

TEACHER'S GUIDE SHEET

MODULE	BIOMECHANICS OF GAIT
DIDACTIC UNIT	D: INSTRUMENTED ANALYSIS OF GAIT
TITLE OF ACTIVITY/CLASS	INTERPRETATION OF THE BIOMECHANICAL GAIT ANALYSIS IN PATHOLOGICAL CASES
OBJECTIVES	<ol style="list-style-type: none"> 1. To know the gait impairments through biomechanical evaluation in different pathologies. 2. To identify what the alterations in the biomechanical parameters in gait means in different pathologies. 3. Recognize an altered gait pattern through biomechanical assessment techniques.
LENGTH	1h30' - PowerPoint presentation of the contents + Reinforcement activity
PREVIOUS KNOWLEDGE REQUIRED	In order to fully understand the concepts explained during class, the student should previously revise the biomechanical tools for gait assessment (Didactic Unit D.1) and the material related to the normal pattern of gait (Didactic Unit D.2)
TECHNICAL NEEDS	PC with software for the power point presentation. Projector and screen to show contents appropriately to all the students during class. You can give the activity material to students online or print.
RESOURCES NEEDED	PowerPoint file of class material presentation and the reinforcement activity pdf file, print or online version. Each student needs one copy.



DESCRIPTION OF THE CLASS/ACTIVITY

Part 1: Teacher's theoretical explanation

The teacher starts the class by asking the students in which pathologies or disease, biomechanical gait analysis could provide useful information. The teacher should comment below on how the class is structured. They will be reviewed in two types of pathologies: altered biomechanical analyzes of patients with joint replacement in the lower limb (knee and hip) and in patients after having suffered a stroke. In both cases, examples were taken from the scientific literature that reported on altered gait measures in patients and healthy control subjects.

When the teacher begins to explain the slides related to biomechanical gait disorders in patients with joint replacement, should be noticed that there are slides that explain what to look for when recognizing an altered pattern. In the slides related to gait disturbances in stroke patients, the contents go directly to explain the abnormal patterns referred to in the literature.

Finally, the teacher can conclude with the main ideas of the class.

Part 2: Practical activities for students

Students will read and analyze two clinical cases in which an altered gait pattern is present. In each of them, students must answer questions that guide the clinical analysis that students should develop when observing altered biomechanical measurements of gait. A standardized answer sheet is included to guide the teacher, although more than one clinical reasoning may be accepted as correct.

TASKS TO BE DEVELOPED BY THE STUDENT IN CLASS

In order to fully understand the concepts explained during class, the student should afterward resolve the 'Reinforcement activity' pdf.

TASKS TO BE DEVELOPED BY THE STUDENT OUTSIDE OF CLASS (if required)

After the class and concept presentation, the students should revise the PDF with the contents of the didactic unit or the PowerPoint presentation (what the teacher prefer to provide).

EVALUATION METHODOLOGY

The teacher can use the evaluation method that she/he considers. The correct answers for the Reinforcement activity are in the same document.

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