction machines(14) optional if consoles requirements are met) Other basic medical and surgical clinic furniture and accessories for all the rooms.	(1/4 point) per station (¼ point) each (¼ point) per set of instrument	
2	Treatment Room with accessories (6 rooms)	(point)	

SECTION G. E. N. T Laboratories and other Facilities

- (Maximum [12] points)

Hospital to provide portfolio of Departmental or hospital grand Rounds, Seminars, clinical conferences, clinico-pathological conferences, joint meetings with other departments, revision courses in the department etc. (1/4 point each)

	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	Audiology Lab; minimum of Pure tone audiometer (2), Tympanometer(2), OAE machine(2), ABRmachine(2) Audio booth or sound proof room(2)	(2 points max)	
2	Vestibular Lab: ENG machine (2) Caloric machine (2) Rotary chair (2) Vemp machine (2)	(1 point max)	
3	Temporal bone dissection laboratory with facilities – drills, burrs, bone holder, microscope/loupe); Ear instruments accessories	(1point max)	
4	Endoscopy room for out-patient procedures telescopes and flexible laryngoscope adult & paediatric (2) CCU/Camera/Monitor	(1 point max)	
5	Otomicroscopy room; Microscope with teaching arm and video camera minimum of (4)	(1point max)	
6	Speech Lab: Stroboscopy machine and accessories	(1point max)	
7	Rhinometric Lab: Rhinometer and accessories	(1point max)	
8	Sleep Lab: Polymosonogragh and other accessories	(1point max)	
9	Seminar room with audiovisual aid, multimedia facilities	(1point max)	
10	Training Programmes of the hospital or various O.R.L departments in the past three years	(1 point max)	

SECTION H. Operating Theatre: (Maximum of [8] points)

Operation Register in the past three years shall be provided for inspection. The instruments will be inspected.

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	ORL theatre room space minimum of (4) theatre rooms and daily operating sessions	(1/2 point per op. session per week) (max 1 point)	
2	Sets of instruments for the common ORL operations a. Tonsillectomy/Adenoidectomy set (6sets) b. Nasal tray, Antrostomy tray & Caldwell luc tray (6sets) c. Middle ear set and Mastoid set (6sets) d. Basic surgery (Minor and Major sets, (6sets) e. Laryngoscope (Adult and Peadiatric (6sets) f. Oesophagoscope(Adult and Peadiatric (6sets) g. Bronchoscope (Adult and Peadiatric (6 sets) h. Endoscope forceps and suction nozzles (6 sets)	(1/4 point per set of instruments) (max 2 points)	
3	Operating microscope with teaching arm or camera; (2)	(½ point each) (2 points max)	
4	Endoscopic Surgery instrument sets; telescopes CCU/Camera/Monitor (2sets)	(1/2 point per set) (1 point max)	
5	Intensive Care Unit, well-equipped minimum of 5 beds with ventilators	(1 point max)	
6	Others. Basic Major and minor surgical sets.		

SECTION I. In-patient Wards: (Maximum of [6] points)

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	Bed space of 250, Males -100, Females 100 & and Children 50	(1/2 point for each dedicated ward and ¼ point for non-dedicated ward) (1/2 point for every 50 beds) (4 points max)	
2	Ward treatment room	(1/2 point max)	
3	Call room space for Residents	(1 point max)	
4	Others	(1/2 point max)	

SECTION J. Learning Resources of the Department

(Maximum of [4] points)

S/N	DESCRIPTION AND MINIMUM NUMBER	SCORE GUIDELINES	POINTS SCORED
1	Departmental Library with ENT reference books and current journals	(2 points max)	
2	Institution's Library, if Residents have easy access	(1 point max)	
3	ICT facilities with Internet access	(1/2 point max)	
4	Museum for pathology pots, etc,	(1/2 point max)	
5	Others		

SECTION K. Patient Work – load - (Maximum of [10] marks)

Patient load should reflect variety in number and types of ORL clinical conditions handled per annum in the training institution vis a vis the number of Residents in the training Department.

New Out-patient load/annum

Points Scored

□ 1000	1 point
1001 - 2000	2 points
2001 - 3000	3 points
> 3000	4 points

In-patient load (Total admissions)

< 500	-		1 point
501	-	1000	2 points
1001	-	2000	3 points
2001	-	above	4 points

Patients operated upon:

Up to 500 patients/ annum	-	1 point
Equal to and more than 500 patients	-	2 points

SECTION L. Accreditation status to Recommend:

Accreditation status will be determined by the total scores within the following guidelines:

8a. The Department should be able to score a minimum of [55] points from various sections.

Section	Minimum Score	Actual score
A: Surgical Units	4	
B. Other Departments	4	
C.ORL Administration/Staffing	10	
D. Non-ORL Administration/Staffing	4	
E. Medical consultant staff	3	
F. Outpatients	5	
G. E N T Laboratory	6	
H. Theatre	4	
I. In-patients	3	
J. Learning resources	2	
K. Patient work load	5	
Total	**50**	

If the criteria set out in 8a are fulfilled, the Department becomes eligible to be considered further for accreditation as stated hereunder:

Recommendation:

8b. Summary:
70 points plus: full accreditation for 5years ;
50 – 69 points: partial accreditation for 2years ,
<50 points: denial of accreditation

The number of Residents to be approved for the junior and senior stages will be determined by taking into cognisance the number and experience of personnel on ground, quality and variety of infrastructure in the Department, inherent strengths and comparative advantages of the training programme mounted in the

department, the track record of the Department and the patient work load.

Number of Residents Recommended for training:

Junior:

Senior:

ACKNOWLEDGEMENT

We wish to acknowledge the immense work done by Prof. G.T.A. Ijaduola, Dr O A Somefun and Dr F E Ologe in preparing previous editions of this Curriculum and Guidelines of which modifications and additions are being made in this revised edition.

The contributions of all members of the Faculty Board of ORLHNS and our Faculty Medical Elders are acknowledged. The encouragement and active participation of NPMCN immediate Past President Dr O B da Lilly-Tariah is acknowledged.