

## ESSENTIAL ARTICLES OF PM&R

### REHABILITATION TECHNOLOGY AND ROBOTICS

#### Authors:

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#### **Treadmill training and body weight support for walking after stroke.**

Mehrholz J, Pohl M, Elsner B. *Cochrane Database Syst Rev* 2014 Jan 23;1:CD002840. *This review of 44 trials with 2658 participants found that improvements in walking endurance in ambulatory individuals post-stroke and persisting beneficial effects.*

#### **Effects of locomotor training after incomplete spinal cord injury: A systematic review.**

Morawietz C, Moffat F. *Arch Phys Med Rehabil* 2013;94:2297-2308.

#### **Cortical effects of user training in a motor imagery based brain-computer interface measured by fNIRS and EEG.**

Kaiser V, Bauernfeind G, Kreiling A, Kaufmann T, Kubler A, Neuper C, Muller-Putz GR. *NeuroImage* 2014;85:432-444.

#### **Is motor-imagery brain-computer interface feasible in stroke rehabilitation?**

Teo WP, Chew E. *PMR* 2014;6:723-728.

#### **Proprioceptive feedback and brain computer interface (BCI) based neuroprostheses.**

Ramos-Murguialday A, Schürholz M, Caggiano V, Wildgruber M, Caria A, Hammer EM, Halder S, Birbaumer N. *PLoS One* 2012;7(10):e47048.

#### **Assistive technologies: Can they contribute to rehabilitation of the upper limb after stroke?**

Farmer SE, Durairaj V, Swain I, Pandyan AD. *Arch Phys Med Rehabil* 2014;95:968-985.

#### **Current trends in robot-assisted upper-limb stroke rehabilitation: Patient engagement in therapy.**

Blank AA, French JA, Pehlivan AU, O'Malley MK. *CurrPhys Med Rehabil Rep* 2014;2:184-195.

#### **A computer-aided walking rehabilitation robot.**

Siddiqi NA, Ide T, Chen MY, Akamatsu N. *Am J Phys Med Rehabil* 1994;73:212-216.

**A randomized comparative study of manually assisted versus robotic-assisted body weight supported treadmill training in persons with a traumatic brain injury.**

Esquenazi A, Lee S, Packel A, Braitman L. PMR 2013;5:280-290.

**Treadmill training with partial body-weight support compared with physiotherapy in nonambulatory hemiparetic patients.**

Hesse S, Bertelt C, Jahnke MT, Schaffrin A, Baake P, Malezic M, Mauritz KH. Stroke 1995;26(6):976-981.

**Long-term effect of body weight-supported treadmill training in Parkinson's disease: A randomized controlled trial.**

Miyai I, Fujimoto Y, Yamamoto H, Ueda Y, Saito T, Nozaki S, Kang J. Archives of Physical Medicine and Rehabilitation 2002;83(10):1370-1373.

**Treadmill training with partial body weight support in nonambulatory patients with cerebral palsy.**

Schindl MR, Forstner C, Kern H, Hesse S. Archives of Physical Medicine and Rehabilitation 2000;81(3):301-306.

**Powered mobility for middle-aged and older adults: Systematic review of outcomes and appraisal of published evidence.**

Auger C, et al. American Journal of Physical Medicine & Rehabilitation 2008;87(8): 666-80.

**Power mobility device provision: Understanding Medicare guidelines and advocating for clients.**

Dicianno BE, Tovey E. Archives of Physical Medicine and Rehabilitation 2007;88(6):807-16.

**A Preliminary study on the impact of pushrim-activated power-assist wheelchairs among individuals with tetraplegia.**

Ding D, et al. American Journal of Physical Medicine & Rehabilitation 2008;87(10):821-9.

**Effectiveness of automated locomotor training in patients with chronic incomplete spinal cord injury: A multicenter trial.**

Wirz M, et al. Archives of Physical Medicine and Rehabilitation 2005;86(4):672-80.