



MEDICAL EDUCATION AND RESEARCH GRANT OUTCOME REPORT

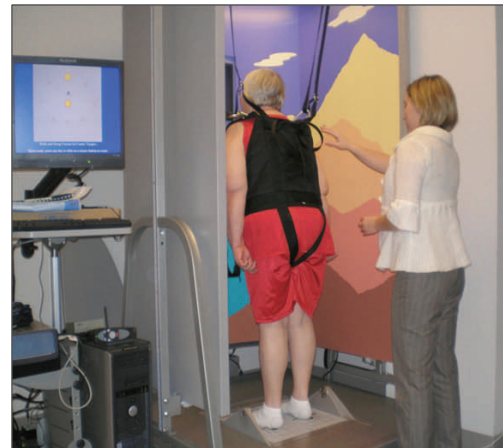
Falls Risk Detection and Gait Instabilities in Older Adults

Examining the stride to identify senior fall risk

By combining the Dynamic Gait Index with cognitive measures physicians may be able to better predict and prevent falls among seniors

► **Description:** Falls are the leading cause of injury among those over 65. The overall objective of this research was to define the ability of gait characteristics to accurately identify falls risk status in older adults. The project also tested whether strength and balance training could improve gait characteristics.

► **Results:** Results showed that a simple clinical measure, the Dynamic Gait Index (DGI), was a strong predictor of falls risk. Patients with a history of falls demonstrated diminished levels of postural control and scored lower on cognitive measures than those without a history of falls. When combined with a measure of cognitive function, DGI's ability to distinguish older adults with and without a history of recurrent falling was greatly enhanced.



This project found that subclinical cognitive decline in seniors significantly increases risk for falls.

► **Timeline for Application of Results:** Less than 3 years

► **Next Steps:** Cognitive evaluations typically are not included in examinations of older adults unless signs and symptoms warrant it. These findings indicate that changes in cognitive function considered to be subclinical can significantly increase falls risk. Therefore, the inclusion of a simple, clinical measure of cognitive function should be considered routine in falls risk screening. Further, programs and activities designed to improve cognitive function may be important in reducing falls risk in older adults. Work will continue due to \$50,000 in funding from the Wisconsin Comprehensive Memory Program. An NIH grant proposal is currently under development.

GRANT FACTS

Principal Investigator: Bryan C. Heiderscheit, PT, PhD, Associate Professor, Departments of Orthopedics & Rehabilitation and Biomedical Engineering, UWSMPH

Grant Program: New Investigator Program

Grant Type: Clinical and Translational Research

Grant Award: \$100,000 over two years

Research Keywords: gait, falls, older adults self-reflection, commitment to change