

# Locomotion training using voluntary driven exoskeleton (HAL) in acute incomplete SCI



A 34-year-old man had a traumatic thoracic spinal cord injury, with vertebral fracture and a right acetabulum fracture. Dorsal spinal fusion of T6 through T9 was performed on admission. The initial American Spinal Injury Association (ASIA) Impairment Scale (C) showed incomplete motor T10 lesion.

Exoskeletal locomotion training with hybrid assistive limb<sup>1</sup> started 77 days post trauma after radiologic confirmation of consolidation of the acetabulum fracture.

There was recovery of motor functions and walking abilities (video 1 on the *Neurology*<sup>®</sup> Web site at Neurology.org) throughout 12 weeks of locomotion training<sup>2</sup> with an increase in Walking Index for Spinal Cord Injury II (WISCI-II) score from 8 to 18 (video 2); conversion to ASIA D occurred.

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**Supplemental data  
at Neurology.org**

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