

Dickstein, R., Deutsch, J.E., Yoeli, Y., Kafri, M., Flash, F., Dunsky, A. Eshet, A., & Alexander, N. (2013). Effects of integrated motor imagery practice on gait of individuals with chronic stroke: A half-cross-over randomized study. *Archives of Physical Medicine and Rehabilitation*. pii: S0003-9993(13)00536-4. doi: 10.1016/j.apmr.2013.06.031. [Epub ahead of print]

OBJECTIVES: To test the effects of a new motor imagery practice approach, in which motor and motivational contents were integrated in order to improve gait in subjects with chronic poststroke hemiparesis.

DESIGN: A half-crossover study composed of 2 phases. In phase 1, subjects were randomly assigned to receive either the experimental or the control treatment. In phase 2, the subjects who had initially received the control treatment "crossed over" to receive the experimental intervention.

SETTING: The experimental and the control intervention were delivered in the subjects' homes; assessments were performed in a hospital laboratory.

PARTICIPANTS: Community-dwelling individuals (N=23) with chronic poststroke hemiparesis whose gait was impaired.

INTERVENTIONS:

The experimental intervention, called integrated motor imagery practice, consisted of imagery scripts aimed at improving home and community walking as well as fall-related self-efficacy. The control treatment consisted of executed exercises to improve the function of the involved upper extremity.

MAIN OUTCOME MEASURES:

In-home walking, indoor and outdoor community ambulation, and fall-related self-efficacy. These were assessed before and after the intervention as well as at a 2-week follow-up.

RESULTS:

In-home walking was significantly improved after application of the experimental intervention ($P \leq .003$), but not after the control treatment ($P \leq .68$). Community ambulation did not improve. Fall-related self-efficacy was slightly improved by the integrated motor imagery intervention; however, the findings were not unequivocal.

CONCLUSIONS:

Home delivery of integrated motor imagery practice was feasible and exerted a positive effect on walking in the home. However, it was ineffective for improving gait in public domains. We speculate that the addition of physical practice to imagery practice may be essential for achieving that end.