Instrumental Assessment in Physiotherapy of the Locomotor System

Code: 102984
ECTS Credits: 6

2019/2020

Contact
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Email: Josep.Medina@uab.cat

Use of Languages
Principal working language: catalan (cat)
Some groups entirely in English: No
Some groups entirely in Catalan: Yes
Some groups entirely in Spanish: No

Teachers
Jordi Cuartero Archs

External teachers
Josep Padros Valls

Prerequisites
It is recommended to have acquired basic knowledge and competences of Human Anatomy I and II, Biological Bases of the Human Body, as well as Function of the Human Body.

Objectives and Contextualisation
This subject intends to give the student the necessary knowledge for the evaluation of the patient with pathology of the locomotor system, as well as of the nervous system, based on the indispensable criteria that describe the need to evaluate to be able to plan a treatment physiotherapist This subject will be carried out simultaneously with the subjects of Physiotherapy in Neurology I, Pathological Clinical Concepts, Diagnostic Techniques, Clinical Evaluation in Locomotor System Physiotherapy, Therapeutic Techniques in Locomotor System Physiotherapy, Physiotherapy in Locomotor System Pathology I, and Medico-Surgical Pathology, necessary and very useful knowledge to give the patient a quality Healthcare and an optimal return to functionality.
- Demonstrate the importance of monitoring and instrumentation to plan patient treatments.
- To adequately evaluate the different ailments of the patients.
- Determine the evolutionary changes or involved of the patients in relation to certain treatments.

Competences
- Analyse and synthesise.
• Apply quality-assurance mechanisms in physiotherapy practice, in accordance with the recognised and validated criteria.
• Develop independent learning strategies
• Display critical reasoning skills.
• Display knowledge of the morphology, physiology, pathology and conduct of both healthy and sick people, in the natural and social environment.
• Display knowledge of the physiotherapy methods, procedures and interventions in clinical therapeutics.
• Evaluate the functional state of the patient, considering the physical, psychological and social aspects.
• Express ideas fluently, coherently and correctly, both orally and in writing.
• Integrate, through clinical experience, the ethical and professional values, knowledge, skills and attitudes of physiotherapy, in order to resolve specific clinical cases in the hospital and non-hospital environments, and primary and community care.
• Make a physiotherapy diagnosis applying internationally recognised norms and validation instruments.
• Make the most correct decisions in given situations.
• Organise and plan.
• Participate in drawing up physiotherapy protocols on the basis of scientific evidence, and promote professional activities that facilitate physiotherapy research.
• Solve problems.

Learning Outcomes

1. Analyse and synthesise.
2. Apply physiotherapy methods, procedures and interventions in the different clinical specialisations that treat conditions of the musculoskeletal system.
3. Apply specific physiotherapy methods to promote a healthy lifestyle, in relation to the musculoskeletal system, through health education.
5. Describe and analyse the evidence-based physiotherapy protocols for disorders of the musculoskeletal system.
6. Describe and apply advanced evaluation procedures in physiotherapy in order to determine the degree of damage to the musculoskeletal system and possible functional repercussions.
7. Describe clinical practice guidelines applied to disorders of the musculoskeletal system.
8. Develop independent learning strategies
9. Display critical reasoning skills.
10. Establish diagnostic physiotherapy hypotheses through clinical cases with disorders of the musculoskeletal system.
11. Express ideas fluently, coherently and correctly, both orally and in writing.
12. Identify the physiological and structural changes that may occur as a result of physiotherapy intervention in disorders of the musculoskeletal system.
13. Locate the different muscles through surface palpation.
14. Make the most correct decisions in given situations.
15. Organise and plan.
17. Use physiotherapy to treat clinical cases involving musculoskeletal system conditions.

Content

1 - Measure and evaluation. What and why

• Observational methodology
• Observation vs. Experimentation

2 - Deficiency, disability and handicap

• ICIDH model
• CIF model
3 - General exploration:

1. Modulating factors and biotyping
   - Intrinsic
   - Extrinsic
   - Physiological
   - Psychological
   - Pathological modulating factors

4 - Exploration of lesions of the nervous roots by neurological level:
   - Upper extremity
   - Trunk
   - Lower extremity

5 - Introduction muscular balance (Goniometry and Oxford Scale)
   - Measuring
   - variables
   - Interferences in measure
   - Measurement systems
   - New conception of the muscle

6- Joint Balance and Balance of the Trunk and the Head (Goniometry and Oxford Scale)
   - Measuring variables
   - Measurement systems
   - Special tests

7- Stance and balance
   - Posture analysis
   - Characteristics and main evaluation systems
   - Functional ladders

8- Normal human walking
   - Biomechanics of the normal march
   - Analysis of the personal employer
   - Muscle dysfunction and walking
   - Functional ladders

9- Communication with the patient as an instrumental tool
   - Contents of the communication
   - Variables and interferences in communication
   - Expectations and beliefs
   - Legibility

10- General evaluation of spinal cord injury and brain damage. Validated scales

11- Specific techniques of functional evaluation:
   - Daily cleansing activities. Validated scales
   - Upper extremity Validated scales
   - Lower extremity Validated scales
12- Kinematic, kinetic, electromyographic analysis and pressure map. Interpretation of results.

13 - Evaluation of technical aids:
   a. Support products
      a.1. Upper limbs
      a.2. Lower limbs
      a.3. Trunk

14 - Assessment of the perception of health and quality of life. Validated scales

**Methodology**

The methodology is based on theory and practice.

**Activities**

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<th>Title</th>
<th>Hours</th>
<th>ECTS</th>
<th>Learning Outcomes</th>
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<td>Theory</td>
<td>30</td>
<td>1.2</td>
<td>2, 3, 4, 6, 10, 12, 13, 17</td>
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<td>laboratory practice</td>
<td>15</td>
<td>0.6</td>
<td>2, 3, 4, 6, 7, 10, 12, 13, 17</td>
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**Type: Autonomous**

| PREPARATION OF WRITTEN WORKS               | 31.5  | 1.26 | 1, 5, 8, 11, 15   |
| READING ARTICLES /REPORTS OF INTEREST     | 40    | 1.6  | 1, 5, 8, 11, 15   |
| Self Study                                 | 30    | 1.2  | 1, 5, 8, 11, 15   |

**Assessment**

The evaluation of the subject includes the following sections:

30% of the final grade will be written test:
- Multiple Choice. 50 questions at 1 point per question. Errors minus 0.25 points.

30% of the final grade will be a case-resolution case (2 cases):
- Determine explorations to be carried out in each clinical case. Demonstrate the suitability of scales administered for each case.

20% of the final mark will be in relation to the contributions and contributions to the Virtual Campus UAB:
Folder Clipping:
- After finishing issues 1, 2, 3, 7 and 9, an article related to the content of the subject will be included in Clipping.

20% of the final grade will be work, Poster Folder:
- Scientific poster. Presentation of a subject from the scientific poster.

Art 116.8. When it is considered that the student has not been able to provide sufficient evidences of evaluation in the act, this subject will be assigned as non-evaluable

Students who have not passed the insurance by means of the continuous assessment may submit to a final exam or a final recovery test.

**Assessment Activities**
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<th>Title</th>
<th>Weighting</th>
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**Bibliography**