

# M.S. Ramaiah University of Applied Sciences

New BEL Road, MSR Nagar, Bangalore – 560054



**RAMAIAH  
UNIVERSITY**  
OF APPLIED SCIENCES

## PO, PSO & CO

**Programme: MS in ENT**

**Programme Code: 149**

**Programme Outcome (PO)**

**Programme Specific Outcome (PSO)**

**Course Outcomes (CO)**

*Shalini*

**Principal and Dean**

M.S. Ramaiah Medical College and Hospital

M.S. Ramaiah University of Applied Sciences

Bangalore-560054



# Ramaiah Medical College (RMC)

## Programme Outcomes

### Post Graduate Programme: MS in ENT

#### Programme objectives (PO) for MS ENT Postgraduate students

At the end of the program the postgraduate students should

**PO1.** Develop the knowledge, skills and attitude to be a competent otorhinolaryngologist (C, P).

**PO2.** Demonstrate a commitment to excellence and continuous professional development with integrity, compassion and sensitivity to patient care. (A)

**PO3.** Acquire and develop the knowledge, skills and attitude required to be a competent and ethical researcher and teacher. (A, C, P)

**PO4.** Be able to independently perform diagnostic and surgical procedures applicable to his speciality with a reasonable degree of professionalism and competence. (P)

## Programme Specific Outcomes (PSOs)

### Programme specific outcome (PSO) for MS ENT Postgraduate students

**PSO 1.** Demonstrate adequate understanding of the anatomy and physiology of otorhinolaryngology and head, neck and its clinical applications related to the speciality and to be able to assimilate this knowledge into Clinical practice. (C,P)

**PSO2.** Demonstrate the ability to evaluate scientific/clinical information in otorhinolaryngology and head, neck surgery and critically analyze conflicting data and hypothesis. (C,P)

**PSO3.** Practice his/her speciality efficiently and effectively, backed by scientific knowledge and skills with sufficient understanding of basic sciences, recent advances and clinical applications, keeping in mind the requirement of the patient, community and people at large. (A,C,P)

**PSO4.** To acquire a strong clinical basis with sound knowledge base to develop the cognitive, psychomotor, research, promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT required to enable a postgraduate to undertake the independent practice of ENT at a specialist level. (A,C,P)

**PSO5.** To acquire skills in teaching, research methodology, epidemiology, biostatistics, paper & poster preparation, writing research papers, thesis and participate in national health education programs. (C,P)

**PSO6.** To teach students effectively by using appropriate learning resources, teaching methodology and to acquire skills of integrating Otorhinolaryngology with other disciplines as and when needed. (C,P)

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**PSO7.** To recognize continuous educational needs and update their knowledge regarding recent advances, latest diagnostics & therapeutic advancements, developments and medico-legal aspects in otorhinolaryngology. (A,C,P)

**PSO8.** The student should develop integrity, accountability, respect, compassion, honest work ethics and empathetic behaviour with patients, students and colleagues. (A,C)

## Course Outcomes (COs)

**Course Title & Code: Basic Sciences related to Otorhinolaryngology (MSC517A)**

**Subjects At the end of the course, the students should be able to:**

- CO-1.** Mechanism of perception of smell and taste, mechanism of breathing and voice production, lacrimation, deglutition and salivation. Functional tests of the nose and Paranasal sinuses, mechanism of cough and sneezing. (C)
- CO-2.** Physics of sound, theories of hearing, mechanism of perception of sound and speech production, physiology of equilibrium and cerebral function. Physiology of brain in connection with hearing, speech, smell and phonation. Audiologic tests like audiometry, impedance, evoked potentials, OAE, Speech audiometry. (C,P)
- CO-3.** Physiology of larynx, tracheobronchial tree and Oesophagus - Histology of mucous membranes, internal ear and other associated organs and structures, nose, PNS, Nasopharynx, Larynx, Tracheo-Bronchial tree, Lymphoepithelial system. Mechanism of immune system/immunology and genetics. (C)
- CO-4.** Anatomy-Embryology of ear, nose and throat including palate,, tongue, salivary gland, larynx, Oesophagus, trachea and lungs, Head and Neck and skull base etc. (C)
- CO-5.** Neck spaces including connective tissue barriers of larynx. (C)
- CO-6.** Applied anatomy of the skull bones, accessory sinuses, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, oesophagus and the mediastinum. (C)
- CO-7.** Anatomy of all cranial nerves with their functions. . (C)

## Course Outcomes (COs)

**Course Title & Code: Principles and Practices of Otorhinolaryngology (MSC518A)**

**Subjects At the end of the course, the students should be able to:**

- CO-1.** Clinical Methodology as applied to Otorhinolaryngology - Head and neck diseases in adult and children, diagnosis and surgical treatment of diseases of nose, throat and ear in adult and children. Prevention and treatment, infectious diseases of Otolaryngology and Head Neck region. Circulatory and nervous disturbances of the nose, throat and ear and their effects on other organs of the body. Deformities, injuries, sinus infections, polyps and the tumors of the nose and Paranasal sinuses. . (A,C,P)
- CO-2.** Examination of the ear, deafness and allied diseases, complications of diseases of the ear. Injuries, tumors, nervous and circulatory neurological disturbances of the ear. Diagnosis and treatment of tinnitus and vertigo. Diagnosis and rehabilitation of the speech and hearing handicapped including, dispensing of hearing aid other vibrotactile aids.



## Course Outcomes (COs)

Course Title & Code: Recent advances in Otorhinolaryngology and Head Neck surgery (MSC519A)

Subjects At the end of the course, the students should be able to:

- CO-1. Recent developments in the diagnosis, pathogenesis and treatment of the ENT diseases . (C,P)
- CO-2. The knowledge of the frontiers of the Oto-laryngology and lateral skull base surgery . (C)
- CO-3. Rhinoplasty, endoscopic sinus surgery, and anterior skull base surgery . (C,P)
- CO-4. Knowledge of LASERS and fibre optics . (C)
- CO-5. Other methods of managing Hearing loss . (C,P)
- CO-6. Implantable hearing aids and cochlear implants. . (C,P)
- CO-7. Phonosurgery . (C,P)
- CO-8. Etiology and Managements of sleep Apnoea /snoring. (C,P)
- CO-9. Hypophysectomy and optic nerve decompressions. (C,P)
- CO-10. Immunotherapy and modalities of the gene therapy. (C,P)
- CO-11. Newer techniques for Radiotherapy including, use of gamma knife for treatment of Intracranial tumors and other malignancy. (C,P)
- CO-12. Chemotherapy of Malignancies in head and neck. . (C)

## Course Outcomes (COs)

Course Title & Code: General Surgical Principles and Head-Neck Surgery. (MSC520A)

Subjects At the end of the course, the students should be able to:

- CO-1. General Surgery, Head and Neck oncology, and Medicine as applicable to the ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) and trachea/ Oesophagus etc. . (C,P)
- CO-2. Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and intervention radiology and angiography as related to ENT . (C)
- CO-3. General Pathologic aspects such as wound healing and also pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, hematology, and immunology as pertinent to otolaryngology . (A,C,P)
- CO-4. General Principles of facio-maxillary trauma and neck injury including laryngo, tracheal injuries. . (C,P)
- CO-5. Plastic Surgery as applicable to Otolaryngology. (C,P)

## Course Outcomes (COs)

Course Title & Code: Thesis- ENT (MSP505A)

Subjects At the end of the course, the students should be able to:

- CO-1. The student should be introduced to basic research methodology so that he/she can independently perform fundamental and applied research and he/she should

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independently write the thesis in accordance with the prescribed norms as per international standards (C,P)

- CO-2.** The student should be able to demonstrate integrity, accountability, respect, compassion and dedicated patient care and commitment to excellence, continuous professional development and ethical principles relating to research and publication as applicable to all the specific courses. . (A, C.P)

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