

**Pravara Institute of Medical Sciences  
(Deemed University)**

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**Syllabus**  
**M.S. (Oto-Rhino-Laryngology-ENT)**

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# Pravara Institute of Medical Sciences (DU)

## Regulations for Post Graduate Degree and Diploma Courses in Medical Sciences

### Chapter I

#### 1. Obtaining Eligibility Certificate by the University before making Admission

No candidate shall be admitted for any postgraduate degree/diploma course unless the candidate has obtained and produced the eligibility certificate issued by the University. The candidate has to make an application to the University with the following documents along with the prescribed fee :

1. MBBS pass / degree certificate issued by the University.
2. Marks cards of all the university examinations passed MBBS course.
3. Attempt Certificate issued by the Principal.
4. Certificate regarding the recognition of the medical college by the Medical Council of India.
5. Completion of internship certificate.
6. In case internship was done in a non-teaching hospital, a certificate from the Medical Council of India that the hospital has been recognised for internship.
7. Registration by any State Medical Council and
8. Proof of SC/ ST or Category I, as the case may be.

Candidates should obtain the Eligibility Certificate before the last date for admission as notified by the University.

A candidate who has been admitted to postgraduate course should register his / her name in the University within a month of admission after paying the registration fee.

#### 2. Intake of Students

The intake of students to each course shall be in accordance of the MCI Regulations.

#### 3. Duration of Study

a) *M.D /M.S Degree Courses*

The course of study shall be for a period of 3 years consisting of 6 terms.

b) *D.M /M.Ch*

The courses of study shall be for a period of 3 years consisting of 6 terms.

c) *Diploma courses:*

The course of study shall be for a period of 2 years consisting of 4 terms.

#### 4 Method of training

The training of postgraduate for degree/diploma shall be residency pattern with graded responsibilities in the management and treatment of patients entrusted to his/her care. The participation of the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, grand rounds, case demonstration, clinics, journal review meetings, CPC and clinical meetings. Every candidate should be required to participate in the teaching and training programme of undergraduate students. Training should include involvement in laboratory and experimental work, and research studies. Basic medical sciences students should be posted to allied

and relevant clinical departments or institutions. Similarly, clinical subjects' students should be posted to basic medical sciences and allied speciality departments or institutions.

## **5. Attendance, Progress and Conduct**

5.1 A candidate pursuing degree/diploma course should work in the concerned department of the institution for the full period as a full time student. No candidate is permitted to run a clinic/laboratory/nursing home while studying postgraduate course.

5.2 Each year shall be taken as a unit for the purpose of calculating attendance.

5.3 Every student shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons.

5.4 Every candidate is required to attend a minimum of 80% of the training during each academic year of the post graduate course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% attendance of training period every year.

5.5 Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the University Examinations.

## **6. Monitoring Progress of Studies:**

6.1 *Work diary / Log Book* - Every candidate shall maintain a work diary and record of 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.

### *6.2 Periodic tests:*

In case of degree courses of three years duration (MD/MS, DM, MCh.), the concerned 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. Records and marks obtained in such tests will be maintained by the Head of the Department and sent to the University, when called for.

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

6.3 *Records:* Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University or MCI.

## 7. Dissertation

7.1 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.

7.2 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.

7.3 Every candidate shall submit to the Registrar (Academic) of the University in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within 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.

7.4 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.

7.5 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
- x. Tables
- xi. Annexures

7.6 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.

7.7 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.

7.8 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.

7.9 **Guide:** The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work is as per Medical Council of India Minimum Qualifications for Teachers in Medical Institutions Regulations, 1998. Teachers in a medical

college/institution having a total of eight years teaching experience out of which at least five years teaching experience as Lecturer or Assistant Professor gained after obtaining post graduate degree shall be recognised as post graduate teachers.

A **Co-guide** may be included provided the work requires substantial contribution from a sister department or from another medical institution recognised for teaching/training by Rajiv Gandhi University of Health Sciences/Medical Council of India. The co-guide shall be a recognised post graduate teacher of Rajiv Gandhi University of Health Sciences.

**7.10 Change of guide:** In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.

## 8. Schedule of Examination

The examination for M.D / M.S courses shall be held at the end of three academic years ( six academic terms). The examination for D.M and M.Ch courses shall be held at the end of three years. The examination for the diploma courses shall be held at the end of two academic years (four academic terms). The university shall conduct two examinations in a year at an interval of four to six months between the two examination. Not more than two examinations shall be conducted in an academic year.

## 9. Scheme of Examination

### 9.1 M.D. / M.S. Degree

M.D. / M.S. Degree examinations in any subject shall consist of dissertation, written paper (Theory), Practical/Clinical and Viva voce.

*9.1.1 Dissertation:* Every candidate shall carryout work and submit a dissertation as indicated in Sl.NO.9. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

*9.1.2 Written Examination (Theory):* A written examination shall consist of **four** question papers, each of **three** hours duration. Each paper shall carry 100 marks. Out of the **four** papers, the 1<sup>st</sup> paper in clinical subjects will be on applied aspects of basic medical sciences. Recent advances may be asked in any or all the papers.

#### *9.1.3 Practical / Clinical Examination:*

In case of practical examination, it should be aimed at assessing competence and skills of techniques and procedures as well as testing students ability to make relevant and valid observations, interpretations and inference of laboratory or experimental work relating to his/her subject.

In case of clinical examination, it should aim at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least one long case and **two** short cases.

The total marks for practical / clinical examination shall be 200.

*9.1.4 Viva Voce:* Viva Voce Examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:

- |   |          |
|---|----------|
| (i) For examination of all components of syllabus | 80 Marks |
| (ii) For Pedagogy                                 | 20 Marks |

*9.1.5 Examiners:* There shall be at least four examiners in each subject. Out of them two shall be external examiners and two shall be internal examiners. The qualification and teaching experience for appointment as an examiner shall be as laid down by the Medical Council of India.

9.1.6 Criteria for declaring as pass in University Examination: A candidate shall secure not less than 50% marks in each head of passing which shall include (1) Theory, (2) Practical including clinical and viva voce examination.

A candidate securing less than 50% of marks as described above shall be declared to have failed in the examination. Failed candidate may appear in any subsequent examination upon payment of fresh fee to the Registrar (Evaluation).

9.1.7 *Declaration of distinction:* A successful candidate passing the University examination in first attempt will be declared to have passed the examination with distinction, if the grand total aggregate marks is 75 percent and above. Distinction will not be awarded for candidates passing the examination in more than one attempt.

## CHAPTER II

### GOALS AND GENERAL OBJECTIVES OF POSTGRADUATE MEDICAL EDUCATION PROGRAM

#### GOAL

The goal of postgraduate medical education shall be to produce competent specialist and /or Medical teacher:

- (i) who shall recognise the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy;
- (ii) who shall have mastered most of the competencies, pertaining to the specialty, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- (iii) who shall be aware of the contemporary advances and developments in the discipline concerned;
- (iv) who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and
- (v) who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

#### GENERAL OBJECTIVES

At the end of the postgraduate training in the discipline concerned the student shall be able to:

- i) Recognise the importance of the concerned speciality in the context of the health need of the community and the national priorities in the health sector.
- ii) Practice the speciality concerned ethically and in step with the principles of primary health care.
- iii) Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.
- iv) Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and promotive measures/strategies.
- v) Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.
- vi) Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.
- vii) Demonstrate skills in documentation of individual case details as well as morbidity and mortality data relevant to the assigned situation.



- viii) Demonstrate empty and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.
- ix) Play the assigned role in the implementation of national health programmes, effectively and responsibly.
- x) Organise and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.
- xi) Develop skills as a self-directed learner, recognise continuing educational needs; select and use appropriate learning resources.
- xii) Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.
- xiii) Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.
- xiv) Function as an effective leader of a health team engaged in health care, research or training.

#### **STATEMENT OF THE COMPETENCIES**

Keeping in view the general objectives of postgraduate training, each disciplines shall aim at development of specific competencies, which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the programme so that he or she can direct the efforts towards the attainment of these competencies.

#### **COMPONENTS OF THE PG CURRICULUM**

The major components of the PG curriculum shall be:

- Theoretical knowledge
- Practical/clinical Skills
- Training in Thesis.
- Attitudes, including communication.
- Training in research methodology.

Source: Medical Council of India, Regulations on postgraduate medical education, 1997.

## Chapter III

### Course Description

#### 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:

- Describe aetiology, 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
- Demonstrate understanding of basic sciences relevant to this speciality
- 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 &	1) Diagnostic audiometry

## hearing disorders

b) Use of computers in audiological and vestibular testing and rehabilitation

2) Hearing aids

2) Diagnostic testing of vestibular system

3) Cochlear implants

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### 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. Translabyrinthine 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
- Caldwell 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 1<sup>st</sup> 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. A time table 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 in 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. 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 tympanotomy
  - 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. Record of their participation be kept in Log book. Training of post graduate students in Educational Science and Technology is recommended.
9. Continuing Medical Education Programmes (CME) : Recommended that at least 2 state level CME programmes should be attended by each student in 3 Years.
10. 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 PIMS 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 9.69") 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.

### **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.

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

*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

*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

*Clinical meetings* : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list

*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

- (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 .
- (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
- (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.

**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:	Otology including recent advances	100 marks
Paper III:	Rhinology including recent advances	100 marks
Paper IV:	Laryngology and pharyngology & Broncho-oesophagology	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 1 100 marks

Short cases 2 ( 50\*2) 100 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.

1. OSTEOLOGY 30 MARKS
2. X RAYS 30 MARKS
3. INSTRUMENTS 30 MARKS
4. AUDIOLOGY 30 MARKS
5. DRUGS 20 MARKS
6. SPECIMEN 30 MARKS
7. SURGICAL PROCEDURES 30 MARKS

Maximum marks for M.S Otorhinolaryngology	Theory 400	Practical 200	Viva 200	Grand Total 800
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**Recommended Books**

Sr. No	Name of the Book
1.	Scott Broun 6 volumes
2.	Cummins 5 volumes Otolaryngology H&N Surgery
3.	Rob & Smith Operations surgery
4.	Paperalla Otolaryngology (4 Vol set)
5.	Logan & Turner
6.	Lore Atlas of H&N Surgery
7.	Shambagh / Glasscock Surgery of the Ear
8.	Ballenger Snow Jr.

- Recent advances in ORL - MOSBY
- The Otolaryngology Clinics of North America – WB Saunders Company

### **Journals**

- 1) The Laryngoscope – loppincott williams & william
- 2) Otolaryngology – Head & Neck surgery – MOSBY
- 3) Indian Journal of Otolaryngology – AOI.
- 4) Annals of Otology / Rhinology / laringology – Annals Publishing Co.
- 5) Archives of Otorhinolaryngology
- 6) British Journal of Otolaryngology
- 7) Indian Journal of Otology .

### **ADDITIONAL READING**

1. Indian Council of Medical Research, "Ethical Guidelines for Biomedical Research on Human Subjects", I.C.M.R, New Delhi, 2000.
2. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act, 1956. Medical Council of India, Kotla Road, New Delhi.
3. Francis C M, Medical Ethics, J P Publications, Bangalore, 1993.
4. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research, New Delhi, 1994.
5. Internal National Committee of Medical Journal Editors, Uniform requirements for manuscripts submitted to biomedical journals, N Engl J Med 1991; 424-8
6. Kirkwood B R, Essentials of Medical Statistics , 1<sup>st</sup> Ed., Oxford: Blackwell Scientific Publications 1988.
7. Mahajan B K, Methods in Bio statistics for medical students, 5<sup>th</sup> Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
8. Compendium of recommendations of various committees on Health and Development (1943-1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health Services, min. of Health and Family Welfare, Govt. of India, Nirman Bhawan, New Delhi. P - 335.
9. National Health Policy, Min. of Health & Family Welfare, Nirman Bhawan, New Delhi, 1983
10. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry

## Chapter IV

### 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. Model Checklists are given in this Chapter which may be copied and used.

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

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

*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

*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.

*Medical Audit:* Periodic morbidity and mortality meeting be held. Attendance and participation in these must be insisted upon. This may not be included in assessment.

iv) **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  
*Clinical meetings* : Candidates should periodically present cases to his peers and faculty members. This should be assessed using a check list

*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

*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.

*vi) Periodic tests*: In case of degree courses of three years duration, the concerned 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.

In case of diploma courses of two years duration, the concerned departments may conduct two tests, one of them be at the end of first year and the other in the second year three months before the final examination. The tests may include written papers, practicals / clinicals and viva voce.

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