



Movement Training for Patients with Parkinsons' Disease

Patients with Parkinsons' Disease often suffer from a loss of movement automatisms in their daily life. It was proven helpful for the patients to reach movements which are extensive, repetitive, rhythmic and harmonic [1]. The movement training with a THERA-Trainer is extensive, repetitive, rhythmic and harmonic. Additionally the movement increases quality of life of the user and reduces the risk of falls [2].

Aerobic training develops its effect not only through increasing the physical capacity, but also has specific effect on the brain [3]. The physical activity influences cerebral perfusion, distribution of neurotransmitters and neurotrophic factors of growth, the formation of synapses and better capillary action of the brain [4].

Ridgel and colleagues could prove in 2009 that the cyclic movement of movement exercising improve the movement behaviour of parkinson patients. After

eight weeks of training the medical conditions of the user reduced by 34 %, what could be evaluated by the scientists with help of a scale for the severity of the Parkinsons' Disease [5].

A study conducted by Laupheimer and colleagues (2011) shows, that with help of training with a movement exerciser significant positive improvements of gross motor skills (ability to walk), as well as the hand function/fine motor skills (Diadochokinesis) for parkinson patients can be achieved [6].

The positive influence of movement exercising with motor support on the walking ability of parkinson patients was confirmed 2013 by Feodoroff and colleagues. The results of a gait analysis showed significant improvements of step length after 12 weeks of movement exercising. The step length extended by 7 cm on aver-

age. The walking speed, that could be chosen independently by the proband, increased also from average 2,41 km/h (...) to 3,09 km/h (...). A walking speed of at least 3 km/h is necessary for walking outside of the home and the independence and autonomy in daily life [8]. This makes the results not only statistically significant but also lead to relevant improvements in the field of daily life action competence.

Regular movement exercising for parkinson patients can not stop the progress of the disorder, but can avoid a deconditioning of the patients, which is shown in the reduction of muscle power, reduction of range of motion, inactivity osteoporosis and a decline of lung function [9].

Reference list

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