Abstract

BACKGROUND AND PURPOSE: A new gait training strategy for patients with stroke seeks to increase walking speed through treadmill training. This study compares the effects of structured speed-dependent treadmill training (STT) (with the use of an interval paradigm to increase the treadmill speed stepwise according to principles of sport physiology) with limited progressive treadmill training (LTT) and conventional gait training (CGT) on clinical outcome measures for patients with hemiparesis.

METHODS: Sixty ambulatory poststroke patients were each randomly selected to receive 1 of the 3 different gait therapies: 20 subjects were treated with STT, 20 subjects were trained to walk on a treadmill with a 20% increase of belt speed over the treatment period (LTT), and 20 subjects were treated with CGT. Treatment outcomes were assessed on the basis of overground walking speed, cadence, stride length, and Functional Ambulation Category scores.

RESULTS: After a 4-week training period, the STT group scored significantly higher than the LTT and CGT groups for overground walking speed (STT versus LTT, P<0.001; STT versus CGT, P<0.001), cadence (STT versus LTT, P=0.007; STT versus CGT, P<0.001), stride length (STT versus LTT, P<0.001; STT versus CGT, P<0.001), and Functional Ambulation Category scores (STT versus LTT, P=0.007; STT versus CGT, P<0.001).

CONCLUSIONS: Structured STT in poststroke patients resulted in better walking abilities than LTT or CGT. This gait training strategy provides a dynamic and integrative approach for the treatment of gait dysfunction after stroke.

Comment in

Modern therapeutic approaches in the rehabilitation of walking ability after stroke. [Stroke. 2005]