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## Innovative Rehabilitation for Stroke Victims



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A pioneering rehabilitation system has been developed, with the aim of improving the quality of life of those suffering from brain damage. The WALKX project, was co-funded for two years by the European Commission through the Seventh Framework Programme (FP7), and developed by the Biomechanics Institute of Valencia (IBV) in Spain.

The home rehabilitation system supports the patient from sitting to standing position and improves overall manoeuvrability. This improves patient autonomy, particularly for those suffering from stroke (cerebrovascular accident), which is the most common cause of adult disability in Europe. Around 75 % of sufferers survive, but many people lose the ability to live independently in their own home. As strokes often result in long-term disability, rehabilitation and hospitalisation represent a major economic burden for the EU of around EUR 34 billion annually. Currently, the annual incidence is approximately 2 per 1,000 inhabitants in the EU, with the number predicted to double over the next 50 years due to the ageing of population.

Ignacio Bermejo, market innovation director at IBV, says, 'An upper body stabilising and controllable supporting vest will be developed. Early in the rehabilitation process it will be used under supervision of a therapist, but with greatly reduced need for physical support from the therapists. This is intended to reduce the need for help from others and increase freedom of movement and personal autonomy of the patient.' One of the aspects of the device is a vest with attachment points on the patient's waist to regulate the mobility of the trunk. The device is modular and made available at relatively low cost. Preclinical tests have been carried out in collaboration with the Department of Physical Medicine and Rehabilitation at the Hospital Universitari i Politècnic La Fe of Valencia. The project was also coordinated by the Norwegian company Made for Movement Group. Besides IBV, other members of the consortium are Innovatsioon Eesti Instituut (Estonia), Innora Robotics (Greece), Newtrim and MCT (UK), ENIX (France), Motus (Italy) and Mobile Robotics Sweden.

For more information, please visit: WALKX project <http://www.walkx.com/>

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