

### TEACHER'S GUIDE SHEET

MODULE	BIOMECHANICS OF SPINE
DIDACTIIC UNIT	D: INSTRUMENTED ANALYSIS OF THE SPINE  D.3. How is a normal biomechanical assessment of the cervical spine?
TITLE OF ACTIVITY/CLASS	Normal biomechanical assessment of the cervical spine
OBJECTIVES	<ul style="list-style-type: none"> <li>• To learn the purpose of biomechanical assessment in the clinical sphere.</li> <li>• To recognise normal results in a biomechanical cervical assessment.</li> <li>• To become familiar with interpreting the results obtained from cervical kinematic assessment among a normal population.</li> <li>• To become familiar with interpreting the results obtained from cervical muscular strength assessment in a normal population.</li> <li>• To apply the knowledge learnt in a clinical case.</li> </ul>
DURATION	1 h OF CLASS MATERIAL IN TOTAL, including the Power Point presentation (about 30') and the class activity (about 30').
PREVIOUS KNOWLEDGE REQUIRED	It is advisable for the student to have at least read the theoretical document associated with this module (PDF provided in the autonomous work teacher's material). The student has to look at the protocols for cervical biomechanical evaluation with instruments in Educational Unit D.1. What protocols are there for cervical biomechanical assessment with instruments?
TECHNICAL NEEDS	PC with software to play videos with audio and Power Point presentation. Projector and screen to show contents appropriately to all the students during the class.



RESOURCES NEEDED	Patient's File Sheet in PDF. One physical copy per student.
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## DESCRIPTION OF THE CLASS/ACTIVITY

A Power Point is used by the teacher to guide the class:

### **PART ONE: BASIC CONCEPTS**

First, the teacher explains the basic concepts about clinical and biomechanical evaluation, then explains the functional evaluation of the cervical spine.

Afterwards, the teacher introduces techniques for biomechanical analysis that can be used in cervical biomechanical evaluations. Finally, examples are shown with graphs of the most common results with these kinds of techniques. The results section is divided into:

- Measuring technique
- Type of analysis
- Graph
- Interpretation of the result

The teacher uses the educational content shown in the Autonomous file as support in explaining each of the results.

### **PART TWO: CLINICAL CASE EXAMPLE**

In this second part of the class, the teacher shows and explains the results for an example of normality in a biomechanical assessment of cervical spine mobility.

### **PART THREE: CLASS ACTIVITY**

After an explanation of possible normal results that can be found with these kinds of evaluations, the students go on to do a class activity.

The purpose of this activity in class is for the students to work on interpreting the results of a clinical case with cervical pain.

The activity can be done individually or in groups. The maximum number of students recommended per group is 4 to 5 people.

In order to carry out this activity, the teacher must confirm that each student has a copy of the clinical case on which they are going to work.

### **Activity:**

Students must carefully read the information provided in the clinical case and review the results shown in the document they are given.

Then, they can comment on the results with each other, and they must give an answer to the questions that the teacher gives them as a guide via the Power Point presentation. Solutions are included in the [Activity\_teacher] document.

After approximately 10 minutes for discussion in groups, the teacher collects the replies given by each group and they are corrected. The teacher can show solutions via the Power Point itself or use a Kahoot!-type program for the students to participate with their replies to each of the questions.

At the end, the teacher responds to any queries that students may still have.

## **TASKS TO BE DONE BY THE STUDENT OUTSIDE OF CLASS (If required)**

It is not obligatory to do any task beforehand, although it is advisable for the student to review the documents provided in the evaluation class.

## **EVALUATION METHODOLOGY**

The teacher assesses the students' motivation and participation in the discussion groups.

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