ANALYSIS OF BIOMECHANICAL DATA TO DETERMINE THE DEGREE OF USERS PARTICIPATION DURING ROBOTIC-ASSISTED GAIT REHABILITATION.

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ABSTRACT

Recent studies have shown evidence indicating that effective robotic rehabilitation is only possible when the user actively participates during training. Providing a complete effective biofeedback to the patient representing his compliance to the therapy and his performance is thought that his active participation will be enhanced significantly, thus, improving his rehabilitation. We have performed a study with the driven gait orthosis (DGO) Lokomat (Hocoma AG, Volketswil, Switzerland). The objective of the present study is the analysis of the effect of different types of participation (attention to the functional task) from subjects receiving robotic assisted gait training on the kinematic and kinetic patterns. The obtained results provide useful evidence of specific biomechanical features that can be used to design more useful, robust, focused and intuitive biomechanical biofeedback during robotic assisted gait rehabilitation in stroke survivors.