Chapter III
Post Graduate Courses in Otorhinolaryngology

MS in Otorhinolaryngology

Goal

The goals of postgraduate training course would be to train a MBBS doctor who will:

- Practice efficiently and effectively, backed by scientific knowledge and skill base.
- Exercise empathy and a caring attitude and maintain high ethical standards.
- Continue to evince keen interest in continuing education in the speciality irrespective of whether he is in a teaching institution or is a practicing surgeon.
- Be a motivated 'teacher' – defined as a specialist keen to share his knowledge and skills with a colleague or a junior or any learner.

Objectives

The following objectives are laid out to achieve the goals of the course. These objectives are to be achieved by the time the candidate completes the course. The Objectives may be considered under the subheadings

1. Knowledge (Cognitive domain)
2. Skills (Psycho motor domain)
3. Human values, Ethical practice and Communication abilities

Knowledge:

- Demonstrate understanding of basic sciences relevant to this specialty.
- Describe aetoiology, pathophysiology, principles of diagnosis and management of common problems including emergencies, in adults and children.
- Describe indications and methods for fluid and electrolyte replacement therapy including blood transfusion
- Describe common malignancies in the country and their management including prevention
- Identify social, economic, environmental and emotional determinants in a given case, and take them into account for planning therapeutic measures.
- Recognize conditions that may be outside the area of his specialty/competence and to refer them to the proper specialist.
- Advise regarding the operative or non-operative management of the case and to carry out this management effectively.

- Update oneself by self study and by attending courses, conferences and seminars relevant to the speciality.
- Teach and guide his team, colleagues and other students.
- Undertake audit, use information technology tools and carry out research, both basic and clinical, with the aim of publishing his work and presenting his work at various scientific fora.

Skills

- Take a proper clinical history, examine the patient, perform essential diagnostic procedures and order relevant tests and interpret them to come to a reasonable diagnosis about the surgical condition.
- Perform common operative procedures in Otorhinolaryngology.
- Provide basic and advanced life saving support services (BLS & ALS) in emergency situations
- Undertake complete patient monitoring including the preoperative and post operative care of the patient.

Human values, Ethical practice and Communication abilities

- Adopt ethical principles in all aspects of his/her practice. Professional honesty and integrity are to be fostered. Care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- Develop communication skills, in particular the skill to explain various options available in management and to obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

Course Contents

i) Theory

1. Basic Sciences

Anatomy of the ear / physiology of hearing and equilibrium / Anatomy of nose and paranasal sinuses / Anatomy of pharynx oesophagus / Deglutition / Anatomy of larynx and tracheobronchial tree / Physiology of respiration / Physiology of generation and reception of speech. Surgical anatomy of skull base / Cranial nerves / Imaging and Radiology pertaining to ear, nose and throat (ENT) / Knowledge of Immunology and Microbiology as regarding ENT /

Radiotherapy and Chemotherapy in Head & Neck Cancers / Wound healing / Principles of Laser Surgery / Basics of anaesthesia and Intensive Care in relation to ENT / A thorough knowledge of anatomy of head and neck region including thyroid, neck spaces and salivary glands / Physiology of smell.

2. Audiology

(A)	(B)	(C)
a) Brief knowledge of acoustics	1) Epidemiology / Prevention / rehabilitation of balance & hearing disorders	1) Diagnostic audiometry
b) Use of computers in audiological and vestibular testing and rehabilitation	2) Hearing aids	2) Diagnostic testing of vestibular system
	3) Cochlear implants	

3. Otology

Diseases of ext. auditory canal and middle ear – Acute suppurative Otitis Media – CSOM.

Complications of CSOM - Plastic Surgery of ear – Otosclerosis – SN Loss in adults and children – vertigo – Meniere's disease – ototoxicity – vestibular Schwannoma – tumours of middle ear cleft – glomus jugulare – Disorders of facial nerve – Cochlear implants.

4. Laryngology

Acute & Chronic infections of oral cavity, pharynx, tonsils and larynx.

- Trauma & stenosis of larynx
- Management of obstructed airway and tracheostomy
- Disorders of voice
- Neurological affections of pharynx and larynx
- Pharyngeal pouch
- Tumours of larynx
- Angiofibroma and nasopharyngeal lesions

Tumours of oropharynx and lymphoma head and neck
Tumours of hypopharynx
Benign diseases of the neck
The thyroid gland and disorders

Diseases of salivary gland – neoplastic & non-neoplastic
Tumour of infra temporal fossa and parapharyngeal space. Cysts, granulomas and tumours of jaw, nose and sinuses.
The oesophagus in Otolaryngology, Facial Plastic Surgery and reconstructive surgery of head and neck
Terminal care of head and neck cancer

5. Rhinology

Radiology of Nose and Para nasal sinuses
- Congenital anomalies of the nose
- Conditions of external nose
- Abnormalities of smell
- Allergic rhinitis
- Intrinsic rhinitis and nasal polypi
- Infective rhinosinusitis / Complication and surgical management
- Disorders and trauma of facial skeleton
- Disorders of nasal septum
- CSF rhinorrhoea
- Epistaxis
- Snoring and sleep apnea
- Chronic granuloma's of nose and PNS
- The orbit in relation to ENT
- Transphenoidal hypophysectomy
- Overview of facial pain and headache

ii) Practical / Clinical

Mandatory:
Dissection of Head & Neck

10 temporal bone dissection which includes:
1. Cortical mastoidectomy
2. MRM & Radical mastoidectomy
3. Facial nerve decompression
4. Post tympanotomy
5. Labyrinthectomy
6. Endosympathetic sac decompression
7. Translarbyrinthine approach to IAM

iii) Essential list of Surgical Procedures

Following procedures are classified as : a) to be done independently (PI)
c) to assist a senior specialist /consultant (PA)
d) To wash and observe the procedure (O)

Otology

To be done independently (PI). The minimum number to be done is given against each procedures

Cortical mastoidectomy - 5 cases
MRM -
Radical mastoidectomy - 2 cases
Myringoplasty - 3
Myringotomy and Grommet insertion - 3 cases
Ossiculoplasty - one case
Facial N Decompression - optional

To have assisted or observed – Stapedectomy (PA/O)

1. Rhinology

To be done independently (PI)

- Reduction of fracture nasal bones - 1
  SMR - 7 cases
- Septoplasty - 2 cases
- Diagnostic nasal endoscopy - 5 cases
- FESS a) Uncinectomy
  b) Polypectomy - 2 cases
  c) Anterioethmoidal cell clearance
  d) Middle meatal antrostomy
- Caldwel Luc - 1 case
- Antral lavage - 10 cases
- Intranasal antrostomy - 5 cases

To Assist or observe:

- FESS – Postr. Ethmoid / sphenoid / frontal sinus surgery
- Maxillo facial surgeries
- External operations of frontoethmoid sinus
- Maxillectomy - Total
  - Partial

2. Laryngology Head and Neck

To be done independently (PI)

- Tracheostomy - 2 cases
- Tonsillectomy - 10 cases
- Adenoidectomy - 2 cases
- DL Scopy - 10 cases
- Oesophagoscopy / Upper oesophagus foreign body removal - 5 cases

To Assist or observe

- Bronchoscopy
- Total / Partial laryngectomy
- Block dissections of neck
- Thyroid surgery
- Salivary gland surgery
- Microlaryngeal surgery

Teaching and Learning Activities

A candidate pursuing the course should work in the institution as a full time student. No candidate should be permitted to run a clinic/laboratory/nursing home while studying postgraduate course. Each year should be taken as a unit for the purpose of calculating attendance.

Every student shall attend teaching and learning activities during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

A list of teaching and learning activities designed to facilitate students acquire essential knowledge and skills outlined is given below.

1. Lectures: Lectures are to be kept to a minimum. They may, however, be employed for teaching certain topics. Lectures may be didactic or integrated.

   a) Didactic Lectures: Recommended for selected common topics for post graduate students of all specialties. Few topics are suggested as examples:
      1) Bio-statistics
      2) Use of library
      3) Research Methods
      4) Medical code of Conduct and Medical Ethics
      5) National Health and Disease Control Programmes
      6) Communication Skills etc.

   These topics may preferably taken up in the first few weeks of the 1st year.

   b) Integrated Lectures: These are recommended to be taken by multidisciplinary teams for selected topics, eg. Jaundice, Diabetes mellitus, Thyroid etc.

2. Journal Club: Recommended to be held once a week. All the PG students are expected to attend and actively participate in discussion and enter in the Log book relevant details. Further, every candidate must make a presentation from the allotted journal(s), selected articles at least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See

Checklist in Chapter IV). A time table with with names of the student and the moderator should be announced in advance.

3. Subject Seminar: Recommended to be held once a week. All the PG students are expected to attend and actively participate ion discussion and enter in the Log Book relevant details Further, every candidate must present on selected topics as least four times a year and a total of 12 seminar presentations in three years. The presentations would be evaluated using check lists and would carry weightage for internal assessment (See Checklist in Chapter IV). A timetable for the subject with names of the student and the moderator should be announced in advance.

4. Dissection Head and Neck
Temporal bone dissection which includes:
Cortical mastoidectomy
MRM and Radical mastoidectomy
Facial nerve decompression
Posterior tymponotomy
Labrintectomy
Endosympathetic sac decompression

5. Ward Rounds: Ward rounds may be service or teaching rounds.
a) Service Rounds: Postgraduate and Interns should do every day for the care of the patients. Newly admitted patients should be worked up by the PGs and presented to the seniors the following day.
b) Teaching Rounds: Every unit should have 'grand rounds' for teaching purpose. A diary should be maintained for day to day activities by the students.

Entries (a) and (b) should be made in the Log book.

6. Clinico-pathological Conference: Recommended at least once in three months for all post graduate Students. Presentation be done by rotation. If cases are not available due to lack of clinical postmortems, it could be supplemented by published CPCs.

7. Clinical cases (minimum of 40 cases) to be presented, which will be assessed by using Check lists (See Chspter IV)

8. Inter-departmental Meetings: With departments of Pathology and Radio-Diagnosis at least once a week. Radio-diagnosis: Interesting cases and the imaging modalities should be discussed. These meetings should be attended by post graduate students and relevant entries must be made in the Log Book.

9. Teaching Skills: Post graduate students must teach under graduate students (Eg. Medical, nursing) by taking demonstrations, bed side clinics, tutorials, lectures etc. Assessment is made using a checklist by surgery faculty as well students. (See model check list in Chapter IV). Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended.

10. Continuing Medical Education Programmes (CME) : Recommended that at least

    2 state level CME programmes should be attended by each student in 3Years.

11. Conferences: Attending conferences is optional. However it is encouraged.

Dissertation

1. Every candidate pursuing MD/MS degree course is required to carry out work on a selected research project under the guidance of a recognised post graduate teacher. The results of such a work shall be submitted in the form of a dissertation.

2. The dissertation is aimed to train a post graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

3. Every candidate shall submit to the Registrar (Academic) of RGUHS in the prescribed proforma, a synopsis containing particulars of proposed dissertation work six months from the date of commencement of the course on or before the dates notified by the University. The synopsis shall be sent through the proper channel.

4. Such synopsis will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior approval of the University.

5. The dissertation should be written under the following headings:
   i. Introduction
   ii. Aims or Objectives of study
   iii. Review of Literature
   iv. Material and Methods
   v. Results
   vi. Discussion

vii. Conclusion
viii. Summary
ix. References (Vancouver style)
x. Tables
xi. Annexures

6. The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexures. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The dissertation shall be certified by the guide, head of the department and head of the Institution.

7. Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), six months before final examination on or before the dates notified by the University.

8. The dissertation shall be valued by examiners appointed by the University. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.

9. For some more details regarding Guide etc., please see Chapter I and for books on research methodology, ethics, etc., see Chapter IV.

Rotation posting in other Departments

Neurosurgery	4 weeks
Plastic Surgery	4 weeks
Head & Neck Oncology	4 weeks
Anesthesia	2 weeks
Cardio-thoracic Surgery	2 weeks (optional)
Speech & Hearing*	2 weeks

*Recommended Centres for Speech & Hearing:

a) All India Institute of Speech & Hearing, Mysore
b) National Institute of Mental Health and Neuro Sciences (NIMHANS)
c) Institute of Speech & Hearing , Lingarajpuram, Bangalore

Monitoring Learning Progress

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only also helps teachers to evaluate students, but also students to evaluate themselves. The monitoring be done by the staff

of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects. Checklists are given in Chapter IV.

The learning out comes to be assessed should included: (i) Personal Attitudes, (ii) Acquisition of Knowledge, (iii) Clinical and operative skills, (iv) Teaching skills and (v) Dissertation.

i) ***Personal Attitudes.*** The essential items are:

- Caring attitudes
- Initiative
- Organisational ability
- Potential to cope with stressful situations and undertake responsibility
- Trust worthiness and reliability
- To understand and communicate intelligibly with patients and others
- To behave in a manner which establishes professional relationships with patients and colleagues
- Ability to work in team
- A critical enquiring approach to the acquisition of knowledge

The methods used mainly consist of observation. It is appreciated that these items require a degree of subjective assessment by the guide, supervisors and peers.

ii) ***Acquisition of Knowledge*** : The methods used comprise of `Log Book' which records participation in various teaching / learning activities by the students. The number of activities attended and the number in which presentations are made are to be recorded. The log book should periodically be validated by the supervisors. Some of the activities are listed. The list is not complete. Institutions may include additional activities, if so, desired.

Journal Review Meeting (Journal Club): The ability to do literature search, in depth study, presentation skills, and use of audio- visual aids are to be assessed. The assessment is made by faculty members and peers attending the meeting using a checklist (see Model Checklist – I, Chapter IV)

Seminars / Symposia: The topics should be assigned to the student well in advance to facilitate in depth study. The ability to do literature search, in depth study, presentation skills and use of audio- visual aids are to be assessed using a checklist (see Model Checklist-II, Chapter IV)

Clinico-pathological conferences : This should be a multidisciplinary case study of an interesting case to train the candidate to solve diagnostic and therapeutic problems by using an analytical approach. The presenter(s) are to be assessed using a check list similar to that used for seminar.

iii) ***Clinical skills***

Day to Day work : Skills in outpatient and ward work should be assessed periodically. The assessment should include the candidates' sincerity and punctuality, analytical ability and communication skills (see Model Checklist III, Chapter IV).

Clinical meetings : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list (see Model checklist IV, Chapter IV).

Clinical and Procedural skills : The candidate should be given graded responsibility to enable learning by apprenticeship. The performance is assessed by the guide by direct observation. Particulars are recorded by the student in the log book. (Table No.3, Chapter IV)

(iv) ***Teaching skills :*** Candidates should be encouraged to teach undergraduate medical students and paramedical students, if any. This performance should be based on assessment by the faculty members of the department and from feedback from the undergraduate students (See Model checklist V, Chapter IV)

(v) ***Dissertation in the Department :*** Periodic presentations are to be made in the department. Initially the topic selected is to be presented before submission to the University for registration, again before finalisation for critical evaluation and another before final submission of the completed work (See Model Checklist VI & VII, Chapter IV)

(vi) ***Work diary / Log Book*** - Every candidate shall maintain a work diary and record his/her participation in the training programmes conducted by the department such as journal reviews, seminars, etc. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate. The work diary shall be scrutinised and certified by the Head of the Department and Head of the Institution, and presented in the university practical/clinical examination.

(vii) ***Periodic tests:*** The departments may conduct three tests, two of them be annual tests, one at the end of first year and the other in the second year. The third test may be

held three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

(viii) ***Records*** *:* Records, log books and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

Log book

The log book is a record of the important activities of the candidates during his training, Internal assessment should be based on the evaluation of the log book. Collectively, log books are a tool for the evaluation of the training programme of the institution by external agencies. The record includes academic activities as well as the presentations and procedures carried out by the candidate.

Format for the log book for the different activities is given in Tables 1,2 and 3 of Chapter IV, Copies may be made and used by the institutions.

Procedure for defaulters: Every department should have a committee to review such situations. The defaulting candidate is counselled by the guide and head of the department. In extreme cases of default the departmental committee may recommend that defaulting candidate be withheld from appearing the examination, if she/he fails to fulfill the requirements in spite of being given adequate chances to set himself or herself right.

Scheme of Examination

i) Theory

There shall be four question papers, each of three hours duration. Each paper shall consist of two long essay questions each question carrying 20 marks and 6 short essay questions each carrying 10 marks. Total marks for each paper will be 100. Questions on recent advances may be asked in any or all the papers. Details of distribution of topics for each paper will be as follows:

Paper I:	Basic Sciences - 1. Anatomy 2. Physiology 3. Other basic science topics covered in syllabus	100 marks
Paper II:	Rhinology including recent advances	100 marks
Paper III:	Otology including recent advances	100 marks
Paper IV:	Laryngology and pharyngolaryngology & Broncho-oesophagology including recent advances	100 marks

Note: The distribution of chapters / topics shown against the papers are suggestive only.

ii) *Clinical* 200 marks

There shall be one long case and three short cases to be examined and presented by each candidate.

Type of cases

Long case 1 80 marks

Short cases 3 (40x3) 120 marks

iii) *Viva voce* 100 marks

1) Viva-voce Examination: (80 marks)
All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens, Histo pathology slides, X-rays, ultrasound, CT scan images, Temporal bone dissection, etc., for interpretation. Questions on operative surgery and use of instruments will be asked. It includes discussion on dissertation also.

2) Pedagogy Exercise: (20 marks)

A topic be given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

Maximum marks for	Theory	Practical	Viva	Grand Total
M.S Otorhinolaringology	400	200	100	700

Recommended Books

Name of the Book	Year	Edition	Publisher	Cost
1. Scott Broun 6 volumes	1996	Sixth	Buterorth & Co Ltd.	11000/-
2. Cummins 5 volumes Otolaryngology, Head and Neck Surgery	1998	Third	Mosby	$495.00
3. Rob and Smith Operations surgery pertaining to ENT				
4. Paperalla Otolaryngology (4 Vol set)	1991	Third	W.B. Saunder's Company	$450.00
5. Logan & Turner Diseases of ENT	1988	Tenth	Wright / Varghese	425/-
6. Lore Atlas of Head and Neck Surgery	1988	Third	W.B. Saunder's Company	$125.00
7. Shambagh / Glasscock Surgery of the Ear	1990	Fourth	W.B. Saunder's Company	$125.00
8. Ballenger Snow Jr.	1996	Fifteenth	Williams & Wilkins	$95.00

Journals

1) The Laryngoscope – loppincott williams & william
2) Indian Journal of Otolaryngology – AOI.
3) Annals of Otology / Rhinology / laringology – Annals Publishing Co.
4) Archives of Otorhinolaryngology
5) British Journal of Otolaryngology
6) Indian Journal of Otology .
7) Recent advances in Otorhinolaryngology - MOSBY
8) The Otolaryngology Clinics of North America – WB Saunders Company

SRI SIDDHARTHA UNIVERSITY

M.S. Degree Examination – Model Question Paper

[Time: 3 Hours] [Max. Marks: 100]

OTORHINOLARYNGOLOGY

PAPER I

Q.P. CODE :

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Surgical anatomy of lateral wall of nose and ethmoid sinuses
2. Discuss the theories of human hearing

SHORT ESSAY **6 X 10 = 60 Marks**

3. Trigeminal neuralgia
4. Complications of radiotherapy in ENT
5. Pharmacology of anti vertigo drugs
6. Lymphatics in head and neck
7. Tuning fork test for hearing
8. Acquired immuno deficiency syndrome in E N T

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M.S. Degree Examination – Model Question Paper

[Time: 3 Hours] [Max. Marks: 100]

OTORHINOLARYNGOLOGY

PAPER II

Q.P. CODE:

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss the clinical features of carcinoma of maxillary sinus and correlate to its pathology
2. Discuss septoplasty versus submucous resection of septum

SHORT ESSAY **6 X 10 = 60 Marks**

3. Bleeding polypus of nose
4. Ringertz' tumour
5. Nasal cycle
6. Optic nerve in E N T surgery
7. Agger nasi cells
8. Rhinitis sicca

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M.S. Degree Examination – Model Question Paper

[Time: 3 Hours] [Max. Marks: 100]

OTORHINOLARYNGOLOGY

PAPER III

Q.P. CODE:

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss the etiology, investigations and treatment of facial nerve paralysis
2. Discuss etiology, investigations and treatment of sensory neural deafness

SHORT ESSAY **6 X 10 = 60 Marks**

3. Meniere's syndrome
4. Gradenigo's syndrome
5. Lateral sinus thrombosis
6. Implants in tympanoplasty
7. Preauricular sinus
8. BERA test

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SRI SIDDHARTHA UNIVERSITY

M.S. Degree Examination – Model Question Paper

[Time: 3 Hours] [Max. Marks: 100]

OTORHINOLARYNGOLOGY

PAPER IV

Q.P. CODE:

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary. Answer all questions

LONG ESSAY **2 X 20 = 40 Marks**

1. Discuss Trismus
2. Discuss carcinoma hypopharynx

SHORT ESSAY **6 X 10 = 60 Marks**

3. Subglottic stenosis
4. Branchial cyst
5. Pharyngeal pouch
6. Thyroplasty
7. Retropharyngeal abscess
8. Oral ulcers

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