UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Pain Neurophysiology

2122-2-I0201D137-I0201D210M

Aims

Knowledge of pain pathways and neurophysiological mechanisms that mediate pain

Interpretation of painful symptoms

Presentation of the most up-to-date scientific evidence on acute and chronic pain

Contents

The course will address the topic of pain in physiotherapy by illustrating the current state of knowledge on the subject with the aim of highlighting the neurophysiology related to this area and strategies for assessment, approach, treatment of pain in its various dimensions (biological, psychological, social). All this, exploring the scope of rehabilitation exercise.

Detailed program

Anatomy and physiology of the pain pathways

Pain Review: Different Types and Mechanisms. Evaluation and clinical relevance

Introduction to the practical application of the most recent scientific evidence in a biopsychosocial key

The IASP definition and the evolution of the concept of pain as a multidimensional experience: body, perceptual, emotional, homeostatic state

The theories of pain The Theory of Specificity - The Gate Control Theory - The Body Self Neuromatrix (Melzack), Neural development and the priority functions of the Brain, which evaluates and classifies each sensory experience within a system of meanings. From "Sensation" to "Perception". Pain interpreted in an overturned perspective, where the “Top –Down” mechanisms precede the “Bottom-Up” ones.

Prerequisites

Teaching form

- Lectures and clinical case presentations

- Exercises

- Video clips

- Discussion

Textbook and teaching resource

Moayedi M, Davis KD. Theories of pain: From specificity to gate control. J Neurophysiol 2013;109:5-12

Graven-Nielsen, Thomas, and Lars Arendt-Nielsen. "Assessment of mechanisms in localized and widespread musculoskeletal pain." *Nature Reviews Rheumatology* 6.10 (2010): 599

?wieboda P, Filip R, Prystupa A, Drozd M. Assessment of pain: types, mechanism and treatment. Pain. 2013;2(7).

G. Lorimer Moseley and David S. Butler Adelaide City West: NOI Group Publishers, 2017. ISBN: 978-0-6480227-0-1, 238 pages

Semester

Second Semester

Assessment method

Described in the main syllabus of the course (Multiple choice questions, open questions)

Office hours

By appointment