

Physical Medicine & Rehabilitation

Lesson plan

LECTURE 01

Definition, Historical Aspect, Background, Spectrum of Physical Medicine & Rehabilitation, and Various Modalities of Physical Therapy

1. Curriculum Alignment

Item	Description
MBBS Phase	Phase IV / 5th Year MBBS
Department	Physical Medicine
Subject	Physical Medicine & Rehabilitation
Academic Year	COM-30
Date	23-04-2026
Teacher	Prof. Dr. Md. Zahidul Hoque
Topic	Definition, Historical Aspect, Background, Spectrum of Physical Medicine & Rehabilitation, Various Modalities of Physical Therapy

3. Learning Objectives

By the end of the session, students will be able to:

Objective	Bloom	Domain
Define Physical Medicine & Rehabilitation and explain its scope.	C2	Knowledge
Describe the evolution and major milestones of rehabilitation medicine.	C2	Knowledge
Identify major areas covered by PM&R across different clinical specialties.	C2	Knowledge
Select appropriate physical therapy modalities for common clinical situations.	C3	Skill
Differentiate the roles of physician, physiotherapist, occupational therapist and other rehabilitation professionals.	C4	Knowledge/Attitude

5. Lesson Plan

Time	Teacher Activities	Student Activities	Teaching Method	Resources	Assessment
5 min	Introduce PM&R through a patient with disability after stroke/trauma.	Identify rehabilitation needs.	Case-triggered lecture	PPT, clinical image	Oral questioning
5 min	Recall disability, impairment and	Participate in brainstorming.	Retrieval learning	Whiteboard	Questioning

	functional limitation.				
15 min	Discuss definition, historical development, background and scope of PM&R.	Participate and construct concept map.	Interactive lecture	PPT	Observation
15 min	Introduce major physical therapy modalities and their broad indications.	Match modalities with clinical applications.	Image/video-assisted learning	PPT, modality images	Oral assessment
10 min	Discuss multidisciplinary rehabilitation through clinical cases.	Analyze cases and identify appropriate rehabilitation professionals.	Case-based learning	Clinical vignettes	Case discussion
5 min	Summarize major concepts.	State key learning points.	Interactive summary	Summary slide	Oral recap
5 min	Conduct formative assessment and feedback.	Complete assessment.	MCQ/SAQ	Assessment slides	Formative assessment

6. Formative Assessment

- MCQs
- SAQs
- Oral questioning
- Clinical scenario-based assessment
- Immediate feedback

9. References

1. BMDC. *Competency-Based MBBS Curriculum*.
2. BMEAC. *Standards for Medical Education Accreditation*.
3. WHO. *Rehabilitation in Health Systems*.
4. Braddom RL. *Braddom's Physical Medicine and Rehabilitation*.
5. DeLisa JA. *Physical Medicine and Rehabilitation: Principles and Practice*.
6. WFME. *Global Standards for Quality Improvement in Medical Education*.

LECTURE 02

Management and Rehabilitation of Neck Pain, Back Pain and Soft Tissue Rheumatism

1. Curriculum Alignment

Item	Description
MBBS Phase	Phase IV / 5th Year MBBS
Department	Physical Medicine
Subject	Physical Medicine & Rehabilitation
Academic Year	COM-30
Date	27-08-2026
Teacher	Dr. Md. Shafi Ullah
Topic	Management and Rehabilitation of Neck Pain, Back Pain and Soft Tissue Rheumatism

3. Learning Objectives

Objective	Bloom	Domain
Identify common causes of neck and back pain.	C2	Knowledge
Recognize clinical red flags requiring further investigation or referral.	C4	Skill
Differentiate mechanical from potentially serious causes of spinal pain.	C4	Knowledge
Outline evidence-based conservative management and rehabilitation.	C3	Skill
Select appropriate physical therapy and exercise-based interventions for common conditions.	C3	Skill
Demonstrate appropriate patient education regarding posture, activity and prevention.	C5	Attitude

5. Lesson Plan

Time	Teacher Activities	Student Activities	Teaching Method	Resources	Assessment
5 min	Introduce patient with chronic low back/neck pain.	Identify possible causes.	Case-triggered lecture	PPT, case	Oral questioning
5 min	Recall spinal anatomy, pain pathways and musculoskeletal examination.	Participate in recall.	Retrieval learning	Whiteboard	Questioning
15 min	Discuss clinical assessment, differential diagnosis and red flags.	Formulate differential diagnoses.	Interactive lecture	PPT	Observation
15 min	Discuss conservative treatment, exercise, posture, ergonomics and physical therapy modalities.	Select interventions for cases.	Case-based learning	Clinical cases	Case assessment

10 min	Integrate soft-tissue rheumatism and rehabilitation planning.	Develop rehabilitation priorities.	Think–Pair–Share	Clinical vignettes	Peer feedback
5 min	Summarize management principles.	State key messages.	Interactive summary	Summary slide	Oral recap
5 min	Formative assessment.	Respond and reflect.	MCQ/SAQ	Assessment slides	Feedback

6. Formative Assessment

- MCQs
- SAQs
- Clinical case analysis
- Red-flag identification
- Oral questioning

9. References

1. BMDC. *Competency-Based MBBS Curriculum*.
2. WHO. *Guideline for Non-Surgical Management of Chronic Primary Low Back Pain*.
3. Braddom RL. *Braddom's Physical Medicine and Rehabilitation*.
4. DeLisa JA. *Physical Medicine and Rehabilitation: Principles and Practice*.
5. AAPM&R. Relevant PM&R clinical resources.
6. WFME. *Global Standards for Quality Improvement in Medical Education*.

LECTURE 03

Management of Arthritis and Allied Conditions; Rehabilitation of Painful Conditions of Upper and Lower Limb

1. Curriculum Alignment

Item	Description
MBBS Phase	Phase IV / 5th Year MBBS
Department	Physical Medicine
Subject	Physical Medicine & Rehabilitation
Academic Year	COM-30
Date	24-09-2026
Teacher	Dr. Md. Saidur Rahman
Topic	Management of Arthritis and Allied Conditions; Rehabilitation of Painful Conditions of Upper and Lower Limb

3. Learning Objectives

Objective	Bloom	Domain
Classify common arthritic and musculoskeletal pain conditions.	C2	Knowledge
Differentiate inflammatory from degenerative musculoskeletal conditions.	C4	Knowledge
Identify functional impairments associated with painful upper and lower limb disorders.	C4	Skill
Outline multidisciplinary management and rehabilitation principles.	C3	Skill
Select appropriate exercise, physical therapy and functional interventions.	C3	Skill
Demonstrate appropriate patient education and long-term self-management principles.	C5	Attitude

5. Lesson Plan

Time	Teacher Activities	Student Activities	Teaching Method	Resources	Assessment
5 min	Present patient with painful, stiff knee/shoulder.	Identify clinical problems.	Case trigger	PPT, case	Oral questioning
5 min	Recall joint anatomy, inflammation, biomechanics and common arthritis.	Participate in retrieval activity.	Questioning	Whiteboard	Verbal
15 min	Discuss arthritis classification, assessment and functional consequences.	Differentiate clinical patterns.	Interactive lecture	PPT	Observation

15 min	Discuss rehabilitation, exercise, physical modalities, joint protection and functional restoration.	Develop intervention plans.	Case-based learning	Clinical cases	Case assessment
10 min	Present upper/lower limb pain cases and rehabilitation goals.	Work in pairs and justify interventions.	Think–Pair–Share	Clinical vignettes	Peer feedback
5 min	Summarize management principles.	State key messages.	Interactive summary	Summary slide	Oral recap
5 min	Formative assessment and feedback.	Respond and reflect.	MCQ/SAQ	Assessment slides	Feedback

6. Formative Assessment

- MCQs
- SAQs
- Clinical case analysis
- Functional assessment scenarios
- Oral questioning

9. References

1. BMDC. *Competency-Based MBBS Curriculum*.
2. Braddom RL. *Braddom's Physical Medicine and Rehabilitation*.
3. DeLisa JA. *Physical Medicine and Rehabilitation: Principles and Practice*.
4. EULAR. Relevant recommendations for rheumatic and musculoskeletal diseases.
5. WHO. Relevant rehabilitation guidance.
6. WFME. *Global Standards for Quality Improvement in Medical Education*.

LECTURE 04

Management & Rehabilitation of Stroke, Spinal Injury and Neurological Conditions; Non-Surgical Orthopaedics, Postoperative Complications, Cerebral Palsy and Pediatric Neurological Conditions

1. Curriculum Alignment

Item	Description
MBBS Phase	Phase IV / 5th Year MBBS
Department	Physical Medicine
Subject	Physical Medicine & Rehabilitation
Academic Year	COM-30
Date	29-10-2026
Teacher	Dr. Md. Shafi Ullah
Topic	Management and Rehabilitation of Stroke, Spinal Injury and Neurological Conditions; Non-Surgical Orthopaedics, Postoperative Complications, Cerebral Palsy and Other Pediatric Neurological Conditions
Relevant Phase Outcome	Recognize neurological and musculoskeletal disabilities and apply principles of multidisciplinary rehabilitation, functional restoration and prevention of complications.

3. Learning Objectives

By the end of the session, students will be able to:

Objective	Bloom	Domain
Identify common impairments following stroke, spinal cord injury and neurological disorders.	C2	Knowledge
Analyze functional limitations and common complications requiring rehabilitation.	C4	Skill
Outline rehabilitation principles for stroke and spinal cord injury.	C3	Skill
Identify common rehabilitation needs in cerebral palsy and pediatric neurological disorders.	C3	Skill
Formulate basic multidisciplinary rehabilitation goals for neurological and orthopedic patients.	C4	Skill
Demonstrate awareness of long-term, patient-centred and family-centred rehabilitation.	C5	Attitude

5. Lesson Plan

Time	Teacher Activities	Student Activities	Teaching Method	Resources	Assessment
5 min	Present a stroke/spinal injury case with functional disability. Establish learning objectives.	Identify impairments and rehabilitation priorities.	Case-triggered lecture	PPT, clinical vignette	Oral questioning
5 min	Recall neurological examination, motor/sensory	Participate in retrieval activity.	Questioning	Whiteboard	Verbal

	pathways and common neurological deficits.				
15 min	Discuss rehabilitation following stroke, spinal injury and neurological conditions; emphasize prevention of complications and functional recovery.	Identify impairments and rehabilitation goals.	Interactive lecture	PPT, rehabilitation diagrams	Observation
10 min	Discuss non-surgical orthopaedic conditions and postoperative rehabilitation/complications.	Analyze clinical scenarios and propose rehabilitation measures.	Case-based learning	Clinical cases	Case assessment
10 min	Discuss cerebral palsy and pediatric neurological rehabilitation, including family-centred and developmental approaches.	Work in pairs and formulate rehabilitation goals.	Think–Pair–Share	Pediatric cases	Peer assessment
5 min	Summarize major rehabilitation principles across neurological and orthopedic conditions.	State key learning points.	Interactive summary	Summary slide	Oral recap
5 min	Formative assessment and immediate feedback.	Complete assessment and reflect on gaps.	MCQ/SAQ	Assessment slides	Feedback

6. Formative Assessment

- MCQs
- SAQs
- Clinical case-based assessment
- Functional impairment identification
- Rehabilitation goal-setting exercise
- Oral questioning

9. References

1. BMDC. *Competency-Based MBBS Curriculum*.
2. WHO. *Package of Interventions for Rehabilitation (PIR)*.
3. Braddom RL. *Braddom's Physical Medicine and Rehabilitation*.
4. DeLisa JA. *Physical Medicine and Rehabilitation: Principles and Practice*.
5. Winstein CJ, et al. *Guidelines for Adult Stroke Rehabilitation and Recovery*.
6. Rosenbaum P, et al. *A Report: The Definition and Classification of Cerebral Palsy*.
7. WFME. *Global Standards for Quality Improvement in Medical Education*.

Competency-Based Bedside Clinical Teaching Plan
Department of Physical Medicine, Cumilla Medical College

4th Year MBBS — COM-32

Clinical Class Time: 9:30 AM–11:30 AM | Duration: 120 minutes per session

The following plans are structured as **bedside/clinical classes**, emphasizing direct patient observation, focused history, physical examination, clinical reasoning, rehabilitation assessment, communication and supervised practical skills.

DAY 01

Definition, Historical Aspect, Background, Spectrum of Physical Medicine & Rehabilitation, Various Modalities of Physical Therapy

Teacher: Prof. Dr. Md. Zahidul Hoque

Duration: 120 minutes

Session Type: Bedside/Clinical Demonstration

1. Learning Objectives

By the end of the session, students will be able to:

1. Define Physical Medicine & Rehabilitation and describe its clinical scope.
2. Identify rehabilitation needs from direct assessment of selected patients.
3. Recognize major physical therapy modalities and their broad clinical applications.
4. Explain the role of different members of the multidisciplinary rehabilitation team.
5. Demonstrate appropriate patient communication during rehabilitation assessment.

2. Bedside Session Plan

Time	Activity	Teacher Role	Student Role	Method
10 min	Orientation	Explain objectives and introduce rehabilitation service	Listen and identify learning goals	Brief interactive discussion
15 min	Rehabilitation patient selection	Select representative patients with musculoskeletal/neurological disability	Observe disability and identify rehabilitation needs	Bedside observation
20 min	Focused history	Demonstrate functional history taking	Take focused history under supervision	Demonstration + supervised practice
20 min	Functional assessment	Demonstrate assessment of mobility, ADL limitation and pain	Perform selected assessments	Bedside demonstration
20 min	Physical therapy modalities	Demonstrate/observe available modalities and discuss indications	Identify modalities and	Demonstration

			their clinical purpose	
15 min	Multidisciplinary rehabilitation	Discuss physician, physiotherapist, occupational therapist and other team roles	Identify appropriate team members for cases	Case-based discussion
10 min	Clinical reasoning	Present patient-based rehabilitation problem	Formulate basic rehabilitation needs	Small-group discussion
10 min	Feedback & summary	Correct errors and summarize	Reflect on performance	Feedback

3. Formative Assessment

- Direct observation
- Focused history-taking
- Patient assessment
- Identification of therapy modalities
- Oral questioning
- Immediate feedback

4. Take-Home Skills

- Identify a patient's major functional limitation.
- Recognize when rehabilitation referral is required.
- Identify appropriate physical therapy modalities.
- Understand multidisciplinary rehabilitation.

DAY 02

Management and Rehabilitation of Neck Pain, Back Pain and Soft Tissue Rheumatism

Teacher: Dr. Md. Shafi Ullah

Duration: 120 minutes

Session Type: Bedside/Clinical Demonstration

1. Learning Objectives

By the end of the session, students will be able to:

1. Take a focused history from a patient with neck or back pain.
2. Identify red flags suggesting serious spinal pathology.
3. Perform a focused examination of the cervical and lumbar spine.
4. Differentiate common mechanical and non-mechanical causes of spinal pain.
5. Formulate basic rehabilitation goals and management plans.
6. Provide appropriate advice regarding posture, activity and exercise.

2. Bedside Session Plan

Time	Activity	Teacher Role	Student Role	Method
10 min	Orientation	Introduce clinical objectives and demonstrate case selection	Listen and prepare	Interactive briefing
20 min	History taking	Demonstrate pain history, functional limitation and red-flag screening	Take focused history	Bedside demonstration
25 min	Examination	Demonstrate cervical/lumbar examination, ROM and neurological screening	Perform examination in pairs	Supervised bedside practice
15 min	Clinical reasoning	Compare mechanical and serious causes	Formulate differential diagnosis	Case discussion
20 min	Rehabilitation	Demonstrate posture, activity modification and appropriate exercise principles	Develop basic rehabilitation advice	Demonstration
15 min	Soft tissue rheumatism	Demonstrate assessment of common soft-tissue pain conditions	Examine selected patients	Supervised practice
10 min	Case presentation	Facilitate short student presentations	Present assessment and plan	Student presentation
5 min	Feedback	Correct examination and reasoning errors	Reflect and ask questions	Feedback

3. Formative Assessment

- Focused history-taking
- Spine examination

- Red-flag identification
- Clinical case presentation
- Rehabilitation plan
- Direct observation

4. Take-Home Skills

Students should be able to **assess neck/back pain systematically, identify red flags, perform a focused examination and formulate an initial rehabilitation plan.**

DAY 03

Management of Arthritis and Allied Conditions; Rehabilitation of Painful Conditions of Upper & Lower Limb

Teacher: Dr. Md. Saidur Rahman

Duration: 120 minutes

Session Type: Bedside/Clinical Demonstration

1. Learning Objectives

By the end of the session, students will be able to:

1. Take a focused history from a patient with joint or limb pain.
2. Perform systematic examination of a painful joint.
3. Differentiate inflammatory, degenerative and mechanical patterns clinically.
4. Assess pain, ROM, muscle strength and functional limitation.
5. Identify appropriate rehabilitation goals.
6. Provide basic advice regarding exercise, joint protection and functional activity.

2. Bedside Session Plan

Time	Activity	Teacher Role	Student Role	Method
10 min	Orientation	Introduce clinical objectives	Listen and prepare	Interactive briefing
20 min	History	Demonstrate joint pain history and functional assessment	Take focused history	Bedside practice
25 min	Joint examination	Demonstrate inspection, palpation, ROM and functional assessment	Examine selected patients	Demonstration + practice
15 min	Pattern recognition	Demonstrate inflammatory vs degenerative clinical patterns	Analyze findings	Case-based learning
20 min	Rehabilitation assessment	Demonstrate pain, ROM, strength and functional assessment	Perform selected assessments	Supervised practice
15 min	Management planning	Discuss rehabilitation goals and appropriate physical interventions	Develop patient-centred plan	Case discussion
10 min	Patient education	Demonstrate counselling regarding exercise and joint protection	Practice counselling	Role-play
5 min	Feedback	Provide individual feedback	Reflect on performance	Feedback

3. Formative Assessment

- Joint examination
- ROM assessment

- Muscle strength assessment
- Clinical pattern recognition
- Case presentation
- Patient counselling

4. Take-Home Skills

Students should be able to **examine a painful joint, identify the likely clinical pattern, assess functional impairment and formulate basic rehabilitation goals.**

DAY 04

Rehabilitation of Stroke, Spinal Injury & Neurological Conditions; Non-Surgical Orthopaedics, Postoperative Complications, Cerebral Palsy & Pediatric Neurological Conditions

Teacher: Dr. Md. Shafi Ullah

Duration: 120 minutes

Session Type: Bedside/Clinical Demonstration

1. Learning Objectives

By the end of the session, students will be able to:

1. Perform a focused functional assessment of patients with neurological disability.
2. Identify common motor, sensory, balance and functional impairments after stroke and spinal injury.
3. Recognize common complications requiring rehabilitation intervention.
4. Assess functional limitations in cerebral palsy and pediatric neurological conditions.
5. Formulate basic multidisciplinary rehabilitation goals.
6. Demonstrate appropriate communication with patients and caregivers.

2. Bedside Session Plan

Time	Activity	Teacher Role	Student Role	Method
10 min	Orientation	Introduce neurological rehabilitation objectives	Listen and prepare	Briefing
20 min	Stroke patient assessment	Demonstrate neurological and functional assessment	Examine patient under supervision	Bedside demonstration
20 min	Spinal injury assessment	Demonstrate motor, sensory and functional assessment	Perform selected assessments	Supervised practice
15 min	Rehabilitation complications	Demonstrate assessment of common complications	Identify complications	Case-based discussion
15 min	Non-surgical orthopaedics/postoperative rehabilitation	Demonstrate functional assessment	Assess selected patient	Bedside practice
20 min	Cerebral palsy/pediatric neurology	Demonstrate developmental and functional assessment	Observe and identify impairments	Pediatric bedside teaching

15 min	Rehabilitation goal setting	Facilitate multidisciplinary planning	Develop patient-centred goals	Small-group discussion
5 min	Feedback	Correct errors and summarize	Reflect on learning	Feedback

3. Formative Assessment

- Neurological examination
- Functional assessment
- Motor/sensory assessment
- Identification of complications
- Rehabilitation goal setting
- Case presentation
- Direct observation

4. Take-Home Skills

Students should be able to **identify major neurological impairments, assess functional disability, recognize rehabilitation needs and formulate basic multidisciplinary rehabilitation goals.**

DAY 05

Examination of Knee Joint, Shoulder and Face

Teacher: Dr. Md. Shafi Ullah

Duration: 120 minutes

Session Type: Bedside/OSCE-Oriented Clinical Demonstration

1. Learning Objectives

By the end of the session, students will be able to:

1. Perform a systematic examination of the knee joint.
2. Perform a systematic examination of the shoulder.
3. Assess relevant movements, ROM, muscle strength and functional limitation.
4. Identify common abnormal clinical findings.
5. Perform a focused examination of the face relevant to Physical Medicine.
6. Present clinical findings in a structured manner.

2. Bedside Session Plan

Time	Activity	Teacher Role	Student Role	Method
10 min	Orientation	Explain examination sequence and objectives	Prepare examination approach	Briefing
25 min	Knee examination	Demonstrate inspection, palpation, ROM, stability and functional assessment	Perform examination in pairs	Bedside demonstration
20 min	Knee clinical interpretation	Demonstrate important abnormal findings	Identify and interpret findings	Case-based learning
25 min	Shoulder examination	Demonstrate inspection, palpation, ROM, strength and selected special tests	Perform examination under supervision	Bedside practice
15 min	Face examination	Demonstrate focused facial examination relevant to neurological/functional disorders	Perform focused examination	Demonstration
10 min	Student case presentation	Facilitate structured presentation	Present examination findings	Student-led bedside presentation
10 min	Integrated assessment	Conduct mini-OSCE stations	Perform examination independently	OSCE-style assessment
5 min	Feedback	Provide individual corrective feedback	Reflect on performance	Feedback

3. Formative Assessment

- Direct observation using examination checklist
- Knee examination
- Shoulder examination
- Facial examination
- Identification of abnormal findings
- Structured case presentation
- Mini-OSCE

4. Take-Home Skills

Students should be able to perform and present a **complete, systematic examination of the knee and shoulder**, together with a focused examination of the face, and correlate clinical findings with likely pathology.