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PolyU researchers design robotic arm to help stroke patients

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The lightweight device is said to be the first of its kind to combine exo-skeleton, soft robot and exo-nerve stimulation technologies.

A research team at Hong Kong Polytechnic University (PolyU) has designed a robotic arm to facilitate self-help and upper-limb mobile rehabilitation for stroke patients after discharge from hospital.

Being called a mobile exo-neuro-musculo-skeleton, the robotic arm enables intensive and effective self-help rehabilitation exercise.

The lightweight device is said to be the first of its kind to combine exo-skeleton, soft robot and exo-nerve stimulation technologies. It is intended to cater to the increasing need for outpatient rehabilitation service for stroke patients.

When tested in a clinical trial involving ten stroke patients, the robotic arm is reported to have led to better muscle coordination, wrist and finger functions, and lower muscle spasticity following 20 two-hour training sessions.

The researchers plan to collaborate with hospitals and clinics for conducting additional trials.