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**AWARD**

# THE EUROPEAN ACADEMY OF REHABILITATION MEDICINE SCIENTIFIC PRIZE 2008

## sponsored by Journal of Rehabilitation Medicine

***"The sit-to-stand movement – recovery after stroke and objective assessment"*** **by Wim Janssen, Erasmus MC, Rotterdam, The Netherlands.**

The Prize Committee of the European Academy of Rehabilitation Medicine has decided to award the prize to Dr. Wim Janssen for his PhD thesis. Dr Janssen's supervisors during his study were Dr JBJ Bussmann and Professor Henk Stam from the Department of Rehabilitation and Physiotherapy, Erasmus Medical Centre, Rotterdam.

A stroke results in reduced ability to perform the sit-to-stand (STS) movement. The STS movement is regarded as a fundamental activity of daily life, a prerequisite for walking and standing. Moreover, secure execution of the STS movement is important for physical safety.

To study the course and recovery of the STS movement in the first year post-stroke and its determinants, the author and his supervisors designed and conducted a longitudinal prospective cohort study. Ambulatory accelerometry was used to assess execution of the STS movement. This technique enables objective assessment of body postures and motions during daily life, as well as assessment of the STS movement outside of the movement laboratory.

The first part of the thesis is an introduction, comprising a literature review and descriptions of methodological studies conducted in order to adapt accelerometry techniques for use in studies. The subsequent application of accelerometry to a cohort of 31 stroke patients confirmed its potential usefulness in balance control studies.

Presentation of this key finding was followed by a description of the longitudinal prospective cohort study, which assessed recovery of the STS movement in 50 stroke patients. In the first three months post-stroke, the number of patients capable of rising independently increased significantly (from 51% to 81%). During the same time period, mean rising speed increased from 0.15 to 0.27 $s^{-1}$ and the number of daily STS movements from 10.6 to 17.7.

The last chapter describes a study performed using subjects who were unable to rise at the time of their recruitment. Its aim was to analyse which variable at the time of inclusion was the best predictor of ability to perform the STS movement one year post-stroke. The Postural Assessment Scale for Stroke patients (PASS), a test for postural control consisting of two components relating to maintaining and changing posture, had the highest prognostic value. The variable PASS showed the most significant association with the course of recovery. Furthermore, PASS was found to be a useful predictor of rising speed and number of daily STS movements 12 and 48 weeks post-stroke.

The prize ceremony was held at the 17th European Congress of Physical and Rehabilitation Medicine in Venice 2010.


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