

SUMANDEEP VIDYAPEETH

(Declared as Deemed to be University under Section 3 of the UGC Act 1956)

Accredited by NAAC with a CGPA of 3.53 out of four-point scale at 'A' Grade

Cafepory - Deemed to be university under UGC Act-2018

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CURRICULUM

Master of Surgery (M.S.) ENT

POST GRADUATE CURRICULUM IN ENT

Programme outcome M.S.

The purpose of MS education is to create specialists who would provide high quality health care and advance the cause of science through research & training. The goal of postgraduate medical education shall be to produce competent specialists and/or Medical teachers.

Programme specific outcome M.S.

POS 1. A post graduate specialist having undergone the required training should be able to recognize the health needs of the community, acquire knowledge to handle effectively medical / surgical problems and should be aware of the recent advances pertaining to his specialty.

POS 2. Practice the speciality concerned ethically and in step with the principles of primary health care.

POS 3... The PG student should acquire the basic skills in teaching of medical / para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development.

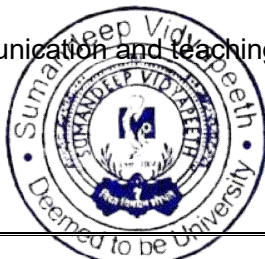
POS 4. Play the assigned role in the implementation of national health programme, effectively and responsibly.

POS 5.. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

POS 6.. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

COURSE OUTCOME (CO) : At the end of postgraduate training the student Practice his specialty ethically keeping in mind the requirement of the patient, community and people at large.

1. Demonstrate sufficient understanding of basic sciences related to his specialty and be able to integrate such knowledge in his Clinical practice.
2. Diagnose and manage majority of conditions in his specialty (clinically and with the help of relevant investigations)
3. Plan and advise measures for the promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT.
4. Should be able to demonstrate his cognitive skills in the field of ENT and its ancillary branches during the formative and summative evaluation processes.
5. Play the assigned role in the implementation of National Health Programs
6. Demonstrate competence in basic concepts of research methodology and writing thesis and research papers.
7. Develop good learning, communication and teaching skills.



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The goals of MS course in ENT are to produce a competent Otolaryngologist who:

- Recognizes the health needs of ENT patients and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.
 - Has the acquired competencies pertaining to ENT that are required to be practiced in the community and that all levels of health caresystem.
- Has acquired skills in effectively communicating with the patient, family and community.
- Is aware of the contemporary advances and developments in medical science as related toOtolaryngology.
 - Is oriented to principles of researchmethodology.
 - Has acquired skills in educating medical and paramedicalprofessionals.

Objectives

At the end of MS course in ENT, the student will be able to:

- Practice the specialty of Otolaryngology in keeping with the principles of professionalethics.
- Recognize the key importance of deafness control programme in the context of health priority of thecountry.
- Take detailed history; perform physical and local ENT examination including Indirect Laryngoscopy, Anterior, Posterior rhinoscopy, otoscopy, audiometric assessment and interpretation.
- Perform relevant investigative and therapeutic procedures for the ENTpatient.
- Interpret important imaging and laboratoryresults.
- Diagnose ENT problems based on the analysis of history, physical examination and investigative workup.
- Plan and deliver comprehensive treatment for ENT pathologies..
- Plan and advice measures for the prevention of deafness, allergies, head neck cancers and to plan rehabilitationaccordingly.
- Manage ENT emergenciesefficiently.
- Demonstrate skills in documentations of case details and of morbidity and mortality data relevant to the assignedsituation.
- Demonstrate empathy and humane approach towards patients and their families and respect their emotions.
- Demonstrate communicate skills in explaining management and prognosis, providing counseling and giving health education messages to patientsand their families.
- Develop skills as self directed learner, recognize continuing educational needs, use appropriate resources and critically analyze relevant published literature in order to practice, evidence, basedotolaryngology.
- Demonstrate competence in basic concepts of research methodology and epidemiology.



- Facilitate learning of medical/nursing students, practicing physicians, paramedical health workers and other providers as a teacher/trainer.
- Play the assigned role in the implementation of national deafness programs, effectively and responsibly.
- Organize and supervise the desired managerial and leadership skills.
- Function as a productive member of a team engaged in health care, research and education.
- Be able to search, appraise and apply the latest evidences related to history.

Syllabus

The syllabus of a Masters course in any subject can never be exhaustive and at best can be considered as indicative only.

Theory

Basic Sciences

Ear

- o Anatomy embryology and ultrastructure of the human ear.
- o Physiology of hearing.
- o Assessment of hearing.
- o Hearing loss.
- o Physiology of equilibrium and its application to the dizzy patient.
- o Assessment of vestibular function
- o Eustachian tube anatomy and physiology
- o Facial nerve

Temporal bone

Audiology

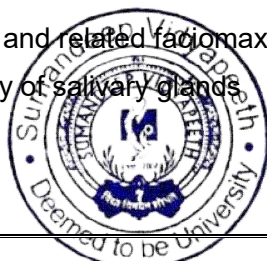
- o Audiometry and masking.
- o Tympanometry
- o BERA

Nose and Paranasal Sinuses

- o Anatomy and Embryology.
- o Physiology.
- o Pathophysiology of the ears and nasal sinuses in flight and diving.
- o Nasal Septum.
- o Evaluation of the nasal airway (Rhinomanometry)

Oral cavity

- o The embryology /anatomy of mouth and related orofacial structure
- o Embryology/anatomy and physiology of salivary glands



Pharynx and oesophagus

- o Anatomy, embryogenesis and physiology of pharynx
- o Anatomy and embryogenesis of oesophagus and its relations
- o Physiology of deglutination

Larynx and tracheobronchial tree

- o Anatomy and embryology
- o Physiology of respiration
- o Physiology of phonation

Skull base

- o Surgical anatomy
- o Clinical neuroanatomy

Neck

- o Facial spaces of head and neck
- o Lymph nodes of head and neck
- o Thyroid gland

Imaging and Radiology

- o Image taking and interpretation of
- o Ultrasound
- o Angiography
- o Dacryocystography
- o X-rays
- o CT
- o MRI
- o Barium studies
- o Contrast studies etc with respect to ENT

Basic immunology

Microbiology as related to ENT

Wound healing principle

Intensive care in ENT patients

Anesthesia in ENT

Biomaterials used in ENT

Medical negligence in otolaryngology

Principle of chemotherapy

Principle of radiotherapy

Principle and use of nuclear medicine

Principles of laser surgery



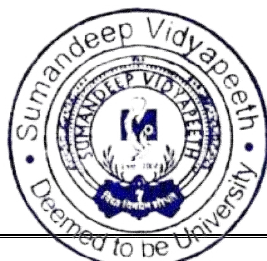
ENT Disorders: Their Medical/Surgical Management

Ear

- o Etiology and management of inflammatory condition of external and middle ear
- o Pathology of cochlea
- o Pathology of vestibular ear
- o Diseases of external ear
- o Diseases of Eustachian tube
- o Ear trauma
- o Management of CSOM and cholesteatoma.
- o Complications of CSOM and their management
- o Otosclerosis etiology, pathogenesis and management
- o Meniere's disease etiology, pathogenesis and management
- o Sensorineural hearing loss causes and management
- o Vertigo
- o Otolgia causes and management
- o Tinnitus causes and management
- o Ototoxicity
- o Acoustic neuroma
- o Epithelial tumours of EAC and middle ear
- o Glomous tumour of ear
- o Facial nerve disorder, etiology, pathogenesis and management
- o Cochlear implants
- o Rehabilitation of hearing impaired
- o Reconstruction of ear

Nose and paranasal sinuses

- o Conditions of external nose
- o Abnormalities of smell
- o Mechanism and treatment of allergic rhinitis



- o Fracture of facialskeleton
- o Rhinoplasty
- o Epistaxis
- o Snoring and sleepapnea
- o Non healing granulomas ofnose
- o Facial pain andheadache
- o Aspects of dental surgery forENT
- o Trans sphenoidalhypophysectomy
- o The orbit with relation withnose
- o Cysts,granulomas and tumours of jaws, nose andsinuses
- o Deviated septum andseptoplasty
- o Neoplasm of nasalcavity
- o Neoplasm ofPNS

Oral cavity and Salivary Glands

- o Common disorder of oral cavity
- o Tumors of oralcavity
- o Non neoplastic disorder of oralcavity
- o Neoplasm of salivary gland 1.bengin2.malignant

Pharynx and Esophagus

- o Acute and chronic infection ofpharynx
- o Neurological affective ofpharynx
- o Pharyngealpouches
- o Abscesses in relation to thepharynx
- o Angiofibroma
- o Nasopharyngealmalignancy
- o Tumours of oropharynx and lymphomas of head andneck
- o Tumours ofhypopharynx
- o The oesophagus inotolaryngology.



arynx

- o Acute and chronic laryngitis
- o Disorders of voice
- o Management of obstructive airway and tracheostomy
- o Trauma and stenosis of larynx
- o Neurological affections of larynx
- o Tumours of larynx (benign & malignant)
- o Congenital lesion of larynx and stridor

Neck /Face

- o Benign disease of neck
- o Metastatic neck disease
- o The thyroid gland benign / malignant disorders
- o Tumours of infratemporal fossa and parapharyngeal space
- o Facial plastic surgery.
- o Plastic and reconstructive surgery of head and neck

Paediatrics Otolaryngology

- o Genetic factors and deafness
- o Causes of deafness
- o Testing hearing in children
- o Screening and surveillance for hearing impairment in pre school children
- o Otitis media with effusion
- o Acute and chronic suppurative otitis media in children
- o Surgery of congenital absence of external / middle ear
- o Management of hearing impaired child.
- o Cochlear implantation in children
- o Vestibular disorder in children
- o Speech and language development
- o Foreign body in ear and nose
- o Congenital anomalies in nose
- o Craniofacial anomalies
- o Nasal obstruction , rhinorrhoea in infants and children
- o Tonsils and adenoids
- o Dental development , orthodontics, cleft lip and palate
- o Sleep apnea



- o Pertussis and stridor
- o Acute laryngeal infections
- o Home care of tracheostomised children
- o Branchial cleft anomalies, thyroglossal cyst and fistula.
- o Tumors of head and neck in children
- o The drooling child
- o Recurrent respiratory papillomatosis
- o Pediatric anesthesia

Practical

History taking pertaining to Otolaryngology and examination like:

- _ Anterior and posterior rhinoscopy
- _ Oral cavity examination
- _ Indirect laryngoscopy
- _ Otoscopy
- _ Neuro-otology testing
- _ Tuning fork testing
- _ Audiometry
- _ Impedance and vestibular function testing
- _ Examination of Eustachian tube
- _ Functional examination of nose
- _ Transillumination test
- _ Neck examination
- _ Examination of cranial nerves
- _ Examination of cervical lymph nodes
- _ Nasal endoscopy
- _ Flexible fiberoptic laryngoscopy
- _ Micro-ear examination

Monitoring skills

- _ Temperature recording
- _ Capillary blood sampling
- _ Arterial blood sampling
- _ Cardio-respiratory monitoring
- _ Post-operative patient monitoring and management accordingly,
- _ Tracheostomy care
- _ Blood gas analysis
- _ Airway management.

Therapeutic skills

- _ Tracheostomy,
- _ Anterior/posterior nasal packing
- _ Ear packing, syringing,
- _ Foreign body removal from ear/nose/throat,
- _ Airway management



- _ Nasogastric feeding
- _ Endotracheal intubation
- _ Cardiopulmonary resuscitation
- _ Administration of oxygen
- _ Venepuncture and establishment of vascular access
- _ Administration of fluids, blood, blood components, parenteral nutrition
- _ Common dressings
- _ Abscess drainage
- _ Basic principles of rehabilitation.

Suggested Books -

Core books:

Name of Books.

Author

- | | |
|---|-----------------------|
| • Diseases of ear, nose and throat. | Scott Brown |
| • Head and Neck surgery. | PM Stell & AGD Maran |
| • Surgery of the Ear. | Glasscock & Shambaugh |
| • Otolaryngology - Head & Neck Surgery. | Cummings. |
| • Diseases of ear, nose and throat. | Logan Turner |
| • Diseases of ear, nose and throat. | PL Dhingra |
| • Audiological assessment. | Anirban Biswas |

Reference Books:

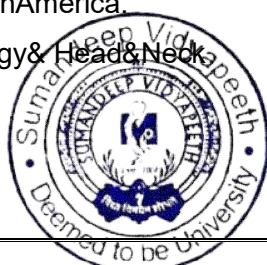
Name of Books.

Author

- | | |
|--|----------------------|
| • Otolaryngology, Otolology & Neurotology. | Paparella & Micheal. |
| • Essentials of endoscopic sinus surgery. | S. Stamberger |
| • Colour Atlas of Head & Neck Surgery. | Jatin P Shah |

Journals

- Archives Otolaryngology.
- Journal of Laryngology & Otolology.
- Journal of Otolaryngology,
- Otolaryngologic Clinics of North America.
- Indian Journal of Otolaryngology & Head & Neck



- **Teachingschedule**

Learning in postgraduate program is essentially self-directed and primarily emanates from clinical and academic work. The formal sessions are merely meant to supplement this core effort. The following are formal teaching sessions for post graduate students:

- OrientationWorkshop - At the beginning of thecourse
- TeachingTechnologyworkshop - In second year
- Didactic lectures (With UGstudents)- As and whenpossible
- SeminarPresentations - Once aweek
- CasePresentations - Once aweek
- GrandRounds - Once a week
- ThesisReviews - Once aquarter
- Journalclubs - Once a week
- DeathReview - Once a month
- ClinicopathologicalConferences - Once a month
- Formativeassessments - Once a month & Prelims before Universityexams.

Orientation Workshop:

This is conducted within the first eight weeks of admission to the course. The schedule includes exposure to the steps and elements of EBM over a 2 half day period. It is conducted centrally under the aegis of the College Medical Education Unit.

Teaching Technology Workshop

This workshop is conducted in the second year of the course over a period of two half days. It introduces the student to the concepts of Group Dynamics and Microteaching woven with the elements of EBM, thus preparing them for the role of under graduate teacher. It is also conducted centrally under the aegis of the College Medical Education Unit.

- To introduce Basic life support (BLS) and Advanced Cardiac Life Support (ACLS) trainingforalltheFirstyearPostgraduateResidentDoctorsfromacademicyear2017-18. (Board of Studies letter no.: SBKSMIRC/Dean/1777(A)/2017, dated 28/11/2017 and Vide Notification of Board of Management Resolution Ref: No.: SV/8813/2017-18, dated 06/04/2018)



- To introduce New chapter / topic 'Intellectual Property Rights (IPR) for all the First year Postgraduate Resident Doctors from academic year 2020-2021 of duration of 4hrs (Board of Studies letter no.: SBKS/DEAN/742/2021, dated 05/06/2021 and Vide Notification of Board of Management Resolution Ref no.: SVDU/R/3051-1/2020-21, dated - 29th July 2021)

List of topics :

1. Introduction-Concept of Intellectual Property, Historical view of Intellectual Property system in India and International Scenario, Evolution of Intellectual Property Laws in India, Legal basis of Intellectual Property Protection, Need for Protecting Intellectual Property, Theories on concept of property - Major IP Laws in India.
 2. Types of IPR: Patents, Copyright, Trademark Industrial Designs, Trade Secrets.
 3. Patents: Concept of Patent, Criteria of Patentability, Inventions NOT patentable, Process of Obtaining a Patent, Duration of Patents, Rights of Patentee, Limitation of rights, Infringement and Enforcement.
 4. Copyrights: Meaning of Copyright, Copyright Vs. Moral rights, Copyright eligibility, Term of Copyright, Registration of Copyright, Infringement and Remedies
 5. Trademark: Meaning of Trademark, Criteria for trademark, Procedure for Trademark Registration, Term of protection, Infringement and Remedies.
 6. Industrial Designs: Meaning of Industrial Designs, Rights in Industrial Designs: Nature, Acquisition and duration of rights.
 7. Trade Secrets: Meaning of Trade Secrets, Need to protect Trade secrets, Criteria of Protection, Procedure for registration, Infringement.
 8. Commercialization of IPR: Traditional IP and Evolving IP, Assignment, Licensing, Cross License, Patent Pool, Negotiations, Defensive Publications, Technical Disclosure. Patent Pooling, Patent Trolling, Brand Management, Brand and Pricing Strategies.
- With reference to the Notification vide no. MC!-18(1)12020-Med.1121415, dated 16.09.2020, related to 'Postgraduate Medical Education (Amendment) Regulations 2020'; all the postgraduate students pursuing MD / MS in broad specialties in Sumandeep Vidyapeeth Deemed to be University, as a part of course curriculum, shall undergo a compulsory Residential rotational posting in the 3rd or 4th or 5th semester of the Postgraduate programme, for a duration of three months, in the District Hospitals / District Health System, is confirmed and approved for execution.
 - (Board of Studies letter no.: SBKS/DEAN/1576/2020, dated 0/10/2021 and Vide Notification of Board of Management Resolution : Ref no. SVDU/R/1271-1/2020-21, dated - 30th December 2020)

To consider and approve the tmpte Students admitted in the 2021-22 batch as per the NMC notifications vide letter F.No. NMC23(1)(25)12021/PG/053909 dated 2211212022 and Clarification issued by NMC vide letter F. N o. N M C/23 (1) (25) 12021 I Med. I 00 1 866 d ated 1 9 I O t t 2023 Resolution ' with reference to the NMC notifications vide letter F.No. NMC-23(1)(25)t2o21tpcto53g0g dated 2211212022 and Clarification issued by NMC vide letter F.No.NMC/23(1)(25)t2021/Med./001g66 dated 1910112023. the District Residency Program (DRP) shall be implemented for the students admitted in 2021-22 batch onwards. The said notification and clarification from NMC were considered and passed unanimously.

The communication from National Medical Commission vide no. NMC-23 (1) (25) / 2021 / PG / 053909, dated 22.12.2022 regarding Implementation of District Residency Programme, and National Medical Commission vide no. NMC-23(1)(25)/2021/Med./001866, dated 19.01.2023 regarding Clarification on implementation of District Residency Programme, is adopted for execution.

(BOS-Ref :SBKSMIRC/Dean/Outward No.1158/2022-23, Date of Academic council : 11/02/2023)

(BOM-Ref. No.: SVDU/R/2431-A/2022-23, Date of Academic council : 29/05/2023)

Didactic lectures (With UG students)

Post graduate students who are free are expected to attend the didactic lecture sessions of UG students. These lectures are delivered imbining the concepts of EBM, especially by incorporating appraised studies related to the topic of the lecture.

Seminar Presentations

All seminar presentations are expected to be incorporated with the latest graded evidence on the matter and assessment is done accordingly.

Case Presentations

The management aspects of case presentations are to be done citing structured evidence pertinent to the condition.

Grand Rounds

The sessions provide a unique opportunity to demonstrate the application of latest relevant evidence on all aspects diagnosis, prognosis and management of patients and are conducted as such. The faculties demonstrate how the actual condition of the patient and his management is assessed and planned using the principles of evidence based management. These sessions, besides providing insights in evidence based management of patients, prime the student to practice lifelong EBM by role modeling.

Journal Clubs

Journal Club sessions are conducted purely on the basis of systematic critical appraisal of the article presented. These sessions thus provide a good opportunity to students to practice the principles and steps of critical appraisal of journal articles in EBM. Thus repeated hands on application hones the critical appraisal skills of the student.

Under Graduate Teaching

Besides this post graduate students are an active component of the under graduate training programme. Third year post graduate students conduct clinics for undergraduate



students especially those in the fourth semester. The post graduates are encouraged to conduct these clinics incorporating aspects of EBM.

Theory

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.

3. 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

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.

