THE EFFECTS OF A MUSIC ACCOMPANIED WALKING PROGRAM ON GAIT PERFORMANCE IN PEOPLE WITH PARKINSON’S DISEASE

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Introduction: Cued gait training interventions have been established to be effective in improving movement performance amongst people with Parkinson’s disease (PD). Furthermore, it has been demonstrated that the use of cues can improve dual-task performance, a situation which typically exacerbates mobility impairments experienced by people with PD.

Aim: To determine the effects of a music-accompanied walking program on single- and dual-task gait performance.

Methods: Twenty-two people with PD were randomised to a control (CTRL; n=11) or experimental (MUSIC; n=11) group. CTRL subjects continued with their regular activities during the 13-week intervention. MUSIC subjects walked 3 times per week whilst listening to a personalised music battery. The music battery was matched to each participant's music preferences and preferred walking speed. The effects of the intervention on gait performance were evaluated pre- and post-intervention using single- and dual-task walking trials. Gait kinematics were quantified using an instrumented GAITRite walkway or Peak-Vicon motion analysis system. Motor symptom severity was assessed with a standard clinical scale.

Results: The MUSIC group improved gait velocity and cadence in the single-task condition following the intervention. The same pattern of improvement was observed with larger relative magnitude in the dual-task condition. Improvements in gait performance were accompanied by a significant improvement in motor symptom severity. The CTRL group maintained gait performance across all gait measures.

Conclusion: The observed improvements to gait performance and motor symptom severity imply that music may be an effective and feasible complement to existing walking programs, potentially improving mobility and reducing fall risk.