

Medical Update Memo

August 5, 2010

A Home-Based Walking Program Using Rhythmic Auditory Stimulation Improves Gait Performance in Patients With Multiple Sclerosis: A Pilot Study.

Summary

Few interventions have been successful in improving gait dysfunction in patients with multiple sclerosis (MS). Rhythmic auditory stimulation (RAS) has demonstrated positive results on gait performance in other neurologically impaired populations. Conklyn D, Stough D, Novak E, Paczak S, Chemali K, Bethoux F. , *Neurorehabil Neural Repair*. 2010 Jul 19. [Epub ahead of print]

Details

The study objective was to measure the effects of rhythmic auditory stimulation (RAS) on quantitative walking parameters in ambulatory patients with MS.

Ten MS patients with gait disturbance were randomly assigned to receive RAS versus no intervention for 2 weeks. All participants received RAS for another 2 weeks. Between weekly clinic visits, they were provided with MP3 players containing songs whose tempo was 10% above the participant's spontaneous cadence and were instructed to walk to the music 20 minutes daily. Quantitative gait parameters were measured using the GAITRite system.

A statistically significant decrease between groups was found for change in double-support time (left, $P = .0176$; right, $P = .0247$), whereas trends with medium to high effect sizes were found for other gait parameters, including walking speed. A pooled within-group analysis showed significant improvement of cadence, stride length, step length, velocity, and normalized velocity after 1 week of treatment. Satisfaction level with RAS was high.

CONCLUSIONS: These results in a convenience sample of MS patients demonstrate the feasibility and safety of RAS when used at home and suggest a potential benefit on gait parameters.

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