UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Lower Quarter Impairments

2122-3-I0201D144-I0201D227M

Aims

basis of muscular physiology in order to comprehend the application of the muscular test and the impairment that could be found during the clinical assessment. Identify and treat the problems regarding the muscular skeletal pain. The concept is based on the premise that even a slight deviation from the correct movement determine micro traumatism and pain. These alteration in the precision of the movement may help the development of direction specific compensatory movements, labeled as movement system impairments (MSI). Factors that contribute to these dysfunctions are: length, strength, rigidity alteration of the muscles as well as muscle recruitment alteration provoked by repeated movements and postures. The objective of the assessment is to identify the MSI and their contributing factors, and to collect information in order to make a diagnosis that will address a specific treatment

Contents

Detailed program

- Modification mechanisms of the components: muscular weakness and hypertrophy Neural factors and muscular factors in alignment and force production Normal muscle – anthropized muscle Strain and Z line tears: actin and myosin tears Muscular strain Associated changes in length Adding sarcomere in series Assessment of the muscular performance Muscular stretching:improve the length versus short range elasticity Muscular length

adaptations

Stretching strategies Dissociated changes in synergists Muscular rigidity: passive resistance to the elongation Relative flexibility/rigidity Path of least resistance Lower quarter Concepts and principles of movement impairment syndromes of the low back and of the lower limb Presentation of the 5 lumbar syndromes and of the hip, knee and foot syndromes.

Posture and movement analysis

Clinical examples Muscular component dysfunction, biomechanics and motor control. Physical exam: Posture observation, movement assessment.

Upright tests, supine, prone, side lying, quadruped tests, sitting and step tests, gait assessment. Work in groups Full assessment, clinical reasoning, formulation of a diagnosis based on movement system impairments of the lower quarter; treatment plan. Discussion of the clinical cases. Verification of the diagnosis and of the treatment plan.

Posture and movement analysis Clinical examples Muscular component dysfunction, biomechanics and motor control.

Physical exam: Posture observation, movement assessment. Upright tests, supine, prone, side lying, quadruped tests, sitting tests

Work in groups Full assessment, clinical reasoning, formulation of a diagnosis based on movement system impairments of the lower quarter; treatment plan. Discussion of the clinical cases. Verification of the diagnosis and of the treatment plan.

Prerequisites

Teaching form

during the Covid-19 emergency period, the lessons will take place in a mixed mode: partial presence (frontal lessons and exercises) and asynchronous / synchronous videotaped lessons

Textbook and teaching resource

- Valutazione e trattamento delle Sindromi da Disfunzioni del Movimento Autore: Shirley Sahrmann Edizione italiana a cura di: G. Barindelli Editore: UTET Scienze Mediche 2005, 480 pagine

- Movement System Impairment Syndromes of the Extremities, Cervical and Thoracic Spines - Shirley Sahrmann Elsevier Health Sciences, Nov 19, 2010

Semester

1st semester

Assessment method

written exam with multiple questions

practical examination in presence (if the anti Covid19 rules allow it)

Office hours

By appointment