

CURRICULUM



**MASTERS IN OTORHINIOLARYNGOLOGY (E.N.T)
DEPARTMENT OF OTORHINIOLARYNGOLOGY
HEAD & NECK SURGERY**

**Peoples University of Medical & Health Sciences,
Nawabshah, Sindh.**

Postgraduate (M.S) Curriculum and Study Programme

Course Duration: Four (04) Years.

- The candidate having two years postgraduate training (DLO) in a recognized institution and had passed DLO Part-II can obtain one year maximum exemption in the duration of course.

Criteria of Admission:

- M.BBS Graduate from a recognized institute from PMDC along with current valid PMDC Registration.
One year House Job in ENT at PMDC recognized teaching hospital OR
- Six month house job in surgery and six month house job in Medicine. OR
Five years Experience post MBBS qualification.
- Eligible candidate will appear in entry Test, securing 40% minimum passing score for appearing in interview. The selection will be on cumulative score of written test and interview

Course of studies

- The curriculum of Degree course shall consist of basic Medical and Clinical Science related to Oto-Rhino-laryngology.
- English shall be the medium of course and examination.
- All candidates will complete two week Computer & internet orientation workshop before appearing in the final examination.
- Research protocol; - Within six months of admission every student shall submit through his Supervisor, Chairman department, principal of affiliated college/Dean of Faculty of Surgery, Liaquat University of Medical & Health Sciences, the Research protocol including the Topic, Objectives, Justification, Material & Methods of research and bibliography. If the candidate fails to do so within one year the admission shall be liable to be cancelled.

Eligibility Criteria for Examination.

- The Candidate will be required to pass Basic Medical Sciences examination after six months of his admission but before appearing in the final examination
- The candidate will complete his training as a full time resident student of the university.
- Students will have to attend a minimum 75% of lectures demonstrations and practical, failing which, he will not be allowed to appear in the examination.
- Certificate of Attendance from Supervisor is mandatory
- Approved Thesis
- Certificate of having attended prescribed IT course/ workshop.

Study & Training Protocol

1. Orientation Program: (1st year of admission)

- i. In Ward, Out Patient Department, Operation Theatre, and Emergency room/ Casualty Department.
- ii. Preparation of Protocol for research work and its submission

2. Training Protocol --- A Glance View

- A. Ward Round daily Patient care / on bed side discussion.
- B. Out Patient Department Two Days / weak.
- C. Demonstration of operative Procedures, in OT: - Two Days / weak
- Surgical skills and procedures, Under Supervision, 50 cases
 - Surgical procedures, With out Supervision, 25 cases
 - Surgical procedures, In emergency, 25 cases
- D. Case-presentation/discussion: - Weakly
- E. Journal club & Seminar: - Weekly for Assessment of Research work
- F. clinic pathological conference: - weekly
- G. Radiology conference- Monthly
- H. Skill laboratory work: - Cadaveric Temporal bone dissertation,
- I. Maintenance of Log Book: - Record of ALL training components.
- J. Research work.
- K. Thesis submission six month before final examination
- L. Audio vestibular Laboratory training
- M. Attendance of national and International Conference / Workshops / symposium.
- N. community service-patient care camp/Awareness camps

Course and curriculum of M.S Otolaryngology (ENT)

COURSE GOALS OBJECTIVES

Major Goals

Patient care Ability:

A Postgraduate in ORL-Head and Neck Surgery at the end of its 4 year course, should develop

1. Proper clinical acumen to interpret diagnostic results and correlate them with symptoms from history taking
2. Capable to diagnose the common clinical conditions/diseases in the specialty and to manage them effectively with success without making any serious complication.
3. To take decision, for the patient's best interest including making a referral to consult with a more experience colleague/professional while dealing with any emergency or a difficult condition.
4. Able to create awareness about preventive Otolaryngology in the society.

Participation in teaching:

He/she should be able to participate in under graduate MBBS teaching programme about the commonly encountered conditions in ENT pertaining to their diagnostic features, basic patho-physiological aspect, and the general and basic management strategies.

Research Ability:

He/she should also acquire elementary knowledge about research mythology, including record-keeping methods, and be able to conduct a research work including making a proper analysis and writing a report on its findings.

Team work:

- He/she should be capable to work as a team member. He/she should develop general humane approach to patient care with communicating ability with the patient's relatives in emergency situation such as in Casualty department accident.
- He/she should also maintain human values with ethical consideration.

OBJECTIVE OF THE Post-GRADUATE COURSE

A post graduate at the end of P.G. degree course should acquire the following:

1. Cognitive knowledge: (level of C1, C2 & C3) Embryology, applied anatomy, physiology, pathology, clinical features, diagnostic procedures and the therapeutics including preventive methods, (medical/surgical) pertaining to Otorhinolaryngology-Head & Neck Surgery.

2. Clinical training and decision making ability & management expertise: Diagnose conditions from history taking, clinical evaluation and investigations and develop expertise to manage medically as well as surgically the commonly encountered, disorders and diseases in different areas of Otorhinolaryngology as follows:

Otology: external, middle and internal ear diseases, deafness including the common complications associated with middle ear, inner facial Nerve palsy, tinnitus, Vertigo and other conditions such as acoustic neuroma, malignant tumors, glomus tumor and petrous apex cholesteatoma etc. and to be capable of doing early diagnosis of these conditions and also to acquire adequate knowledge about principles of therapy of these diseases.

Rhinology: Able to Diagnose and manage Nose and Paranasal sinus conditions such as infection, polyps and allergy. Acquire some surgical skills to do septorhinoplasty, septoplasty, functional endoscopic sinus surgery (FESS). Develop capability to do oncologic diagnosis and therapy planning for proper management of such patients in collaboration with radiotherapists and medical oncologists.

Laryngology: Able to diagnose and manage benign lesions of the larynx including voice-disorders and pharyngeal and nasopharyngeal diseases, viz-adenoids and angiofibroma. Capable to diagnose oncologic conditions such as laryngeal carcinoma and plan its therapy strategies.

Oral cavity/salivary glands: Learn about Oral cavity and salivary gland diseases, their diagnosis and therapy planning with referral strategies for cancer patients to advanced cancer centres/Hospital.

Head/Neck conditions/diseases: Learn about head and neck diseases including parpharyngeal tumours and neck space infections/and their management.

Broncho-esophageal region: Learn about broncho-esophageal diseases/disorders such as Congenital disorders, diagnosis of foreign bodies in aero/digestive tract with their management policies. Capable to perform pan endoscopies for oncologic evaluation in the head-neck region.

Plastic reconstruction following major head neck surgery & trauma: Acquire general principals of reconstructive surgery and its referral needs.

General principals of newer therapy/Surgery: Recent knowledge about ENT diseases in general, including technological (Laser) and pharmacologic advances (medicines) and newer method of therapy for certain conditions such as Obstructive sleep apnoea syndrome and asthma.

Traumatology & Facio-maxillary Injury: Acquire knowledge in the management of Traumatology in general and faciomaxillary injury in particular, including nasal fractures.

Radiology: Acquire knowledge about radiology/imaging and to interpret different radiological procedures and imaging in Otolaryngology – Head and Neck and skull base regions. There should be collaboration with Radiology department for such activities.

Audiology & Rehabilitation: Perform different audiological and neuro-otological tests for diagnosis of audiological/vestibular disorders and become capable to interpret these findings and to incorporate their implication in diagnosis and their treatment including the rehabilitative methods in audiology and speech pathology including hearing aids and other assistive and implantable devices.

Psychologic and social aspect : Some elementary knowledge in clinical psychology and social, work management is to be acquired for management of patients, especially those terminally ill and disable-persons and interacting with their relatives.

3. **Participaitation in Teaching:** ability to participates in teaching undergraduate MBBS student in simple and straight forward language about the common ENT

ailment/disorders especially about their signs/symptoms for diagnosis with their general principles of therapy.

4. **Research:** Develop ability to conduct a research work on clinical and surgical aspects available in hospital and in the community.

5. **Patient doctor relation:** Develop ability to communicate with the patient and his/her relatives pertaining to the disease condition, its severity and options available for the treatment/therapy.

6. **preventive Aspect:** Acquire knowledge about prevention of some conditions especially in children such as middle ear and sinus infection, hereditary deafness and early diagnosis of head-neck malignancy. He/she should know about the preventive Otolaryngology (ENT).

7. **Identification of a special areas in the subject:** to further develop higher skills within the specialty in a specialized area such as Otolaryngology, Neurology, Rhinology, head and neck oncology, skull base surgery and audiological medicine.

Candidate should have the recent and advanced training in ENT, like cochlear Implant, Functional Sinus Surgery, of face, various types of Cervical Flaps, radical neck Dissection.

8. **Presentation of Seminar/paper:** should be able to make presentation on disease-conditions/research topics in a Seminar/meeting/conference using audiovisual aids.

9. **Research writing:** should be capable to write case-reports and research papers for publication in scientific journals.

10. **team work:** team spirit in patient management, working together in OPD, OT, ward and sharing responsibility with colleagues such as doctor, nurses and other staff are essential. Resident has to develop these attributes through different mechanism of interaction.

11. **Workshop:** Must attend and participative in the following workshops

- Information Technology.
- Communication Skills
- Research Methodology
- Clinical Skills

12. **Computer Training:** Knowledge about the basic computer skill required.

PRACTICAL TRAINING

Resident doctor, pursuing a P.G. Degree course is expected to perform both major and minor surgical procedures independently as well as under supervising of a faculty member/supervisor.

He/She should perform 50 major operations independently such as;

- Tracheostomy,
- Tonsillectomy
- Adenoidectomy
- Nasal Polypectomy
- Incision/drainage of quinsy
- Sub-Mucosal resection of nasal Septum
- Cortical Mastoidectomy
- Myringotomy
- Antral washout
- Nasal biopsy
- Sub-mandibular salivary gland removal
- Biopsy from a neck mass,
- Direct laryngoscopy
- Nasopharyngoscopy
- Aural polypectomy

He/she should perform 25 operations among the followings under supervision of the senior colleagues/faculty members.

- Myringoplasty
- Grommet Insertion
- Modified radical Mastoidectomy
- Radical mastoidectomy
- Septoplasty
- Internasal & Extra nasal Ethmoidectomy

- Cald well Luc's
- Excision of thyroglossal cystic
- Repair of laryngotracheal trauma.
- Ligation external carotid artery
- Pinna-Repair (Post-traumatic)
- Surgery of choanal atresia,
- External canal atresia-surgery,
- Rigid Bronchoscopy and Oesophagoscopy
- Fibre-optic oesophagoscopy

Post Graduate trainee must assist and manage 25 cases the following procedures

- Maxillectomy
- External Fronto-Ethmoidectomy
- Functional Endoscopic Sinus Surgery
- Radical Neck Dissection
- Laryngectomy
- Laryngofissure
- Facial Nerve Decompression
- Stapedectomy
- Tympanoplasty
- Rhinoplasty
- Microscopic Laryngeal surgery
- Repair of Laryngo-tracheal stenosis

Duration of Training and Rotation Programs (Ward/OT/OPD)

- ❖ 03 (Three) Year Training in the ENT Department under supervisor
- ❖ 06 (six) month Training in Audio-vestibular Laboratory.
- ❖ 03 (Three) month Training in department of Neuro-Surgery
- ❖ 03 (Three) month Training in Department of ^{General} Neuro-Surgery

Objectives of Rotation program

- Learn bedside history taking in war, OT exposures, casualty, and ICU requirement
- Care if indoor (Medical, preoperative and postoperative) patients.
- Attend operation theatre and emergency operations for surgical orientation.
- Attend ward rounds with senior colleagues.
- Attend call from other department.
- Attend ENT OPD 02 days in a week
- Discusses problematic cases with the consultant (s) in OPD/ward
- Attends 3 Operation Room/theatre 02 days in a week
- Attend 3 morning round / week
- Perform minor O.T, procedures once a week by rotation in the Emergency Outdoor.
- Attends the weekly Journal Club and seminar and presents the same by rotation
- Participate in clinical discussion.
- The resident must attend the combined Teaching Program of Surgery, Medicine and other department's and Clinical meetings, CPC'S.
- Attend special lectures by Faculty of ENT and other department from abroad
- Visits by rotation every 3 rd month the Rural Clinic for community exposures/work experience
- Emergency duty as per Duty Roster of the department.
- Attend and participate/present papers in National and International conference.
- Actively participate/help in organization of Departmental Workshop, Courses and other activities.

Research methodology/Reporting on research

Learns the basics in research methodology and make the thesis protocol within 6 months of admission.

- Problem oriented record keeping including use of computer.
- Use of Medical literature search including through internet use, in the Library.
- Attends biostatistics classes by arrangement. Research Report
- Writing protocol/Synopsis for Research/Thesis.
- Writing an abstract/short paper/presentation style (Slide- making & audiovisual aids).

Presentation for the Thesis work

Selection of Research work for thesis:

- Subject of thesis will be selected by the candidate under guidance if supervisor which will be approved by the department faculty.
- The Candidate will be asked to submit the research/synopsis protocol within 6 (six) month of admission after it is scrutinized by departmental Faculty.
- It is to be approved by the advanced studies and research board of the Liaquate University of Medical & Health Sciences and the ethical considerations will be discussed in such ethical committee.
- Once the thesis protocol is approved the candidate will precede to starts his research work under direct supervision of his supervisor.
- Three/six monthly progress of the thesis will be checked to know the practical outcomes and difficulties faced by the Candidate.
- Candidate will submit the thesis 6 months before the final exams and get it approved.

TEACHING METHODS

The following learning methods will be use for the teaching of the postgraduate students:

1. Journal club: - Paper presentation/discussion-once per month (02 hour duration).
2. Seminar: One seminar is 15 days of one hour duration (morning).
3. Lecture/discussion: 01 Hour duration Lectures on advance new topic by faculty twice in a week.
4. Case presentation by the P/G Students in the ward once in a week.
Resident will present a clinical case for discussion before faculty and discussion made pertaining to its management.
5. Surgical pathology Conference: Special emphasis is made on the surgical pathology and the radiology aspect of the case to help the ENT/pathology/Radiology residents. This will be done in roatatory program after every 4th month along with collaboration of other department of the University.
6. Combined round/Grand Round: once/wk or twice/month involving presentation of unusual or difficult patients. Prostitutions of cases in clinical combined Round and a clinical series/research data on clinical material .clinicians/pathologist/other related disciplines once in week or forthrightly in the Grand round.
7. Community campus: For rural exposure and also for experiences in preventive aspect in rural situation/hospital/school, patient care camps will be arranged 1-2/year, involving Residents/junior faculty.

8. Emergency situation: Duty in Casualty Department to be arranged by rotation among the PGs with a Faculty cover by rotation once in a week. For 12 hours.
9. Bedside clinical training for patient care management: Daily evening ward round with one junior faculty on emergency duty.
10. Audit of Death cases: once a month the records of such cases are presented by the senior Residents. The junior post Graduates are encouraged to participate actively in the discussion in the presence of Faculty of ENT and hospital administration. This programme helps to adopt preventive measures as well as to maintain accountability in patient management.
11. Clinical counseling: in OPD, ward rounds, Emergency, ICU and the Operation Theatres: Residents/Senior Residents and faculty, make discussion on clinical diagnosis/surgical procedures/ treatment modalities, including post operative care and morbidity/mortality outcome.
12. Clinical interaction with audiologists/ speech therapist: post Graduated student will be incorporated in Clinical interaction pertaining to management of the patients with audiological and speech problems.
13. English language Courses and Lectures will be arranged for the residents for language proficiency besides the lectures on human values and ethical issues in patient care.
14. Writing thesis: Thesis progress is presented once in 3 months and discussion made in the dept. Guides/co-guides will resolve the problems of the candidate, provide assistance to the student. All progresses made or any deficiency of the candidate will be conveyed to Chairman of the department and respective dean of the university.
15. hands on Training in Skill Laboratory: Arrangement for Cadaveric temporal bone, & FESS for paranasal Sinuses and head & neck dissection in department of anatomy for surgical anatomy and surgical procedures independently and under supervision of faculty member.(for middle ear operations Zeiss microscope will be used.)

Methodologies for post Graduate Teaching/trainings in ENT Department

- By Tutorials and Lectures
- By Slide projectors presentations
- Multimedia presentation
- Clinico-pathological meetings
- Seminars/Conferences participation
- Bed side clinical teaching
- General Ward round discussion
- Outdoor cases discussion on patients
- Clinical Examination on patients
- Audio visual teaching in operation theater

Working Schedule of E.N.T Department

<u>DAYS</u>	<u>ENT-Unit 1</u>	<u>ENT- Unit II</u>
MONDAY	Ward round, Case discussion OPD, Emergency Day	Operation Theater
Tuesday	Operation Theater	Ward round, Case Discussion OPD, & Emergency Day
Wednesday	Ward round , Case presentation OPD & Emergency	Operation Theater
Thursday	Operation Theater	Ward round , Case presentation OPD, & Emergency
Friday	Basic sciences class, Emergency and OPD	General WARD DAY
Saturday	General Ward Day	OPD & Emergency Day, Case presentation
SUNDAY	(Alternate EMERGENCY DAY)	

Goals Of Teaching

To have an optimum knowledge and training of:

1. Examination of ENT.
2. Clinical assessment on patients.
3. History talking.
4. Preparation of clinical assignment.
5. Case discussion.
6. Group discussion.
7. pre-Operative Measurement Demonstrations.
8. Demonstration of operating procedures.
9. Instrument presentation & their uses.
10. Knowledge about anesthetic equipments techniques.
11. Sterilization techniques.
12. Post operative, follow up of the patient.
13. Ward test at the end of the posting.

Monitoring & Evaluation Methodology During training

1. MCQ's (Single Best Type)
2. Problem Solving Essays
3. Onside clinical examination on patient.
4. Viva voce.
5. Instrument evaluation and their use in practice.
6. Radiological Assessment.
7. Audio logical Assessment.
8. Surgical Specimens Assessments
9. Assessment on clinical photograph

The Examination for the degree (MS-ENT) shall consist of

Part-I **Basic Medical Science**

Assessments by MCQ'S (single Best)

- Total No :- 100 Marks
- Paper comprises 100 Basic Medical Science question. Including
- 40 question from Anatomy
- 40 question from Physiology
- 20 question from General Physiology
- The format of paper will be based on Single Best type question.
- No Negative Marking.
- Criteria for pass: 50% of the total mark
- S
- The candidate has to pass after six month of his admission

OR

- Before appearing in Final Examination.

There will be no viva and practical.

Part-II **Final Examination**

1. Theory Examination

There will be three papers of 100 marks each.

Paper---I	100MCQ Single Best type Question form the clinical ENT.
Paper---II	04 Problem Solving, Long Essay Questions
Paper---III	10 Problem Solving, Short Essay Questions.

Passing Criteria:

Candidate has to pass all three papers with 60% passing marks.

2. practical Examination-

- The Oral & clinical /practical part of examination will be held in the ENT department
- It will carry 300 Marks.
- The minimum criterion to pass examination is 60% of the total passing marks on each component of practical examination.
- The Practical & viva Examination shall consist of

1. Oral grand Viva

2. Identification of Surgical Pathology, excised specimens & discussion, X-Rays & CT Scan /MRI/ Identification of Instrument & discussion,

3. Interpretation on Audio Vestibular skills such as Pure tone audiogram, Impedance Audiometry, Tympanometry, Brain Stem Evoked Response Audiometry etc. surgical situation/steps of operative procedures, required instrument/discussion

4. Clinical Patient presentation/discussion:

- (i) On long case: The long case will be structured, comprising history taking, clinical examination, investigation, decision making, proposed treatment modalities, ethical justification personal attributes.

- (ii) Two short cases: The short cases will also be structured in which only any particular system may be discussed regarding clinical examination and their management protocol

Detail of Examination:

1. There shall be four examination including two external and two internal. One of the internal examinations will be chairman/Convener. The second internal examiner shall be next senior most member of Faculty of the department provided he/she is eligible.
2. All examination must be a full time teacher with requisite experience as per PMDC guidelines.
3. The external examiners will send two sets of question papers for the theory chief internal examiner of Chairman/Convener will moderate it and finally make two sets of each question paper. He/she shall send both sets of such papers to the university and university will decide to give one of the sets to the students.
4. All examination shall be jointly responsible for the examination. In presence of the external examination, the chairman and the internal examiner shall make the Final results, Formative assessment of the Final examination while preparing the Final Results, Formative assessment of the students shall be taken into consideration and the results will be sent to the university under seal cover on same day

Table of Specification for MS ENT (Basic Science)

Paper will consist of 100 MCQs.

Category	Essential	Important	supplementary	Questionable
Difficult	20	20	-	-
Moderate	25	25	-	-
Easy	5	5	-	-

I- Anatomy – 40 MCQs

<u>Content Area</u>	<u>Objective outcomes</u>			<u>Total</u>
	<u>Recall</u>	<u>Interpretation</u>	<u>Problem</u>	<u>Content</u>
	<u>C1</u>	<u>C2</u>	<u>Solving C3</u>	<u>%age</u>
Ear-10	3	4	3	25%
Nose+sinuses-10	3	4	3	25%
Naso-pharynx-2	-	1	1	5%
Oro-pharynx-3	1	1	1	7.5%
Larynx-3	1	1	1	7.5%
Hypo-pharynx-2	-	1	1	5%
Neck-4	-	2	2	10%
Easophagus-2	-	1	1	5%
Trachea/Bronchus-2	1	-	1	5%
Cranial Nerve-2	1	1	-	5%

Table of Specifications for M.S (Clinical Science)

Paper will consist of 100 MCQ,s.

Category	Essential	Important	Supplementary	questionable
Difficult	20	20	-	-
Moderate	25	25	-	-
Easy	5	5	-	-

Nose / Sinuses 33 MCQ, S.

<u>Content Area</u>	<u>Number of Question</u>	<u>Objective outcomes</u>			<u>Total Content %age</u>
		<u>Recall</u>	<u>Interpretation</u>	<u>Problem Solving</u>	
		<u>C1</u>	<u>C2</u>	<u>C3</u>	
Acute infection & Rhinitis	3	1	1	1	9.09%
Epistaxis	3	1	1	1	9.09%
Allergic Rhinitis	3	1	1	1	9.09%
Chronic Sinusitis	3	1	1	1	9.09%
Nasal septum	4	1	1	1	12.12%
Sino-Nasal Tumors	4	1	2	2	12.12%
Nasal Trauma	4	1	1	2	12.12%
Nasal polyps	4	1	1	1	12.12%
Chronic Granulomas	3	1	1	1	9.09%
Diseases of External Nose	2	-	1	1	6.0%