Home based virtual rehabilitation for upper extremity functional recovery post-stroke

Q Qiu¹, A Cronce², G Fluet¹, J Patel¹, A Merians¹, S Adamovich²

¹Department of Rehabilitation and Movement Sciences, Rutgers University, 65 Bergen Street, Newark, NJ, USA

²Department of Biomedical Engineering, New Jersey Institute of Technology, University Heights, Newark, NJ, USA

¹qiuqinyin@gmail.com, ²alc23@njit.edu, ³fluetge@shrp.rutgers.edu, ⁴,jpatel421@shrp.rutgers.edu, ⁵merians@shrp.rutgers.edu, ⁶sergei.adamovich@njit.edu

ABSTRACT

After stroke, sustained hand rehabilitation training is required for continuous improvement and maintenance of distal function. An ideal home-based telerehabilitation system has to be low cost, easy to set up, effective in motivating the user to use it every day, generate progress reports to the user for self-tracking, and provide daily monitoring to remote clinicians. In this paper, we present a system designed and implemented in our lab; the NJIT Home-based Virtual Rehabilitation System (NJIT HoVRS). A single subject proof of concept study was conducted and demonstrated that this system is easy to access and effective in motivating subjects to train at home.

Full papers will be published in the Conference Proceedings and will be freely available to delegates at the conference and online on September 20, 2016.