Experience of Rehabilitation Using the Single-joint Hybrid Assistive Limb (HAL\textsuperscript{	extregistered}-SJ) for the Remaining Quadriceps Muscle Paralysis After Spinal Injury - A Case Report -

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Abstract

Effectiveness of the HAL\textsuperscript{\textregistered} robot suit (single-joint) (Cyberdyne, Tsukuba, Japan) for rehabilitation after surgery of spinal injury due to of L\textsubscript{2} burst fracture was reported. A 24-year-old female with of the remaining quadriceps paralysis was treated with the HAL\textsuperscript{\textregistered}-SJ for 9 weeks (18 training sessions) to recover her remaining quadriceps. After using the HAL\textsuperscript{\textregistered}-SJ for 9 weeks, the patient’s knee extensor scores by manual muscle testing improved from 1/5 to 4/5. The patient showed improvement in quadriceps activity, suggesting the effectiveness of rehabilitation using HAL\textsuperscript{\textregistered}-SJ.

Key words: spinal injury, robotsuit HAL\textsuperscript{\textregistered} single-joint, feed back, rehabilitation