

# Stroke and Movement

## Research Results



1. "Using the MOTOmed® Movement Trainer is a helpful addition to conventional therapy, providing the unique opportunity for the patient to contribute actively to his individual rehabilitation".  
This study discovered significant improvements of walking ability, general endurance and general mobility of patients using MOTOmed Movement Therapy.  
(C.P. KAMPS, A. et al., Germany; *Zyklisches Bewegungstraining der unteren Extremitäten in der Schlaganfall Rehabilitation Neurologie & Rehabilitation* 2005; 11(5): 259-269)
2. Already after 3 weeks of cyclic movement therapy of the upper extremities with the MOTOmed Movement Therapy Device, hemiplegic patients can improve muscle strength and motor function of the arms as well as reduce spasticity significantly.  
(C.P. DISERENS, K. et al., Switzerland: *Quantitative evaluation of the effect on post stroke spasticity and motor control of repetitive training with an arm-trainer. Neurology & Rehabilitation* 2004; 4: 208ff)
3. Regular cyclic movement training can help stroke patients to support their walking ability and physical fitness as well as the oxygen supply and the blood circulation of the brain.  
(C.P. LUFT, et al. Baltimore USA: *Treadmill exercise activates subcortical neural networks and improves walking after stroke. A randomized controlled trial. Stroke* 2008; 3: 3341-3350)
4. The study results corroborate the hypothesis, repetitive arm training with stroke patients over a six week period can lead to reorganization of specific parts of the brain and can improve general arm function.  
(C.P. LUFT, et al.: *Repetitive bilateral Armtraining and Motor Cortex Activation in chronic stroke. JAMA* 2004; 292(15): 1853-1861)
5. The research results approved, regular passive movement training with the MOTOmed® Movement Therapy Device can reduce spastic tone of paretic extremities of paraplegic patients significantly.  
(C.P. RÖSCHE, et al., Germany: *The effect of therapy on spasticity utilizing a motorized exercise-cycle. The journal of spinal cord medicine* 1997; 35: 176-178)
6. Regular cyclic movement training with the MOTOmed Movement Therapy Device can help chronic hemiparesis patients to support their recovery of walking ability and movement symmetry as well as improving performance of the cardio vascular system significantly.  
(C.P. MACKO, R.F., et al., Baltimore USA: *Treadmill training improves fitness reserve in chronic stroke Patients. Archives of Physical Medicine and Rehabilitation* 2001; 82: 879-884)
7. The results of this clinical trial with stroke patients confirmed, 6 weeks of regular training with the MOTOmed viva2® Movement Therapy Device improves strength and range of motion of the upper extremities significantly. Additionally the spastic tone of the arms decreased considerably (from 2.2-4.0 Nm to 0.2-1.0 Nm).  
(C.P. ZHU, et al., Beijing, China: *Effect of repetitive training on ameliorating spasm of upper limbs in hemiplegic patients. Neural Regeneration Research* 2006; 1(6): 1-4)
8. Previous results of this study show that regular endurance training with a MOTOmed® viva2 Movement Therapy Device over 10 weeks has proven to be a helpful indication for prevention of further strokes and heart attacks.  
(C.P. LENNON, et al., Dublin, Ireland: *A pilot randomized controlled trial to evaluate the benefit of the cardiac rehabilitation paradigm for the non-acute ischemic stroke population. Clinical Rehabilitation* 2006; 22: 125-133)