

Robots for stroke rehabilitation

March 5 2015, by Kelsey Arif



The glove device on Mr Alfredo Cesario from San Raffaele S.p.A, Italy.

Researchers at the University of Hertfordshire and a team of European

partners have developed a prototype of a robotic glove which stroke sufferers can use in their own home to support rehabilitation and personal independence in receiving therapies.

At the chronic stages of stroke, [patients](#) are not likely to be receiving treatment but they continue to live with some impairments - the glove's goal is to provide therapies to target these impairments.

Over the past three years the team developed two prototype robotic gloves, which facilitate repetitive movement and exercise of the hand and wrist. The device also records the patient's performance and sends this to a therapist for tailoring treatment remotely and arranging follow-up.

Dr Farshid Amirabdollahian, an expert in rehabilitation robotics and [assistive technologies](#) and a senior lecturer in adaptive systems at the University's School of Computer Science co-ordinated the €4,643,983 project called SCRIPT (Supervised Care and Rehabilitation Involving Personal Tele-robotics).

Dr Amirabdollahian said: "This project focused on therapies for [stroke patients](#) at home. Our goal was to make motivating therapies available to people to practise at home using this system, hoping that they have a vested interest to practise and will do so. We tried this system with 30 patients and found that patients indeed practised at home, on average around 100 minutes each week, and some showed clinical improvements in their hand and arm function".

The overall aim of the project was to provide an educational, motivational and engaging interaction, making a more positive therapy session for the patient, while providing feedback to them and their [health care professionals](#). Given the results achieved, the team is now considering a follow-up [project](#) to improve recovery outcomes, while

also searching for funding to turn this prototype into a product for home rehabilitation.

Provided by University of Hertfordshire

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