Details of Technology

Name of Technology	Robotic equipment for recovery training of neural functions	Medical Treatment and Welfare
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Key words	neurorehabilitation, robotics, arm coordination movement, walking movement	

What kind of technology is this?

Outline

The elaborate whole body movement is required for the daily life. By the biofeed back mechanism of equipment, a person receiving the rehabilitation training can recognize how far recovery function is attained, especially for the muscle movement (nervous system).

【Outline】

1. Equipment can show a person receiving the rehabilitation how far the function recovery of the nervous system is attained, so that the motivation level for the functional recovery training is raised.
2. Equipment supports the safety and efficient neurorehabilitation.

【Details】

Physical therapy and occupational therapy require hospitalization and outpatient treatment for a patient. At the same time, in the present aged society, the reduction of the caregiver burden is an urgent subject to be dissolved.

There is a difference in the motor functions between the upper extremity and lower extremity. If a person receiving the rehabilitation can recognize the degree in the recovery of the nervous functions, it is expected that the person can recover much better or engage more positively in the recovery training.

Neurorehabilitation system
(Above: for upper extremity,
lower: for walking movement)

What are its applications?

As neurorehabilitation,

○ Equipment shown in the above photo can be used for training of upper extremity reaching and circle drawing movements, and present the outcome of the functional recovery training.

○ Equipment shown in the lower photo can be used for the training of walking movement and of the muscle necessary for walking.

Related patents	
Related materials	TASUKU MIYOSHI, et al., Robotic gait trainer in water: Development of an underwater gait-training orthosis., Disability and Rehabilitation, Vol. 30, No. 2, pp. 81-87, 2008

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