Erasmus+

Development of innovative training solutions in the field of functional evaluation aimed at updating of the curricula of health sciences schools

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Module Biomechanics of Gait

Didactic Unit D: Instrumented analysis of gait

D.3 How do I interpret a biomechanics instrumented analysis' report in a case of gait pathology?

Self-Questionnaire

Politechnika Śląska · IBV Instituto de Biomecánica de Valencia · Universitat de València · AMSE The Association of Medical Schools in Europe

Question 1

In the analysis of a kinematic gait pattern that could be altered, the following should be observed:

□ A **Morphology of the movement curves, maximum and minimum values of the movement milestones during the gait cycle, range of movement and angular velocity.**

□ B Morphology of the movement curves.

□ C Maximum and minimum values of the movement milestones during the gait cycle and range of motion, mainly.

□ D The angular velocity is not clinically relevant parameter.

Question 2

What should be taken into account when analyzing altered gait patterns, in ordet to obtain the most detailed information?

□ A The severity of the disease must be considered.

□ B In some pathologies it should be considered to analyze both hemibodies separately.

□ C Anthropometric measurements of the patients should be considered to normalize some gait parameters.

□ D **All alternative mentioned before are correct.**

Question 3

Under what conditions can the curve of vertical ground reaction forces be altered? INDICATES INCORRECT ALTERATIVE

□ A When patients walk at slow speeds.

□ B When a patient does not load the body symmetrically when walking.

□ C **When the patient does not swing his/her arms while walking.**

□ D When the patient does not perform all the kinematic milestones of the lower limbs during walking.

Question 4

Indicates which are the following options is not a characteristic of gait in patients after stroke:

□ A Plantar flexion increased at the end of the swing phase and heel contact.

□ B Increase of hip flexion at the end of the swing phase.

□ C Limited hip extension during stance phase.

□ D **Characteristic pattern of vertical forces with the flattened M shape.**

Question 5

In asymmetric gait patterns it is common to study:

□ A **Raw value of symmetry index, where the sign of the value indicates the direction of the asymmetry.**

□ B The symmetry index, that provide the amplitude provided of asymmetry.

□ C The coeficient variation, which is a less used parameter of the asymmetry between hemibodies.

□ D The simple subtraction between the value of one hemibody and another. When this value is 0, it represents total asymmetry.

Politechnika Śląska

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