DETERMINING THE FEASIBILITY AND EFFICACY OF INSTITUTIONAL DUAL-TASK GAIT TRAINING ON COGNITION AND MOBILITY IN OLDER ADULTS

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Brief Description of Research or Project: Individuals exhibiting progressive cognitive impairment, but not having met the diagnostic criteria for dementia (CIND) commonly present with reduced executive functioning which contributes to increased gait variability - increasing their risk for dementia, falls, fractures, and collectively, institutionalization. Although cardiovascular disease risk factors such as hypertension and arterial stiffening are thought to play a role in the progression of cognitive impairment in older adults, their relative contribution remains equivocal and very few randomized controlled trials have investigated the effects of modifying vascular risk factors on cognitive health and functioning. Aerobic-based exercise can improve executive function, reduce gait variability, and improve cardiovascular disease risk factor profiles in older adults; however the use of dual-task gait training has yet to be investigated. This 12 month single blinded, experimental case series will investigate the impact of a treadmill based, combined dual-task gait-training and aerobic exercise program on cognition, mobility, and vascular outcomes in i) cognitively-healthy community-dwelling older adults (control), or ii) those with CIND (intervention). **Why is this research important to profile at the Research Day 2014?** With the global population aging, there is a growing urgency to identify the most effective strategies to prevent cognitive decline. The incidence and prevalence of dementia is rising; however, the incidence of individuals exhibiting some form of cognitive impairment, but not having met the diagnostic criteria for dementia (e.g., cognitive impairment, not dementia; CIND) is two-fold greater than that for Alzheimer's disease and related dementia. These observations suggest that early prevention strategies for ameliorating cognitive decline in persons with CIND may result in the best clinical outcomes and alleviate burdens on the health care system. The cardiovascular and cognitive benefits of aerobic exercise have been unequivocal in a variety of chronic diseases; however, evidence is required to determine whether aerobics or other exercise modalities can positively impact cognition in older age.