

Increased Sensitivity to Physical Activity in Healthy Older Adults Predicts Worse Pain and Functional Outcomes

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Prior research indicates older adults with knee osteoarthritis (OA) have increased sensitivity to physical activity (SPA) and respond to physical activities of stable intensity with increases in pain. SPA predicted self-reported pain and function in older adults with knee OA. It is unknown whether SPA is present in healthy older adults without chronic pain and predicts functional outcomes. The purpose of this study was to determine if SPA in response to a standardized 6-minute Walk Test cross-sectionally predicted self-reported pain, physical function, and physical activity behaviors in healthy older adults. Forty-two older adults (age=67.5±5 years) completed the Pain subscale of the Quality of Well Being scale (QWB—measures the frequency and severity of pain during common daily activities), the Short Form Health Survey (SF-36—measure of physical function), the 6-Minute Walk Test (6MWT), and wore an accelerometer on the hip for 7 days. Subjects rated overall bodily discomfort (0-100 scale) prior to and during each minute of the 6MWT. RPE was recorded at the end of the walk. An SPA index was created by subtracting the initial bodily discomfort ratings from the peak ratings. Average moderate to vigorous physical activity/day (MVPA) and steps/day were recorded from the accelerometer. Dependent variables were analyzed with hierarchical linear regressions with SPA as the final predictor. Sixty percent of older adults experienced SPA (SPA=9.5±15.6). After accounting for age, sex, BMI, and meters walked on the 6MWT, SPA significantly predicted steps and MVPA per day, RPE on the 6MWT, and severity and frequency of activity related pain on the QWB scale. These results revealed that increased SPA in healthy older adults was associated with fewer steps and MVPA per day, greater exertion on 6MWT, and greater self-reported activity-related pain. This study was funded by the IUPUI School of PETM Faculty Research Opportunity Grant.