

Chicago Hospital NewsTM

THE REGION'S MONTHLY HEALTHCARE NEWSPAPER

New Robotic Technology Helps Stroke Survivors Learn to Walk Again

A new robot is being introduced at Alexian Rehabilitation Hospital in Elk Grove Village to help stroke survivors learn to walk again. The KineAssist™ gait and balance training system helps physical therapists work safely and more effectively with patients.

The system allows therapists to safely challenge patients in real-life environments while helping patients build confidence as they increase their stamina, since the robot protects them from the consequence of falls.

Should a loss of balance occur, the patient is fully supported and held in a safe position. The robot can assist patients in walking forward, stepping sideways or rotating and in balance exercises such as reaching for a ball, opening a cabinet door or stretching on tiptoes to reach an object. The KineAssist also maintains the crucial physical, sensory and psychological connection between the therapist and patient. The clinician has complete hands-on access to the patient during balance and gait training.

The device reduces the physical strain of lifting, moving and protecting patients, enabling therapists to provide more intensive and effective therapy. The KineAssist was developed by Kinea Design LLC, which was founded by a group of engineering, biomedical and physical therapy faculty members at Northwestern University and the Rehabilitation Institute of Chicago.

The first KineAssist prototype was built for RIC and delivered in September 2004, when clinical trials began for usability testing with patients. A new prototype was developed by the RIC team for the Alexian Rehabilitation Hospital. RIC has trained Alexian Rehabilitation Hospital staff members on how to utilize the KineAssist in a therapy setting.

Initially, the KineAssist will be used for a research project. Dominique Vinh, M.D., Inpatient Medical Director at the Alexian Rehabilitation Hospital, is Principal Investigator of the study to assess the ability to provide gait and balance physical therapy interventions utilizing a therapist-robot interface.

"We hypothesize that the robot will allow physical therapists to apply therapy interventions they currently use outside of the robot, but the therapists will be able to challenge patients more than they would without the robot," says Linda Foster, Director of Research at Alexian Rehabilitation Hospital.



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