

ECTS Syllabus

Course title	Musculoskeletal Rehabilitation I (with Lab)				
Course code	MPTR-514				
Course type	Face to face				
Level	2 nd Cycle				
Year / Semester	1 st				
Teacher's name	Dr Michalis Efstathiou				
ECTS	10	Lectures / week	2hr	Laboratories / week	2hr
Course purpose and objectives	<p>The main objectives of the course are to:</p> <ul style="list-style-type: none"> • Provide the students with the ability to assess and treat musculoskeletal impairments of the upper quadrant in an advanced level. • Provide students with knowledge of the pathophysiology and clinical presentation of the most common pathologies of the upper quadrant. • Provide students with the ability to distinguish the source, the area and the tissue that are responsible for the impairment and utilize the concepts of Manual Therapy in order to treat the patient. • Provide the students the ability to recognize and classify patients in sub-groups based on their clinical presentation and organize their treatment plane in order to decrease the patients' symptoms and improve their functional status. 				
Learning outcomes	<p>After completion of the theory part students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Recognize the mechanisms of musculoskeletal pathologies of the upper quadrant and their different healing phases. 2. Recognize the area of symptoms (cervical spine, shoulder etc.) and direct their clinical evaluation towards that area. 3. Collect subjective information from the patient and record it in a scientific manner. 4. Perform a detailed objective assessment of all the areas of the upper quadrant based on Manual Therapy concepts. 5. Recognize and understand the effects of contributing and aggravating factors in musculoskeletal pathologies of the upper quadrant and find solutions for their treatment including the patient's education. 6. Recognize the value of medical diagnosis and the need for mechanical classification of patients' that are labeled with the same medical diagnosis. 7. Provide ergonomic advice for any contributing and aggravating factors. 8. Organize a complete rehabilitation program for the treatment of the patients' symptoms and their functional rehabilitation based on the classification and keeping in mind medical diagnosis precautions and contraindications. 9. Apply Manual Therapy technique for the treatment of various musculoskeletal disorders of the upper quadrant. 				

	<p>10. Identify in an early stage all the contributing factors for chronic pain and adjust the treatment accordingly.</p> <p>11. Efficiently assess research data related to musculoskeletal rehabilitation with the aim to expand their knowledge.</p> <p>After completion of the practical part students are expected to be able to:</p> <ol style="list-style-type: none"> 1. Perform a complete clinical evaluation of musculoskeletal problems of the upper quadrant. 2. Recognize serious pathologies that need referral for medical treatment. 3. Categorize musculoskeletal problems in sub-groups according to their clinical presentation and include yellow flags in the classification process. 4. Identify the contraindications for the use of manual therapy techniques and the precautions that are crucial for their application. 5. Choose evidence-based treatment techniques for the gradual improvement of the upper quadrant tissues' ability to compensate with different types of loads. 6. Apply the appropriate manual therapy techniques towards all joints of the upper quadrant in different positions and with the proper ergonomic considerations. 7. Teach the patient self-treatment techniques from various positions as well as exercises for the enhancement of the treatment outcome. 8. Re-assess the effect of the treatment with evidence- based outcome measures and adjust the treatment accordingly. 9. Suggest practical advice for contributing and aggravating factors. 		
Prerequisites	None	Required	None
Course content	<ol style="list-style-type: none"> 1. Assessment and treatment of the cervical spine, shoulder complex, elbow and wrist and hand complex. 2. Special test for differential diagnosis of area of symptoms in the upper quadrant. 3. Special test for identifying tissues in fault in the upper quadrant. 4. Assessment and treatment of the peripheral nerves of the upper quadrant. 5. Manual therapy techniques for the cervical spine, shoulder complex, elbow and wrist and hand complex. 6. Indications, contraindications and limitations for mechanical treatment of the upper quadrant. 7. Classification of musculoskeletal disorders of the upper quadrant and therapeutic algorithms. 8. Mechanical presentation and classification of the most common pathologies of the upper quadrant (discogenic problems, tendinopathies, bursitis, impingement syndrome, dislocations, instability, thoracic outlet syndrome, peripheral neuropathies etc.). 9. Research primers (collect repeated data (Strength, ROM, Body composition, etc) on five-seven students on two different occasions. Calculate reliability, Measurement error and coefficient of variation. Comment on the use of each index in clinical practice. 		
Teaching methodology	Face to face, Class lectures, class debates, practical sessions in physio labs, case studies		

Bibliography	Required Textbooks / Readings:				
	Title	Author(s)	Publisher	Year	ISBN
	Maitland's Vertebral Manipulation, Vol I & II, 8 th ed	Hengeveld E & Banks K	Churchill Livingstone	2013	9780702040665
	Manual Mobilization of the Joints Vol I (Extremities) & II (Spine), 7th ed.	Kaltenborn F	Orthopedic Physical Therapy Products	2011	9788270540709
	A System of Orthopaedic Medicine, 3 rd ed	Ombregt L, Bisschop P, ter Veer HJ	Churchill Livingstone	2013	9780702052958
	Recommended Textbooks / Readings:				
	Title	Author(s)	Publisher	Year	ISBN
	Scientific foundations and principles of practice in musculoskeletal rehabilitation	Magee, D.J. et al	Saunders	2007	9781416002505
	Orthopedic Physical Assessment 6 th ed.	Magee, D.J	Saunders	2013	9781455709779
	The manual of trigger point and myofascial therapy	Kostopoulos, D. et al.	Slack Inc	2001	9781556425424
Assessment	Class participation, mini projects, mid-term exams, final exams.				
Language	English				

Case Studies: each student needs to submit 2 case studies of his patients using the clinical assessment form provided in the Platform. This assignment will account for 20% of your final mark. The objective of the assignment is to facilitate clinical reasoning and a more comprehensive evaluation of all the contributing factors of the patient's presentation. In addition, the assignment aims to promote critical appraisal and self-directed learning, especially in the section on the proposed interventions. The assignment will be marked using the following Clinical Reasoning Rubric. You are encouraged to carefully review the specific sections of the Rubric and ensure you adequately address all areas that will be marked.

Clinical Reasoning Rubric

- Criteria and performance levels
 - Screening and data gathering
 - Advanced: Conducts focused history and exam, identifies red and yellow flags, and prioritizes further testing.
 - Competent: Adequate history and exam with basic flag screening.
 - Basic: Important data missed or poorly prioritized.
 - Insufficient: Unsafe or unfocused assessment.
 - Hypothesis generation and differential diagnosis
 - Advanced: Generates and ranks competing hypotheses with justification, integrates ICF domains and psychosocial contributors.
 - Competent: Presents plausible hypotheses with some justification.
 - Basic: Single hypothesis with limited rationale.
 - Insufficient: Unsupported or incorrect hypotheses.
 - Outcome measures and psychometrics
 - Advanced: Selects valid and responsive measures with justification of MDC or MCID and plans measurement timing.
 - Competent: Chooses appropriate measures with a brief rationale.
 - Basic: Chooses measures without justification.
 - Insufficient: Inappropriate measures or none selected.
 - Goals and plan of care
 - Advanced: Crafts SMART goals and a progressive plan with dose, frequency, progression rules, and monitoring checkpoints.

- Competent: Clear goals and plan with basic dosing.
- Basic: Vague goals and plan without progression logic.
- Insufficient: Goals or plan missing.
- Evidence integration and patient preferences
 - Advanced: Aligns plan with best evidence and patient values, addresses barriers, and negotiates shared decisions.
 - Competent: References evidence and acknowledges preferences.
 - Basic: General reference to evidence without integration.
 - Insufficient: No linkage to evidence or preferences.
- Risk management and safety
 - Advanced: Identifies risks, uses screening results to adapt plan, documents safety actions.
 - Competent: Notes common risks and basic precautions.
 - Basic: Limited safety consideration.
 - Insufficient: Unsafe plan.
- Reflection-in-action and adaptation
 - Advanced: Adjusts plan based on patient response, articulates reasoning, and sets next-step tests of change.
 - Competent: Makes adjustments with brief rationale.
 - Basic: Adjusts without rationale.
 - Insufficient: No adaptation despite cues.

Scoring and weighting of the assignment

- Seven criteria, 0–4 each, weighted to 100.
- Example weights: screening 10%, hypotheses 20%, measures 15%, goals and plan 20%, evidence and preferences 15%, safety 10%, adaptation 10%.
- Pass safeguard: any unsafe decision on safety results in an automatic fail for the assignment with remediation/resubmission.