



Department of Biomedical Sciences
Physiotherapy Degree Programme
Neurological and pelvic floor physiotherapy syllabus

Academic year 2020-2021. Academic term: second semester of the third year
Course coordinator: Prof. Giuseppe Massazza

NEUROLOGICAL PHYSIOTHERAPY (2 ECTS)

PT Cristina Benini
Graduated as a physiotherapist from the Vita-Salute San Raffaele University of Milan in 2005. She works at the Physiotherapy Service of Humanitas Hospital where she is in charge of Neurological Physiotherapy at the Unit of Neurorehabilitation. Expert in neurological physiotherapy, she participates and presents at the main international congresses in the field.
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Objectives
Present functional assessment and treatment planning in neurological physiotherapy, in accordance with data emerging from the international literature and with a task-oriented approach to the assessment and treatment of motor disorders.

Teaching methods
2 hour-long lectures, each with classroom discussion

Teaching material
Slides presented during the lecture, available for physiotherapy students on LMS.

Content

1) Movement characteristics in the presence of central nervous system injury

Neurological disorders affecting motor performance. Alterations in voluntary motor control, the postural component of movement, muscle tone, sensitivity. Pathophysiology and characteristics of movement in the presence of central nervous system injury (synergies, synkinesis, hyposthenia and spasticity).

2) Pathophysiology of the central nervous system and movement characteristics

Specific movement disorder signs (central, extrapyramidal and peripheral): pusher syndrome, spasticity, freezing of gait, Pisa syndrome, Gowers' sign and neuromuscular signs. Common movement disorder signs: foot drop, Trendelenburg's sign, ataxia in walking and knee hyperextension

3) Critical review of scientific articles

Presentation of scientific articles published in indexed journals on the topics covered in the previous lectures with classroom discussion

4) Trunk balance when seated

Assessment and planning of physiotherapy treatment for improvement of trunk balance while sitting. Case presentation of a subject with malarial encephalitis. Functional assessment, physiotherapy treatment plan and outcome measures. Gross motor function scale.

5) Balance in standing position

Assessment and planning of physiotherapy treatment for improving balance when standing. Case presentation of a subject with intradural extracerebral expansive lesion. Functional assessment, physiotherapy treatment plan and outcome measures. The Berg balance scale and the Time up and go test.

6) Sit to stand

Assessment and planning of physiotherapy treatment for sit-to-stand improvement. Case presentation of a subject with Guillain Barré syndrome and confusional state derived from a metabolic factor. Functional assessment, physiotherapy treatment plan and outcome measures. Use of neuromuscular electrical stimulation.

7) Walking

Assessment and planning of physiotherapy treatment to improve walking. Case presentation of a subject with intracerebral haemorrhage and acute pancreatic cancer disease. Functional assessment, physiotherapy treatment plan and outcome measures. The lower limb Fugl Meyer and Ashworth scales, the ten-meter walk test.

8) Walking with aids

Assessment and planning of physiotherapy treatment for improved walking using locomotion aids. Case presentation of a subject with spinal cord ischemia from aortic dissection. Functional assessment, physiotherapy treatment plan and outcome measures. The Asia Scale.

9) Climbing and descending stairs

Assessment and planning of physiotherapy treatment for improvement of stair climbing and descending. Case presentation of a subject with haemorrhagic cerebral stroke and acute hepatitis. Functional assessment, physiotherapy treatment plan and outcome measures. The step test.

10) Reaching and grasping

Assessment and planning of physiotherapy treatment for improving reaching and grasping. Case presentation of a subject with intracerebral haemorrhage and acute pancreatic cancer disease. Functional assessment, physiotherapy treatment plan and outcome measures. The Fugl meyer, the Safe algorithm, the Wolf scale.

PELVIC FLOOR PHYSIOTHERAPY (1 ECTS)

PT Filippo Russo	Graduated as a physiotherapist from the University of Palermo in 2016. He attended the Course in Perineal Rehabilitation organised by ediErmes in 2016 and the Master in Rehabilitation of Musculoskeletal Disorders organised by the University of Genoa in 2017. He works at the Physiotherapy Service of Humanitas Hospital dealing with outpatient musculoskeletal physiotherapy and pelvic floor physiotherapy in patients operated at the Urology Unit. E-mail: filippo.russo@humanitas.it
Objectives	Present functional assessment and treatment planning in pelvic floor physiotherapy, in accordance with the data emerging from the international literature and with a careful approach to the recovery of continence during functional activities.
Teaching methods	2 hour-long lectures, each with classroom discussion

Teaching material	Slides presented during the lecture, available for physiotherapy students on LMS.
Content	
<p>1) Functional anatomy of the pelvic floor Recall of topographical anatomy: skeletal system, nervous system, vascular system and circulatory system. Functional anatomy of the pelvic floor</p> <p>2) Pelvic floor dysfunction Pathophysiology of incontinence and urinary and faecal retention. Prolapse and chronic pelvic pain.</p> <p>3) Principles of pelvic floor rehabilitation Functional assessment and general principles of pelvic floor rehabilitation.</p> <p>4) Pelvic floor rehabilitation techniques Indications and application of electromyographic biofeedback, electro stimulation and manual therapy. Behavioural interventions in pelvic floor rehabilitation.</p> <p>1) Discussion of clinical cases Assessment and physiotherapy planning in subjects with urinary incontinence, chronic pelvic pain and urinary incontinence after cystectomy</p>	

DYSPHAGIA REHABILITATION (1 ECTS)	
Speech therapist Francesca Clemson	Graduated in Speech Therapy in 2012 from the University of Milan. Graduated in Psychology in 2017 from the University of Milan Bicocca. She works at the Physiotherapy Service of the Humanitas Hospital where she deals with speech therapy and dysphagia re-education at the Unit of Neurorehabilitation. E-mail: francesca.clemson@humanitas.it
Objectives	Present the functional assessment and general principles of treatment of dysphagia and aphasia following neurological injuries, in accordance with the data emerging from the international literature, in order to provide future physiotherapists with the basic knowledge to recognise communication and swallowing disorders and to be able to advise patients on basic manoeuvres for the management of dysphagia.
Teaching methods	2 hour-long lectures, each with classroom discussion
Teaching material	Slides presented during the lecture, available for physiotherapy students on LMS.
Content	
<p>1) Introduction Verbal communication and language pathology management</p> <p>2) General principles of aphasia rehabilitation Pathophysiology and characteristics of language disorders. General principles of logopaedic rehabilitation and aphasia workshop</p>	

<p>3) The swallowing apparatus Anatomy, physiology and pathophysiology of the swallowing apparatus</p> <p>4) Dysphagia Evaluation and clinical assessment of dysphagia: 3 oz screening, GUSS, videofluoroscopy, FEES and fibroscopy</p> <p>5) Dysphagia rehabilitation General principles of dysphagia rehabilitation, postures, food consistencies and facilitating manoeuvres. Artificial feeding devices. Tracheostomy tube and dysphagia</p>

PRESENTATION OF CLINICAL CASES (1 ECTS)	
Prof. Giuseppe Massazza	<p>Full Professor in Physical Medicine and Rehabilitation at the University of Turin and Member of the Open Faculty at Humanitas University</p> <p>Director of the Complex Structure in Physical Medicine and Rehabilitation</p> <p>Director of the Department of Orthopaedics, Traumatology and Rehabilitation at the AOU Città della Salute e della Scienza of Turin</p> <p>E-mail: giuseppe.massazza@hunimed.eu giuseppe.massazza@unito.it</p>
Objectives	<p>Provide rehabilitation medical knowledge necessary to complement what has been taught in the previous modules.</p> <ul style="list-style-type: none"> • Through the presentation of clinical cases, students will learn the value of anamnesis in the rehabilitation field, physical examination, and diagnosis and differential diagnosis, in order to identify the state of disability and the therapeutic approach to be implemented according to the patient's history. • Emphasis will be placed on how to identify the appropriate Diagnostic and Therapeutic Care Pathway (DTPC) and how to identify clinical alerts useful for redirecting rehabilitation treatment and redefining the prognosis of recovery. • Outline of the rehabilitation settings where patients with musculoskeletal disorders can be seen and treated by the rehabilitation team • Outline of the cornerstones of the rehabilitation prognosis, the rehabilitation objectives that are part of the Individual Rehabilitation Project, and the role of the rehabilitation team in caring for the patient.
Teaching methods	Lectures with classroom discussion.
Teaching material	Lecture slides, available for Physiotherapy degree students on LMS Neuro-anatomia attraverso casi clinici di Hal Blumenfeld, edito PICCIN
Content	
<p>1) Introduction to the Clinical Cases Module Definition of roles and competencies in the rehabilitation team. The Individual Rehabilitation Project (IRP) as a tool for dialogue between professionals.</p> <p>2) I Neurological case study: Stroke Video clip presentation and basic concepts of Stroke. Appropriate settings: acute, subacute and chronic. The IRP and essential physiotherapy aspects</p>	

3) II Neurological case study: Spinal Cord Injury

Video clip presentation and basic concepts of the patient with spinal cord injury. Appropriate settings: acute, subacute and chronic. The IRP and essential physiotherapeutic aspects.

4) Rehabilitation settings in neurology

Outpatient settings, Hospital settings. Code 56: intensive rehabilitation. Code 28: Spinal Cord Injury. Code 75: brain lesions. Role of the Rehabilitation Team: competencies and responsibilities. Video clips and clinical examples

5) III Clinical Case: Brain lesion

Role and work of the rehabilitation team. Role of the specialist doctors

6) Non-rehabilitation settings and highly complex clinical cases

RSA. Long-term care. Home-based.

7) IV Clinical Case Study: Pelvic floor disorders

From diagnosis to differential diagnosis. Pathology or co-pathology. Role of the health professions

8) Video clips in the context of clinical cases

Classroom discussion

9) Course summary, critical review of some topics

Summary of the main themes presented in the course

10) Examination simulation and presentation of clinical cases developed by groups of students

Examination for the Neurological and Pelvic Floor Physiotherapy Course

The examination will be written, comprising of 60 multiple-choice questions (four items per question). The exam will include 4 modules corresponding to the courses taught by the 4 lecturers, 15 question per module, with a value of 0.50 per question. The pass mark is 36/60. Each module is considered passed with a minimum of 9/15. A mark of 59/60 will be equivalent to 30 and 60/60 to 30L. In the event of an insufficient mark in one or more modules the student will have to repeat the entire examination. The questions in the 'Clinical Cases' module will focus exclusively on what was presented in class, some questions will involve clinical reasoning on cases as simulated during class. (Chairman of the Examination Committee: Prof. Giuseppe Massazza)