Virtual rehabilitation of the weigh bearing asymmetry in the sit-to-stand movement

J A Gil-Gómez[1], H Gil-Gómez[1], S Albiol-Perez[2], J A Lozano-Quilis[1]

[1]Instituto Universitario de Automática e Informática Industrial, Universitat Politècnica de València, C. Vera S/N, 46022, Valencia, SPAIN

[2]Dpto. de Informática e Ingeniería de Sistemas, Universidad de Zaragoza, C. Ciudad Escolar S/N, 44003, Teruel, SPAIN

jgil@upv.es, *hgil@ai2.upv.es*, *salbiol@unizar.es*, *jlozano@dsic.upv.es*

[1]*www.ai2.upv.es*, [2]*eupt.unizar.es*

ABSTRACT

Weight bearing asymmetry is frequently used as a measure of impairment in balance control, and recovering symmetry in weight bearing is considered an imperative objective of rehabilitation. WBA rehabilitation is especially important for the sit-to-stand movement. Transition between sitting and standing, or vice versa, is one of the most mechanically demanding activity undertaken in daily life. In this contribution, we present a Virtual Rehabilitation system specifically designed for the recovery of the symmetry for this movement. The system has been designed with clinical specialists, and it presents very promising features such as the automatic adaptation to the patient. The paper is a work-in-progress that describes the system and presents the validation study that we will follow in a metropolitan hospital. Currently, we are enrolling patients, and the clinical specialists are very encouraged about the potential of the system.

Full papers will be published in the Conference Proceeding s and will be available to delegates at the conference on Sept. 10.

Full papers will be released on-line in the ICDVRAT archive on March 15.