

Study & Evaluation Scheme

of

M.D. (Chest and Tuberculosis)
[Applicable for the Batch 2014-15 till revised]



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P.G. Curriculum

MD Chest and Tuberculosis

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Curriculum

MD Chest Diseases & Tuberculosis

The infrastructure and faculty will be as per MCI guidelines.

- 1. Goals:** The goal of Post graduation (MD) course in Medicine (Chest) is to produce a competent chest physician who:
 - Recognizes the health needs of patients having chest complaints and carries out professional obligations in keeping with principles of National Health Policy and professional ethics.
 - Has acquired the competencies pertaining to chest medicine that are required to be practiced in the community and at all levels of health care system.
 - Has acquired skills in effectively communicating with the patient, family and the community.
 - Is aware of the contemporary advances and developments in medical sciences as related to pulmonary medicine.
 - Is oriented to principles of research methodology.
 - Has acquired skills in educating medical and paramedical professionals.

- 2. Objectives:** At the end of the MD course in Medicine (Chest), the student should be able to:
 - Recognize the key importance of pulmonary medicine in the context of the health priority of the country.
 - Practice the specialty of Pulmonary Medicine in keeping with the principles of professional ethics.
 - Identify social, economic, environmental, biological and emotional determinants of patient and institute diagnostic, therapeutic, rehabilitative, preventive and primitive measures to provide holistic care to him.
 - Take detailed history, perform full physical examination and make clinical diagnosis.
 - Perform relevant investigative and therapeutic procedures for the patient.
 - Interpret important imaging and laboratory results.
 - Diagnose illness based on the analysis of history, physical examination and investigative work up.
 - Plan and deliver comprehensive treatment for illness using principles of rational drug therapy.
 - Plan rehabilitation of patients suffering from chronic illness.
 - Manage respiratory emergencies efficiently.
 - Demonstrate skills in documentation of case details, and of morbidity and mortality data relevant to the assigned situation.
 - Demonstrate empathy and humane approach towards patients and their families and respect their sensibilities.

- Demonstrate communication skills of a high order in explaining management and prognosis, providing counseling and giving health education messages to patients, families and communities.
 - Develop skills as a self-directed learner, recognize continuing educational needs; use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence-based pediatrics.
- 3. Syllabus:** General Guidelines. During the training period effort will always be made that adequate time is spent in discussing pulmonary problems of public health importance in the country.

3.1. Theory

- i) Approach to Important Clinical Problems.
- ii) Respiratory. Cough/chronic cough, noisy breathing, wheezy child, respiratory distress, hemoptysis.
- iii) Critical Care Medicine. All patients on ventilator with special reference to acute severe COPD and bronchial asthma.
- iv) Nutrition. TB suspect/COPD/asthmatic
- v) Infections. Upper & lower respiratory infection, tuberculosis, pneumonia, fungal infections, bronchiectasis, recurrent infections, nosocomial infections.
- vi) Oncology. Lung cancer, benign and malignant with pleural metastasis with primary pleural malignancy
- vii) Sleep Medicine
- viii) Geriatric Medicine – Respiratory aspect
- ix) Miscellaneous. Connective tissue disorder, drug induced pulmonary diseases, HIV related pulmonary disease and tuberculosis.

3.2. Practical

- i) Skills
- ii) History and examination. History taking including psychosocial history, physical examination, general physical examination, health function-aries and social support groups;
- iii) Bedside procedures
 - (a) Monitoring skills: Temperature recording, capillary blood sampling, arterial blood sampling.
 - (b) Therapeutic skills: Hydrotherapy, nasogastric feeding, endotracheal intubation, cardiopulmonary resuscitation, administration of oxygen, venepuncture and establishment of vascular access, administration of fluids, Blood, blood components, parenteral nutrition, intraosseous fluid administration, intrathecal administration of drugs, common dressings, abscess drainage and basic principles of rehabilitation.

Investigative skills: Lumbar puncture, pleural, peritoneal, pericardial and subdural tap, pleural biopsy, lung biopsy, fine

- needle aspiration cytology, tru cut biopsy from lung, bronchoscopic alveolar lavage, pulmonary function test, sleep study, collection of urine for culture, urethral catheterization.
- (c) Bedside investigations. Hemoglobin, TLC, ESR, peripheral smear staining and examination, urine: routine and microscopic examination, PFT, bronchoscopy, sputum microscopy examination, gram stain, ZN stain, gastric aspirate.
 - iv) Interpretation of X-rays of chest, CT chest, ECG, ABG findings.
 - v) Understanding of common EEG patterns, x-ray findings, CT scans, ultrasonographic abnormalities.
 - vi) Basic Sciences: Embryogenesis of different organ systems especially heart, genitourinary system, gastro-intestinal tract, applied anatomy of different organs, functions of kidney, liver, lungs, heart and endocrinal glands. Physiology of micturition and defecation, placental physiology, fetal and neonatal circulation, regulation of temperature (especially newborn), blood pressure, acid base balance, fluid electrolyte balance, calcium metabolism, vitamins and their functions, hematopoiesis, hemostasis, bilirubin metabolism. Growth and development at different ages, puberty and its regulation, nutrition, normal requirements of various nutrients. Basic immunology, bio-statistics, clinical epidemiology, ethical and medicolegal issues, teaching methodology and managerial skills, pharmaco-kinetics of commonly used drugs, microbial agents and their epidemiology.
 - vii) Community and Social Pulmonary Medicine: Prevention and cure of tuberculosis under RNTCP, impementation of DOTS. Prevention of HIV (VCTC) as it increases prevalence of tuberculosis, investigation of adverse events following anti tubercular therapy, general principles of prevention and control of tuberculosis and nosocomial infection (pneumonia), prevention of drop let infection.

4. Teaching Program

- 4.1. General Principles:** Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skills oriented.

Learning in postgraduate program is essentially self-directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

4.2. Teaching Sessions

- i) Clinical case discussions:

- (a) PG bed side
- (b) Teaching rounds
- (c) Mock Examination
- ii) Seminars/Journal club
- iii) Statistical meetings
- iv) Mortality meetings
- v) Perinatal meetings
- vi) Interdepartmental Meetings
- vii) Others – Guest lecturers/vertical seminars/Central Stat meets.

4.3. Teaching Schedule: In addition to bedside teaching rounds in the department, there will be daily hourly sessions of formal teaching. The suggested teaching schedule is as follows:

1	Bed side case discussion	:	Once a week
2	Journal club/Seminar alternate week	:	Once a week
3	Grand round	:	Once a week
4	Emergency case discussion	:	Once a week
5	Weekly stat and mortality meet (detailed discussion of all the deaths occurring in previous week)	:	Once a week
6	Central session (held in hospital auditorium regarding various topics like CPC, guest lectures, student seminars, grand round, sessions on basic sciences, biostatistics, research methodology, teaching methodology, health economics, medical ethics and legal issues) or teaching rounds at bed side.	:	Once a week

Note:

- (i) All sessions are attended by the faculty members. All PGs are supposed to attend the sessions except the ones posted in PCCU and emergency.
- (ii) All the teaching sessions are assessed by the consultants at the end of session and marks are considered for internal assessment.
- (iii) Attendance of the Residents at various sessions has to be at least 75%.

5. Postings: The postgraduate student will rotate through all the clinical units in the department. In addition, following special rotations are also undertaken:

Chest Ward (including outpatient dept)	:	2-3 months
Intensive Care	:	3-4 months
Emergency	:	2-3 months
NIV unit	:	2-3 months

No posting at one area will be for more than 2 months at a stretch.

During first year the resident will work under direct supervision of the 2/3 year resident/senior resident and consultant on call. S/he will be responsible for taking detailed history, examination of patients as per the file record and send appropriate investigations as advised by seniors. Initially all procedures are to be observed and then done under supervision of seniors and during 2/3 year can do procedures independently. In 2nd year, resident is posted in special clinics also and making of discharge cards including referrals. In 3rd year, resident is also encouraged to make independent decisions in management of cases. S/he is also involved in teaching of undergraduate students.

6. Thesis: Every candidate shall carry out work on an assigned research project under the guidance of a recognized Postgraduate Teacher; the project shall be written and submitted in the form of a Thesis.

i) Every candidate shall submit thesis plan to the University within nine months from the date of admission.

Thesis shall be submitted to the University six months before the commencement of theory examination i.e. for examination May/June session, 30th November of the preceding year of examination and for November/December session 31st May of the year of examination.

ii) The student will identify a relevant research question; (ii) conduct a critical review of literature; (iii) formulate a hypothesis; (iv) determine the most suitable study design; (v) state the objectives of the study; (vi) prepare a study protocol; (vii) undertake a study according to the protocol; (viii) analyze and interpret research data, and draw conclusions; (ix) write a research paper.

7. Assessment: All the PG residents will be assessed daily for their academic activities and also periodically.

7.1. General Principles

i) The assessment is valid, objective, and reliable.

ii) It covers cognitive, psychomotor and affective domains.

iii) Formative, continuing and summative (final) assessment is also conducted in theory as well as practicals/clinicals. In addition, thesis is also assessed separately.

7.2. Formative Assessment: The formative assessment is continuous as well as end-of-term. The former is based on the feedback from the senior residents and the consultants concerned. End-of-term assessment is held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate.

7.3. Internal Assessment: The performance of the Postgraduate student during the training period should be monitored throughout the course and duly

recorded in the log books as evidence of the ability and daily work of the student. Marks should be allotted out of 100 as followed.

Sl. No.	Items	Marks
1	Personal Attributes	20
2	Clinical Work	20
3	Academic activities	20
4	End of term theory examination	20
5	End of term practical examination	20

Personal attributes:

- i) Behavior and Emotional Stability: Dependable, disciplined, dedicated, stable in emergency situations, shows positive approach.
- ii) Motivation and Initiative: Takes on responsibility, innovative, enterprising, does not shirk duties or leave any work pending.
- iii) Honesty and Integrity: Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
- iv) Interpersonal Skills and Leadership Quality: Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.

Clinical Work:

- i) Availability: Punctual, available continuously on duty, responds promptly on calls and takes proper permission for leave.
- ii) Diligence: Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management.
- iii) Academic ability: Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- iv) Clinical Performance: Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.
- v) Academic Activity: Performance during presentation at Journal club/ Seminar/ Case discussion/Stat meeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

- vi) End of term theory examination conducted at end of 1st, 2nd year and after 2 years 9 months.
- vii) End of term practical/oral examinations after 2 years 9 months.

Marks for personal attributes and clinical work should be given annually by all the consultants under whom the resident was posted during the year. Average of the three years should be put as the final marks out of 20.

Marks for academic activity should be given by the all consultants who have attended the session presented by the resident.

The Internal assessment should be presented to the Board of examiners for due consideration at the time of Final Examinations.

7.4. Summative Assessment

- i) Ratio of marks in theory and practicals will be equal.
- ii) The pass percentage will be 50%.
- iii) Candidate will have to pass theory and practical examinations separately.

Theory Examination (Total = 400)

Paper	Title	Marks
Paper 1	Basic sciences as related to pulmonary medicine	100
Paper 2	Principles and Practice of Pulmonary Medicine	100
Paper 3	Preventive & Social aspects of Pulmonary Medicine and tuberculosis	100
Paper 4	Recent Advances in Pulmonary Medicine	100

Practical & Viva voce Examination (Total =400)