College of Health and Pharmacy

Physical Therapy **Abstract No. PT-1**

CAN WALKING THE PLANK IMPROVE GAIT?

Evan Andrews, Alyssa Driscoll, Kayla Matte, Ryley Newcomb, Mikaylah Payeur, Danielle Scott, Ryan Wheelock, Ben Sidaway, PhD, PT

Purpose:

This study examined the effect of balance practice on narrow planks on the fall risk, balance confidence and gait characteristics of older adults.

Participants and methods:

The Dynamic Gait Index (DGI), the Activities-specific Balance Confidence (ABC) scale and fear of falling were recorded in 10 older adults (73-91 years). The participants then walked over a 6 m long computerized gait mat at normal and quick walking speeds enabling various gait parameters to be recorded. Following these pretests participants practiced walking along planks that decreased in width with practice. Participants practiced for 30 minutes twice a week for 4 weeks. A post-test was conducted at the end of practice and a retention test was administered a week following practice. Data were analyzed using t-tests and analyses of variance (ANOVA).

Results:

Practice walking on planks significantly improved DGI and ABC scores. The DGI mean improved from “fall risk” to “no risk” and from “moderate physical functioning” to “high physical functioning.” Analysis of gait parameters revealed significant increases in gait velocity at both speeds along with an increase in stride length. The increase in stride length was accompanied by a significant decrease in stride length variability and stance percentage.

Conclusion:

Quantitative gait markers of fall risk in older adults showed significant improvement following the plank training. The balance training improved dynamic postural control enabling participants to reduce stance time and thus take longer strides consequently increasing gait speed. The improvement in DGI and ABC scores demonstrate clinically meaningful impacts in both gait performance and self-reported balance confidence.