

Program and Course Structure

School of Medical Science and Research

MS (ENT-Ear Nose Throat)

Session:2020-23

1. Standard Structure of the Program at University Level

1.1 Vision, Mission and Core Values of the University

Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

Mission of the University

1. Transformative educational experience
2. Enrichment by educational initiatives that encourage global outlook
3. Develop research, support disruptive innovations and accelerate entrepreneurship
4. Seeking beyond boundaries

Core Values

- Integrity
- Leadership
- Diversity
- Community

1.2 Vision and Mission of the School

Vision of the School

To serve the society by being a premier institute that promotes a comprehensive approach to human health through excellence in academics, research and clinical care

Mission of the School

- Provide a transformative educational experience in Medical Science
- Develop skills and competencies to create global leaders in clinical care
- Promote innovative and collaborative research through intellectual and technological advancement
- Establish a center for excellence in preventive, promotive and curative health care

Core Values

- Integrity
- Leadership
- Ethics
- Community Health

1.3 Programme Educational Objectives (PEO)

1.3.1 Writing Programme Educational Objectives (PEO)

A post graduate student having qualified the MS (ENT) examination should be Able to:

- PEO1.** Practice his specialty ethically keeping in mind the requirement of the patient, community at large.
- PEO2.** Demonstrate sufficient understanding of basic sciences related to his specialty and be able to integrate such knowledge in his Clinical practice.
- PEO3.** Diagnose and manage majority of conditions in his specialty (clinically and with the help of relevant investigations)
- PEO4.** Plan and advice measures for the promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT
- PEO5.** Should be able to demonstrate his cognitive skills in the field of ENT and its ancillary branches during the formative and summative evaluation processes.
- PEO6.** Play the assigned role in the implementation of National Health Programs.
- PEO7.** Demonstrate competence in basic concepts of research methodology and writing thesis and research papers.
- PEO8.** Develop good learning, communication and teaching skills.
- PEO9.** Demonstrate sufficient understanding of basic sciences and the clinical applications related to specialty to be able to integrate this knowledge into Clinical practice. Acquire in depth knowledge in the subject including recent advances.
- PEO10.** Demonstrate that he is fully conversant with the latest diagnostics & therapeutics available.

1.3.2 Map PEOs with Mission Statements:

PEO Statements	School Mission 1	School Mission 2	School Mission 3	School Mission 4
PEO1:	3	3	2	3
PEO2:	3	2	2	3
PEO3:	3	3	3	3
PEO4:	2	2	3	3
PEO5	3	3	3	2
PEO6	3	2	3	2
PEO7	3	3	3	3
PEO8	3	3	3	2
PEO9	3	3	3	3
PEO10	3	2	2	2

1.3.3 Program Outcomes (PO's)

A. Cognitive Domain

A post graduate student having qualified the MS (ENT) examination should be able to

- PO1.** Teach the basic sciences related to Otolaryngology.
- PO2.** Practice principles of Otolaryngology, audiology and speech pathology.
- PO3.** know recent advances in Otolaryngology and head neck surgery.
- PO4.** Know surgical principles in head & neck surgery.
- PO5.** Participate actively in various workshops/seminars/Journal clubs/ demonstration in the allied departments, to acquire various skills for collaborative research.

B Affective domain

A post graduate student having qualified the MS (ENT) examination should be able to

- PO6.** The Student will show integrity, accountability, respect compassion and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development.
- PO7.** The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
- PO8.** The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities.
- PO9.** The student should be able to choose the required investigations to enhance the attitude, communicative skills, including dealing with patients' relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT

C. Psychomotor Domain The student should acquire competencies in the following tasks:

- PO10.** Examination of Ear Nose & Throat including evaluation of the audio-vestibulo-neurological system, nasal endoscopy, flexible endoscopy stroboscopy and voice analysis
- PO11.** Should demonstrate and perform various therapeutic skills related to the specialty such as tracheostomy, anterior/ posterior nasal packing, Ear packing, syringing and foreign body removal from ear nose and throat.
- PO12.** Air way management would suturing, dressing and basic principles of rehabilitation.
- PO13.** Should understand principles of and interpret X-rays /CT/MRI , audiograms, ENG, BERA, OAE, ultrasonographic abnormalities and other diagnostic procedures in relation to the speciality.
- PO14.** Should have observe/performed under supervision the various surgical procedures in relation to the speciality.
- PO15.** Writing a dissertation and a research paper and making presentation at conferences.
- PO16.** Appropriately using various teaching learning methods.

1.3.4 Mapping of Program Outcome Vs Program Educational Objectives

	PEO1	PEO2	PEO3	PEO4	PEO5	PEO6	PEO7	PEO8	PEO9	PEO10
PO1	1	3	3	2	3	3	2	2	3	“”
PO2	3	2	3	1	3	1	3	3	1	3
PO3	2	2	1	3	1	“”	1	2	2	3
PO4	3	3	3	3	3	1	2	1	3	3
PO5	1	2	3	1	“”	1	3	2	3	2
PO6	3	2	3	1	3	3	3	2	3	3
PO7	“”	2	3	“”	“”	1	“”	2	1	1
PO8	3	3	3	“”	“”	“”	“”	3	2	2
PO9	3	2	2	3	2	1	1	3	1	3
PO10	3	3	3	3	3	1	2	2	2	2
PO11	3	3	3	2	3	“”	“”	2	2	2
PO12	3	2	1	2	3	3	2	1	3	2
PO13	3	3	2	3	1	2	3	1	3	2
PO14	2	3	2	2	2	1	2	1	2	2
PO15	2	2	2	3	3	3	3	2	1	3
PO16	2	3	3	2	2	2	3	1	3	3

School: SMSR		Batch:
Program: MS ENT		Current Academic Year: 2019-20
1	Programme Code	SMS1001

Syllabus

Course contents:

1. Anatomy and Physiology of Ear, Nose and Throat, Trachea and esophagus.
2. The generation and reception of speech
3. Radiographic anatomy of the ear, nose, throat and imaging.
4. Bacteriology in relation to Otorhinolaryngology
5. Allergy and rhinitis
6. Haematology in relation to Otolaryngology
7. Anaesthesia for Otolaryngology
8. Pharmacology of drugs used in ENT
9. Electrolyte, fluid balance/shock conditions
10. Use of teaching aids
11. Routine blood, urine testing
12. Preparation of slides
13. Facial nerve stimulation test
14. Audiometric tests like pure tone Audiometry, Impedance Audiometry, Free field Audiometry, Specialized tests of hearing including SISI, Tone decay, ABLB, Speech discrimination score etc.
15. Vestibular tests like caloric testing (Water and Air) stopping test, Fukuda's test,
16. Evoked response audiometry.

Ear:

1. The physical and functional examination of the ear
2. The functional and physical examination of the vestibular system.
3. Tinnitus
4. Affections of external ear
5. Repair of deformities of the external ear.
6. Congenital conditions of the middle ear cleft
7. Traumatic conductive deafness
8. Acute inflammation of the middle ear cleft
9. Non-suppurative otitis media
10. Chronic suppurative otitis media
11. Management of chronic suppurative otitis media
12. Complications of infections of middle ear.
13. Tumors of the middle ear cleft and temporal bone
14. Diseases of the otic capsule-otosclerosis
15. Diseases of the otic capsule-other diseases
16. The deaf child

17. Acoustic neuroma
18. Ototoxicity
19. Presbycusis
20. Diagnosis and management of sudden and fluctuant sensorineural hearing loss
21. Meniere's disease
22. Neurologic aspects of vertigo
23. Facial paralysis
24. Rehabilitation of adults with acquired Hearing loss-Hearing aids
25. The cochlear Implants
26. Nystagmus
27. Otoacoustic emissions

Nose:

1. Examination of the nose
2. Conditions of the external nose
3. Injuries of the facial skeleton
4. Congenital diseases of the nose
5. The nasal septum
6. Foreign bodies in the nose, rhinolith
7. Epistaxis
8. Acute chronic inflammations of the nasal cavities
9. Vasomotor rhinitis-allergic and non-allergic
10. Nasal polyposis
11. Abnormalities of smell
12. Acute sinusitis
13. Chronic sinusitis
14. Nasal Allergy/Fungal allergic sinusitis
15. Complications of acute and chronic sinusitis
16. Tumors of nose and sinuses
17. Facial pains
18. Trans-ethmoidal hypophysectomy
19. Functional endoscopic sinus surgery (FESS)

Throat:

1. Methods of examination of the mouth and pharynx
2. Diseases of the mouth
3. Diseases of the salivary glands
4. Pharyngeal lesions associated with general diseases
5. Diseases of the tonsils and adenoids (excluding neoplasms)
6. Tumors of the pharynx
7. Hypopharyngeal diverticulum (Pharyngeal Pouch)

8. Methods of examining and larynx and tracheobronchial tree
9. Congenital diseases of the larynx
10. Laryngeal disorders in singers and other voice users
11. Neurological affections of larynx and pharynx
12. Intubation of the larynx, laryngotomy and tracheostomy
13. Cervical node dissection
14. Skin grafts in Otolaryngology and reconstructive methods including regional and distant flaps for repair of defects after excision of tumors or trauma.
15. Micro laryngeal surgery/thyroplasty

Miscellaneous and head and neck:

1. Cranial nerves
2. Raised intracranial tension-causes, diagnosis, management with particular reference to otitis hydrocephalus
3. Head injuries and I.C. Haemorrhage
4. Pituitary gland, anatomy, physiology hypo - and hyper - pituitarism, new growths.
5. Intracranial venous sinuses and their affections
6. Osteology: skull, mandible cervical and thoracic vertebral sternum
7. Cervical fascia, facial spaces in neck, retro-pharyngeal and parapharyngeal Abscesses
8. Anatomy and physiology of thyroid gland, goitre, diseases of the thyroid and carcinoma of thyroid
9. Large blood vessels in neck, thoracic duct development of major cervical and thoracic blood vessels.
10. Head and neck reconstructive surgery

Drugs used in ENT:

1. Antibiotics Antihistaminic
2. Nasal vasoconstrictors
3. Local anaesthetics
4. Corticosteroid
5. Cyto-toxic agents
6. Antibiotics
7. Radioactive isotopes
8. Antifungal agents
9. Vasopressive and other agents used in shock like states.

General:

1. Physiology of circulation, regulation of blood pressure, reactions of body to haemorrhage, patho-physiology of shock, fluid balance, blood transfusion and its hazards, fluid replacement therapy, burns
2. Agents used in shock like states

Desirable:

1. The ears and nasal sinuses in the aerospace environment
2. Physiological consideration of pressure effects on the ear and sinuses in deep water diving
3. The principles of cancer immunology with particular reference to head and neck cancer
4. Principles of chemotherapy in head and neck cancer
5. Recording of nystagmus by ENG and its interpretation

Ear:

1. Traumatic lesions of the inner ear
2. Inflammatory lesions of the vestibular and auditory nerve
3. Vascular lesions of the inner ear
4. Electronystagmography
5. Skull base/Neurologic surgery

Nose:

1. Cosmetic surgery of the nose
2. Non-healing granuloma of the nose
3. Surgery of the pterygopalatine fossa
4. LASER Surgery

Throat:

1. Oesophageal conditions in the practice of ear, nose and throat surgery
2. Disorders of speech
3. Lower respiratory conditions in Otolaryngology

Miscellaneous and head and neck

1. Functional Anatomy of cerebellum and brainstem
2. Anatomy of mediastinum
3. Pleura, plural cavity, broncho-pulmonary segments and their clinical importance
4. Facial plastic surgery

Assessment

Quarterly assessment during the MS training should be based on following educational activities:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning

3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs 12 The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

SUMMATIVE ASSESSMENT ie.,at the end of the training The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000. The examination will be in three parts:

1. Thesis Every post graduate student shall carry out work on an assigned research project under the guidance of a recognised Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature. Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A candidate shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory The examinations shall be organised on the basis of 'Grading' or 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in

'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period. Theory shall consist of four papers of 3 hours each.

Paper I: Basic Sciences related Otolaryngology

Paper II: Principles and Practices of Otolaryngology

Paper III: Recent advances in Otolaryngology and Head Neck surgery.

Paper IV: General Surgical Principles and Head-Neck Surgery.

- 1. Clinical / Practical** and viva voce Examination Clinical examination shall be conducted to test the knowledge, skills, attitude and competence of the post graduate students for undertaking independent work as a 13 specialist/teacher, for which post graduate students shall examine a minimum one long case and two short cases. The Oral examination shall be thorough and shall aim at assessing the post graduate student's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination. Assessment may include Objective Structured Clinical Examination(OSCE). Oral/Viva-voce examination needs to assess knowledge on X-rays, instrumentation, operative procedures. Due weightage should be given to Log Book Records and day-to-day observation during the training.

Recommended Reading: Books (latest edition) • Scott-Brown's Otorhinolaryngology and Head and Neck Surgery • Cummings Otolaryngology - Head and Neck Surgery • Otolaryngology, Otology & Neurotology by Paparella & Micheal • Glasscock-Shambaugh's Surgery of the

Ear • Essentials of Functional Sinus Surgery by Heinz Stammberger MD • Color Atlas of Head & Neck Surgery by Jatin P Shah • Handbook of Clinical Audiology by Jack Katz • Stell & Maran's Textbook of Head and Neck Surgery and Oncology Journals 03-05 international Journals and 02 national (all indexed) journals

Annexure I

Postgraduate Students Appraisal Form Pre / Para /Clinical Disciplines

Name of the Department/Unit :

Name of the PG Student :

Period of Training : FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1	Journal based / recent advances learning				
2	. Patient based /Laboratory or Skill based learning				
3	Self directed learning and teaching				
4	Departmental and interdepartmental learning activity				
5	External and Outreach Activities /				
6	CMEs				
7	Thesis / Research work				
8	Log Book Maintenance				

Publications

Yes/ No

Remarks* _____

_____ *REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD