

FACULTY OF MEDICAL SCIENCES  
UNIVERSITY OF DELHI  
दिल्ली विश्वविद्यालय

MINUTES

An emergent meeting of the Faculty of Medical Sciences was held on Thursday, 9<sup>th</sup> June, 2022 at 3.00 p.m. in the Committee Room, Faculty of Medical Sciences, 7<sup>th</sup> Floor, VPCI Building, University of Delhi, Delhi-110007.

The following members were present: -

1.	Prof. A.N. Aggarwal, Dean, Faculty of Medical Sciences- Chairperson
2.	Prof. B. Menon, VPCI
3.	Prof. Anju Aggarwal, UCMS
4.	Prof. H. S. Rehan, LHMC
5.	Prof. Renu Chauhan, UCMS
6.	Prof. Abha Singh, LHMC
7.	Prof. N.K. Agarwal, UCMS
8.	Prof. Ram Chander, Director, LHMC
9.	Prof. V.P. Varshney, MAMC
10.	Prof. Shukla Das, UCMS
11.	Prof. Anju Jain, LHMC
12.	Prof. Ritu Arora, Dean, MAMC
13.	Prof. Archana Singal, UCMS
14.	Prof. N.P. Singh, UCMS
15.	Prof. Amita Suneja, UCMS
16.	Prof. S.K. Bhasin, UCMS
17.	Prof. Neelam Vaney, UCMS
18.	Prof. Mukesh Kalra, LHMC
19.	Prof. Sanjay Chaturvedi, Principal, UCMS
20.	Prof. Asmita Rathore, MAMC
21.	Prof. Gajender Singh, UCMS
22.	Prof. V.P. Varshney, MAMC
23.	Prof. Ritu Mazumdar, LHMC - Special Invitee


\*Members from Serial No. 04 to 22 have attended the meeting through virtual mode.

Shri Deepak Vats, Joint Registrar, Faculty of Medical Sciences was present in the meeting.

Shri Ashwani Kumar, Assistant Registrar assisted the meeting in its deliberations.

Item No.1	<p>The Faculty considered the recommendations of the Committee of Courses and Studies of Department of Orthopaedics regarding course curriculum for the MD Course in Physical Medicine and Rehabilitation (PMR).</p> <p>Prof. Ritu Mazumdar, Department of Physical Medicine and Rehabilitation (PMR), LHMC made a presentation before the Faculty in this regard.</p> <p>After a discussion, the Faculty approved the course curriculum for the MD Course in Physical Medicine and Rehabilitation (PMR) and recommended it to the Academic Council for consideration.</p>
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The meeting ended with a vote of thanks to the Chair.

  
Deepak Vats  
Joint Registrar (Medical)

  
Prof. A.N. Aggarwal  
Dean, Faculty of Medical Sciences  
(Chairperson)

# **GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN PHYSICAL MEDICINE AND REHABILITATION (PMR) FOR UNIVERSITY OF DELHI**


## **Preamble:**

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

The **goal** of this program is to standardize Physical Medicine and Rehabilitation (PMR) teaching at the Post Graduate level throughout the so that it will benefit in achieving uniformity in postgraduate medical education.

Physical Medicine and Rehabilitation (PMR), also called physiatry, (pronounced fizza at tree), or physical and rehabilitation medicine emphasizes the prevention, diagnosis and treatment of disorders, particularly those of the neuro-musculo-skeletal, cardiovascular, and pulmonary systems, that may produce temporary or permanent activity limitation, disability, or participation restriction. Physical Medicine and Rehabilitation is an independent clinical discipline. PMR has a vast scope as it provides integrated comprehensive care in the diagnosis, treatment and rehabilitation management of neurological, musculo-skeletal, cardio-pulmonary disabilities from acquired or congenital conditions presenting at any stage in life from pediatric to geriatric phases. This specialty focuses on the restoration of function of people to the highest possible level, through a multi-disciplinary team approach, making use of diagnostic and therapeutic armamentarium including education and counseling, prescription of medicines, therapeutic exercises, equipment (mobility aids, orthotic-prosthetic appliances, assistive technology, physical agents and modalities, etc.), injections, surgical interventions for correction of deformities etc. in an institution-based (out-door and in-door/wards/ICUs/Nursing Homes/Old-Age Homes etc.), out-reach (Camps, Mobile Units), or community-based settings (CBR), based on the evaluation of the individual under consideration. It is also involved in disability prevention, evaluation and certification, besides development, monitoring and supervision of a rehabilitation plan and conducting research and development.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

  
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## **PROGRAMME OBJECTIVES**

The overall objective is to impart a thorough and comprehensive training to a medical graduate so that at the end of this training he/she becomes a knowledgeable, skilled, and competent Physical Medicine and Rehabilitation specialist, capable of discharging his/her duties as expected under different settings, in an ethical manner.

The student should be able to suspect, investigate, diagnose, confirm, evaluate, certify, treat, and rehabilitate if and when a person is suffering from a temporary or permanent limitation in function, disability, or restriction in participation; the student should be able to plan, prescribe, supervise and lead the execution of rehabilitation plan through an integrated, multi-disciplinary team involving various medical, nursing, allied health professionals such as therapists (occupational therapists, physiotherapists, speech therapists etc.), counselors, and technicians (orthotic-prosthetic engineers/ technicians). The student should be able to interpret reports and plan research, teach medical and paramedical personnel, educate

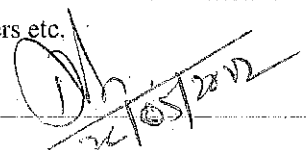
- 1) The person with disability,
- 2) Their family,
- 3) Rehabilitation team members and
- 4) The community.

The student should be well versed with recent advances in the field, and with administrative, financial, ethical and legal aspects related to the specialty.

## **SUBJECT SPECIFIC LEARNING OBJECTIVES**

The post graduate student, on completion of the MD training in Physical Medicine and Rehabilitation, should be able to demonstrate the following:

1. **Theoretical knowledge:** The student should be able to demonstrate possession of basic knowledge of
  - a) Basic medical sciences - Anatomy, Biomechanics, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, Medical Genetics and Molecular Biology etc. as related to Physical Medicine and Rehabilitation,
  - b) Factors which may disturb structure or function and result in disability;
  - c) Bed-side procedures (diagnostic and therapeutic).
2. **Teaching-Training:** The student should be:
  - a) Able to plan educational programs in Rehabilitation Medicine in association with his senior colleagues/Faculty,
  - b) Familiar with the modern methods of teaching and evaluation;
  - c) Teach and/or deliver lectures to medical students, residents, other health professionals
  - d) Able to counsel persons with disabilities and their family members etc. and hold clinical demonstrations for them;

  
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discuss it; methodically summarize the same and get it published, according to prescribed instructions and

f) Critically evaluate and discuss published articles on the subject.

3. **Clinical/Practical skills:** The student should understand and develop competence in

- a) Executing common general procedures employed in diagnosis, investigations and management of conditions encountered in rehabilitation medicine.
- b) He/she should be able to practice and handle independently most of the day to day problems as encountered in Rehabilitation Medicine in a safe, effective and ethical manner.
- c) He/she should be able to plan a comprehensive rehabilitation service independently.
- d) He/she should be able to demonstrate understanding of the fabrication and competence in prescription and check out of orthoses and prostheses, the principles, prescription and supervision of physiotherapy, occupational therapy, psycho-socio-vocational counseling.
- e) He/she should be able to practice rehabilitation medicine at the door step of community.
- f) He/she should be familiar with the common problems occurring in the urban, semi-urban, and rural areas and deal with them effectively.
- g) He should be able to organize, conduct, and supervise surveys in rural, urban and industrial communities and in specified groups of population;
- h) He should be able to organize and conduct camps for disability prevention and rehabilitation of disabled persons, and guide rehabilitation workers at the peripheral level for rehabilitation of persons with disabilities.

4. **Research:** The student should be able to

- a) Recognize and understand a research topic,
- b) State the objectives in terms of what is expected to be achieved in the end,
- c) Plan a rational approach with full awareness of the statistical validity,
- d) Spell out the methodology and carry out most of the technical procedures required for the study,
- e) Accurately and objectively record on systematic lines the results and observations made, analyze the data using appropriate statistical approach,
- f) Interpret the observations in light of existing knowledge and highlight in what ways the study has advanced existing knowledge on the subject and what remains to be done, draw conclusions which should be reached by logical deduction and he should be able to assess evidence both as to its reliability and its relevance,
- g) Write a thesis in accordance with the prescribed instructions, and
- h) Be familiar with ethical aspects of research etc.


  
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## ***SUBJECT SPECIFIC COMPETENCIES***

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

### **A. Cognitive domain:**

1. Acquire basic knowledge of basic medical sciences such as Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, and Molecular Biology etc. as related to Physical Medicine and Rehabilitation
2. Acquire knowledge on factors which may result in disability
3. Acquire knowledge of basic anatomy and physiology of the musculoskeletal (including Biomechanics), urogenital, cardio-pulmonary and nervous systems
4. Acquire knowledge of basic principles of diagnostic modalities as applied to Physical Medicine and Rehabilitation.
5. Understand philosophy, history, scope and need of Physical Medicine and Rehabilitation.
6. Acquire knowledge of basic concepts in Physical Medicine and Rehabilitation - definitions, rehabilitation team, team members, scope, role and responsibilities of different members.
7. Acquire knowledge of principles of evaluation and rehabilitation management of social problems
8. Acquire knowledge of principles of evaluation and rehabilitation management of vocational problems
9. Understand disability prevention & management- levels and examples
10. Understand epidemiology of disability
11. Understand the outcome measures in Physical Medicine and Rehabilitation
12. Impairment Rating and Disability Evaluation
13. Acquire knowledge of integrative Medicine and Physical Medicine and Rehabilitation
14. Understand Assistive Technology related to Physical Medicine and Rehabilitation
15. Acquire knowledge of basic principles of rehabilitative surgeries
16. Acquire knowledge of Pediatric Rehabilitation including children with Autism Spectrum Disorders, Cerebral Palsy, learning disabilities, multiple disabilities etc.
17. Acquire knowledge of Geriatric Rehabilitation
18. Acquire knowledge of Evidence-based Medicine and Physical Medicine and Rehabilitation
19. Understand Legislation in relations to disability- National and International

  
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1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

### **C. Psychomotor domain**

**At the end of the course, the student should acquire the following clinical/practical skills:**

#### **Section A:**

1. Evaluation Process:
  - History taking in Physical Medicine and Rehabilitation
  - Clinical evaluation, Manual Muscle Strength Testing, Joint Range of Motion, Goniometry, Activities of Daily Living
  - Investigations - Laboratory and Radiological imaging studies including X-Rays, CT Scan, MRI, diagnostic musculoskeletal ultrasound, DEXA Scan etc.
  - Evaluation of neurogenic bowel and bladder dysfunction
2. Gait Analysis - Terminology, types, Clinical Applications
3. Electrodiagnostic Medicine - basic principles, clinical methods, interpretation etc.
4. Outcome Measures in Physical Medicine and Rehabilitation
5. Impairment Rating, Disability Evaluation and Certification

#### **Section B:**

6. Therapeutic Exercises- settings, equipments, applications
7. Physical Agents/Modalities - precautions, prescription, application, follow-up, contraindications etc.
8. Traction, Massage - principles, types, indications, contra-indications, precautions, prescription, application, follow-up etc.
9. Electrical Stimulation - precautions, prescription, application, follow-up etc.
10. Principles and practice of Occupational Therapy
11. Training of A.D.L. (Activities of Daily Living) in various conditions
12. Injection Techniques (c.g. intra-articular, peri-articular, trigger-point, epidural etc.) in Physical Medicine and Rehabilitation

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toxin injection, Phenol block, Alcohol blocks etc.

14. Upper limb orthotic devices including splints- applications
15. Lower limb orthotic devices including footwear modifications- applications
16. Spinal orthoses - applications
17. Upper limb prosthetics and amputee rehabilitation
18. Lower limb prosthetics and amputee rehabilitation
19. Mobility aids, wheelchairs and seating systems
20. Low back pain and Physical Medicine and Rehabilitation
21. Musculoskeletal trauma and Physical Medicine and Rehabilitation
22. Rehabilitation of persons suffering from:
  - Arthritis including Rheumatoid Arthritis, Osteoarthritis, Ankylosing Spondylitis etc.
  - Spinal deformity
  - Neck Pain, Shoulder Pain etc.
  - Osteoporosis
  - Sports Injury
  - Burns Injury
  - Spinal Cord Injury
23. Rehabilitation of persons:
  - with obesity, dyslipidemia etc.
  - after Arthroplasty
  - after POP cast, Fracture treatment, Surgical intervention
24. Basic principles and practice of interventions and rehabilitative surgeries such as deformity correction in poliomyelitis, cerebral palsy, clubfoot, contractures, revision of amputation stump, closure of pressure sore, tendon transfers etc.

### Section C:

25. Rehabilitation of persons suffering from:
  - Plexus or Nerve Injury
  - Traumatic Brain Injury
  - Stroke
  - Parkinsonism, Multiple sclerosis, Ataxia, neurodegenerative disorders etc.
  - Neuropathy, Bell's Palsy etc.
  - Hansen's Disease (Leprosy including leprosy-cured persons)
  - diseases of Muscles e.g. myopathy, motor-neuron disease, myasthenia gravis etc.
  - Cerebral Palsy
  - Spasticity, dystonia, rigidity,
  - Poliomyelitis and its sequelae including Post-polio syndrome
  - Cardiovascular Disease e.g. CAD, MI, CABG Surgery, Angioplasty, Heart failure, Cardiac transplantation etc.
  - Pulmonary Disease e.g. COPD, Bronchiectasis, Cystic fibrosis etc.

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- Cancer
- Patients in the ICU setting
- Swallowing disorder
- Bladder dysfunction
- Bowel dysfunction
- Vertigo
- HIV/AIDS
- Chronic Pain
- Organ Transplantation

26. Pediatric Rehabilitation including children with Cerebral palsy, muscular dystrophy, Autism Spectrum Disorders, learning disabilities, neural-tube defects, multiple disabilities etc.
27. Geriatric Rehabilitation
28. Principles of evaluation and rehabilitation management of persons with:
  - visual impairment
  - Intellectual disability
  - hearing /speech impairment
  - psychological problems or mental illness
29. Medical/ surgical Emergencies in Physical Medicine and Rehabilitation
30. Sexuality and Disability

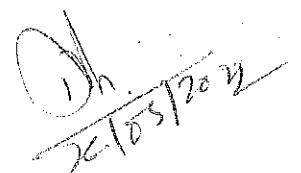
**Section D:**

31. Evidence-based Medicine and Physical Medicine and Rehabilitation
32. Legislation in relations to disability- National and International
33. Schemes and Benefits extended to persons with disabilities by the Govt.
34. Barrier-free Environment and access related issues
35. Computers in Physical Medicine and Rehabilitation
36. Assistive-technologies in rehabilitation
37. Ethical aspects in disability and rehabilitation
38. Recent Advances related to Physical Medicine and Rehabilitation

***Syllabus***

**Course Contents**

The course contents for MD (Physical Medicine and Rehabilitation) is divided into four broad sections, covering four theory papers. However, certain degree of overlapping may occur among different sections. The content would include the following:


  
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**Section A:**

- 1) Basic Anatomy and Physiology of the Musculoskeletal (including Biomechanics), Urogenital, Cardio-pulmonary and nervous systems, etc.
- 2) Basics of biochemical aspects of Calcium and Vit. D metabolism, osteoporosis, diabetes mellitus etc.
- 3) Basic Pathological processes causing diseases and disabilities, healing etc.
- 4) Basic principles of Pharmacology as applied to the conditions encountered in Physical Medicine and Rehabilitation.
- 5) Basic principles of diagnostic modalities as applied to Physical Medicine and Rehabilitation.
- 6) Philosophy, history, scope and need of Physical Medicine and Rehabilitation.
- 7) Basic concepts in Physical Medicine and Rehabilitation - definitions, rehabilitation team, team members, scope, role and responsibilities of different members etc.
- 8) Principles of evaluation and rehabilitation management of social problems
- 9) Principles of evaluation and rehabilitation management of vocational problems
- 10) Organisation and Administration of Physical Medicine and Rehabilitation Services.
- 11) Disability process. Impairment, disability, International Classifications
- 12) Disability Prevention- levels and examples
- 13) Epidemiology of disability, magnitude, causes, changing trends etc.
- 14) Gait Analysis - Terminology, types, Clinical Applications
- 15) Electrodiagnostic Medicine - basic principles, clinical methods, interpretation etc.
- 16) Outcome Measures in Physical Medicine and Rehabilitation
- 17) Impairment Rating and Disability Evaluation

**Section B:**

- 18) Therapeutic exercises - principles, types, indications, contraindications
- 19) Physical agents/modalities - principles, types, indications, contra-indications, precautions.
- 20) Manipulation, traction, massage - principles, types, indications, contra-indications, precautions.
- 21) Electrical stimulation - principles, types, indications, contra-indications, precautions.
- 22) Principles and scope of Occupational Therapy
- 23) Rationale of A.D.L. (Activities of Daily Living) in various conditions
- 24) Integrative Medicine and Physical Medicine and Rehabilitation

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- 25) Upper limb orthotic devices including splints– principles, types, materials and indications,
- 26) Lower limb orthotic devices including footwear modifications– principles, types, materials and indications
- 27) Spinal orthoses – principles, types, materials and indications
- 28) Upper limb prosthetics and amputee rehabilitation,
- 29) Lower limb prosthetics and amputee rehabilitation
- 30) Mobility aids, wheelchairs and seating systems,
- 31) Low back pain and Physical Medicine and Rehabilitation
- 32) Musculoskeletal trauma and Physical Medicine and Rehabilitation
- 33) Holistic Rehabilitation of persons suffering from:

- Arthritis, including Rheumatoid Arthritis, Osteoarthritis, Ankylosing Spondylitis etc.
- Spinal deformity
- Neck Pain, Shoulder Pain etc.
- Osteoporosis
- Sports Injury
- Burns Injury
- Spinal Cord Injury (traumatic and non-traumatic)

- 34) Rehabilitation of persons:
  - with obesity, dyslipidemia etc.
  - after Arthroplasty
  - after POP cast, Fracture treatment, Surgical intervention

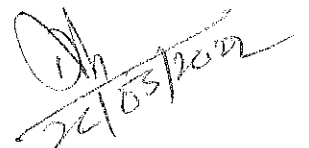
35) Principles of Sports Medicine, diagnosis, evaluation, prevention, and management of sports injuries

36) Basic principles of rehabilitative surgeries such as deformity correction in poliomyelitis, cerebral palsy, clubfoot, contractures, revision of amputation stump, closure of pressure sore, tendon transfers etc.

**Section C:**

37) Holistic Rehabilitation of persons suffering from:

- Plexus or Nerve Injury
- Traumatic Brain Injury
- Stroke
- Parkinsonism, Multiple sclerosis, Ataxia, neurodegenerative disorders etc.
- Neuropathy, Bell's Palsy etc.
- Hansen's Disease

  
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- Diseases of Muscles e.g. myopathy, motor-neuron disease, myasthenia gravis etc.
  - Cerebral Palsy
  - Spasticity
  - Poliomyelitis and its sequelae
  - Cardiovascular Disease e.g. CAD, MI, CABG Surgery, Angioplasty, Cardiac transplantation etc.
  - Pulmonary Disease e.g. COPD, Bronchiectasis, Cystic fibrosis etc.
  - Cancer
  - Swallowing disorder
  - Bladder dysfunction
  - Bowel dysfunction
  - Vertigo
  - HIV/AIDS
  - Chronic Pain
  - Neural tube defects like meningomyelocele and hydrocephalus etc.
- 38) Rehabilitation of persons:
- after Organ Transplantation
  - in ICU setting
- 39) Pediatric Rehabilitation including children with Autism Spectrum Disorders, learning disabilities, multiple disabilities etc.
- 40) Geriatric Rehabilitation
- 41) Principles of evaluation and rehabilitation management of persons with:
- visual impairment
  - Intellectual disability
  - hearing /speech impairment
  - psychological problems or mental illness
- 
- 42) Medical/ surgical Emergencies in Physical Medicine and Rehabilitation
- 43) Sexuality and Disability

**Section D:**

- 44) Evidence-based Medicine and Physical Medicine and Rehabilitation
- 45) Legislation in relations to disability- National and International
- 46) Functional evaluation, Impairment rating, disability evaluation and certification including guidelines for these

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- 47) Schemes and Benefits extended to persons with disabilities by the Govt.
- 48) Barrier-free Environment and access related issues
- 49) Computers in Physical Medicine and Rehabilitation
- 50) Assistive Technology related to Physical Medicine and Rehabilitation
- 51) Recent Advances related to Physical Medicine and Rehabilitation
- 52) Ethical aspects in rehabilitation
- 53) Research methodology

## **TEACHING AND LEARNING METHODS**

### **Post-Graduate Training:**

#### **A. Theoretical Methodology:**

##### **1. Symposia/Seminars:**

The post graduate student would be required to present topics to the combined group of teachers and students. A free discussion would be encouraged in these activities. The topics of the symposia/seminars would be given to the residents with the dates for presentation.

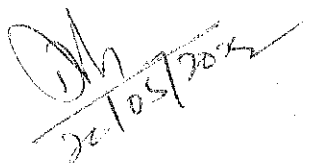
The topics for Seminars could include any of the following: Gait Analysis, Spasticity, Pressure Sores, Spinal Orthoses, Hand Splints, Assistive Technology, Psycho-Social-Vocational Aspects, Cardiac Rehabilitation, Pulmonary Rehabilitation, Neuro-developmental Techniques, Post-Polio Syndrome, Cognitive Rehabilitation, Prosthetic Feet, PTB Prosthetic, Prosthetic Terminal Devices, CAD-CAM, FES, Spinal Deformities, Rehabilitation after Arthroplasty, Epidemiology of Disability, Barrier-free Environment, Ethical Aspects, Legislation related to Disability and Rehabilitation, Community-Based Rehabilitation, Leprosy Rehabilitation, Sexuality and Disability, Rehabilitation related to HIV/AIDS, Stem Cell Therapy in Rehabilitation, Geriatric Rehabilitation, Sports Injuries Rehabilitation, Rehabilitation after Organ Transplantation, Pain Management, Analgesics, NSAIDs, DMARDs, Disability Evaluation, Interventions in Physical Medicine and Rehabilitation etc.

##### **2. Journal Club:**

This should be a regular/weekly activity. The post graduate student would be assigned /allowed to chose an article from amongst the recent publications from the list of recommended journals, present, summarise, and discuss the published article critically. The contributions made by the article in furtherance of the scientific knowledge as well as limitations (if any) should be highlighted.

##### **3. Practical and Clinical Training:**

###### **Clinical:**

  
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of history taking and examination in rehabilitation practice. During this period, the student would also be oriented to the common problems that present in the OPD or Wards/ICUs or are encountered in the community. The student would be supervised by Senior Residents and Faculty members.

**Bedside:**

The student would work up cases; learn management of cases by discussion with the senior residents and faculty of the department. She/he would be trained in management of in-patients including performing certain procedures such as debridement, Plaster cast application, traction, catheterization, intubation etc.


**Rehabilitative Interventions and Surgery:**

The student would be provided with an opportunity, as far as possible, to observe, learn, assist and once proficient, perform rehabilitative surgical operations such as for correction of deformities in polio, cerebral palsy, amputation, clubfoot, pressure sore etc. including post-operative care with the assistance of the Senior Residents and/or under the direct supervision of a Faculty member.

The student would also be oriented to the various sections/units in a comprehensive rehabilitation set up (such as occupational therapy, orthotics-prosthetics, physiotherapy, social works, clinical psychology, vocational guidance/counseling, educational institution and Non-Governmental Organization in the disability sector etc.) and be well informed about and demonstrated the various equipments/materials/methods used there, and the scope, role and responsibilities of different members of a rehabilitation team.

**4. Training in Research Methodology**

- The student would carry out the research project and write a thesis. Thesis topic would be finalized by the student in consultation with the Guide and Co-Guides, as per the norms duly approved by the Ethics Committee of the Institution. He would also be given exposure to partake in the research projects going on to learn their planning, methodology and execution to learn various aspects of research.
- The student would be given exposure to partake in the research projects going on to learn their planning, methodology and execution to learn various aspects of research.

  
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**5. Teaching Skills**

The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

**6. Continuing Medical Education Programmes (CME)**

At least two CME programmes should be attended by each student in 3 years.

**7. Conferences**

The student should attend courses, conferences and seminars relevant to the speciality.

**8. Case presentation, case work up, case handling/management (once a week)**

**9. Attending clinical grand rounds / clinic-pathological conference**

The post graduate students are encouraged to attend lectures and grand rounds of other clinical and basic science departments of the hospital.

**10. Paper/poster presentation:**

A post graduate student of a post graduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

**11. Teaching skills:**

The post graduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.


**12. A logbook should be maintained recording the duration of posting, the period of absence, if any, skills performed, and remarks if any by the teacher/faculty member.**

The logbook should also record journal clubs, seminars attended and partaken as well as undergraduate teaching activities the post graduate student has participated and should be signed by the faculty in charge.

**13. Department should encourage e-learning activities.**

**14. Rotation Posting:** During the tenure of 3 years training, the candidate would be posted on rotation for 03 months in the 3<sup>rd</sup> year for 15 days each in department of Orthopedics, Neurology, Pulmonary/ Respiratory Medicine, Intensive Care Unit, pain & palliative care & spinal injury ward in the same institution or other institutions in Delhi. The duration of posting in different departments will be 15 days as per availability of different services and mutual agreement between heads of the departments/ institutions.

**During the training programme, patient safety is of paramount importance, therefore skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in medical colleges is mandatory.**

  
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## ASSESSMENT

### **FORMATIVE ASSESSMENT i.e., assessment during the training**

**Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.**

**Quarterly assessment during the MD training should be based on:**

- Journal based / recent advances learning
- Patient based /Laboratory or Skill based learning
- Self directed learning and teaching
- Departmental and interdepartmental learning activity
- External and Outreach Activities / CMEs

**The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).**

### **SUMMATIVE ASSESSMENT, i.e., at the end of training**

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The examination shall be in three parts:

#### **1. Thesis**

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

#### **2. Theory Examination:**

There shall be four papers each of three hours duration. Each paper shall consist of two long essay questions, three short essay questions and four short notes. These are:


<b>Paper I:</b>	Basic Sciences and Basic Concepts as applied to Physical Medicine and Rehabilitation
<b>Paper II:</b>	Principles and Practice of Physical Medicine; and Rehabilitation Management of Musculoskeletal Conditions
<b>Paper III:</b>	Principles and Practice of Rehabilitation Management of Neurological, Cardio-pulmonary and other Conditions
<b>Paper IV:</b>	Legislation, Recent Advances as applied to Physical Medicine and Rehabilitation

#### **3. Clinical / Practical and viva voce Examination**

The emphasis would be on the Objective Structured Clinical Examination (OSCE).

Practical examination would be conducted as per following:

- Long Case - One
- Short Cases - Three

  
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involving

PMR related X-Ray/CT Scan/MRI /Bone Scan Films Rehabilitation Surgery

Instruments

Physical Medicine Instruments/Equipments/Modalities

### **Orthotic-Prosthetic Appliances**

### **OSCE Based Examination Scheme for MD (PMR) Examinations**

**Oral/Viva voce examination** shall be in the following areas:

#### **Item**

- i. PMR related X-rays, US Scan, CT Scan, MRI, EMG/NCV reports etc.
- ii. PMR related Surgical Instruments
- iii. Prosthetic and Orthotic devices
- iv. Physical Medicine Instruments/Equipments

Please see **Annexure 1** for pattern of marking for practical examinations.

#### **Recommended Reading**

The list is indicative only, and not exhaustive.

#### **Books (latest edition)**

1. Braddom RL. Physical Medicine and Rehabilitation, Saunders
2. DeLisa JA. Rehabilitation Medicine: Principles and Practice. Lippincott
3. Rusk HA. Rehabilitation Medicine. CV Mosby
4. Helander E, Mendis P, Nelson G, Goerd A. Training in the Community for People with Disabilities WHO, Geneva.
5. Helander E. Prejudice and Dignity - An Introduction to Community-Based Rehabilitation. UNDP.
6. Solomon L. Apley's System of Orthopaedics and Fractures. Arnold London
7. Fauci, Braunwald, Kasper, Hauser et al. Harrison's Principles of Internal Medicine McGraw-Hill Company
8. Steven Kirshblum, Denise I Campagnolo. Spinal Cord Medicine, Lippincott Williams & Wilkins.
9. Vernon W Lin. Spinal Cord Medicine - Principles and Practice. Demos

#### **Journals**

**Three international and two national journals (all indexed)**

*Handwritten signature and date:*  
26/05/2022



**Postgraduate Students Appraisal Form (Suggested)  
Clinical Disciplines**

Name of the Department/Unit

: Name of the PG Student

Period of Training : FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory			Satisfactory			More Than Satisfactory			Remarks
		1	2	3	4	5	6	7	8	9	
1.	Medical Knowledge										
2.	Patient Care including documentation										
3.	Procedural/ Surgical Skills										
4.	Professionalism										
5.	Ethical Behavior										
6.	Self Directed Learning										
7.	Participation in Departmental Learning/Teaching activities										
8.	Thesis / Research work										
9.	Log Book Maintenance										
10.	Journal Club										

Participation and presentation during Conference/Workshop/CME Yes/ No

Publications Yes/ No

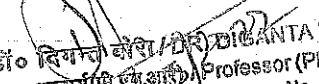
Remarks\*

\*REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD

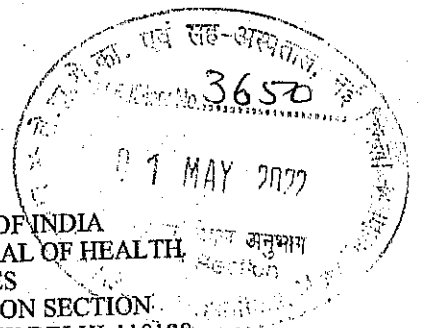
  
 डॉ० दिबन्ता बोरा / DR. DIBANTA BORAH  
 प्राध्यापक (पी.एम.ए.) Professor (PMR)  
 वंजि. संख्या की संख्या 44493 / Reg. No. DMC-44493  
 वीएमएमसी एवं सफदरजंग अस्पताल, नई दिल्ली-110029  
 VMMC & Safdarjung Hospital, New Delhi-110029

भारत सरकार  
स्वास्थ्य सेवा महानिदेशालय  
चिकित्सा शिक्षा अनुभाग  
निर्माण भवन, नई दिल्ली-110108



सत्यमेव जयते

GOVERNMENT OF INDIA  
DIRECTORATE GENERAL OF HEALTH  
SERVICES  
MEDICAL EDUCATION SECTION  
NIRMAN BHAWAN, NEW DELHI-110108



No.U.12012/03/2021-ME

Dated: the 29<sup>th</sup> April, 2022.

To,  
Director,  
LHMC & Associated Hospitals,  
New Delhi.

Sub: Proposal to increase intake for the PG course MD (PMR) from 01 to 02 at LHMC & Associated Hospitals – reg.

Sir,

I am directed to refer to your Organization's communication No. No. ARO/2022/397 dated 22.03.2022 on the subject cited above. It is hereby conveyed that the Competent Authority has no objection on the proposal to start PG course MD (PMR) with 02 students per year at Department of PMR, LHMC & Associated Hospitals. Since letter of permission in this regard has already been issued earlier by the ministry the Department may adjust the PG seats against the existing posts of JRs (06 posts that will gradually replace the Non PG JRs over a period of 3 years.

This issues with the Approval of DGHS

Yours faithfully,

Digitally Signed by B  
Srinivas  
Date: 29-04-2022 16:59:26  
Reason: Approved

(Dir.Prof. (Dr.) B. Srinivas)  
Assistant Director General (ME)  
Tel. No. 23062493, FAX-23061907

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HOD, PMR

