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HEALTH SCIENCES

THE EFFECTS OF DYNAMIC CYCLING ON MOTOR FUNCTION, GAIT,
MOBILITY, AND BALANCE IN INDIVIDUALS WITH PARKINSON'S DISEASE
(137 pp.)

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BACKGROUND: Parkinson's disease (PD) affects more than 1 million people in the United States, and leads to difficulties in performing activities of daily living.

Dynamic cycling can improve motor function; however it is not known if multiple bouts lead to improvements in gait and balance in individuals with PD. **PURPOSE:** To assess if six bouts of dynamic cycling improves motor function, gait, mobility, and balance in individuals with PD. **METHODS:** Dynamic, motorized cycling, consisted of a 5 minute warm-up and cool down at 50 rpm and 30 minutes of high cadence cycling between 75–85 rpm. Motor function, gait, mobility, and balance were assessed after every cycling bout using the UPDRS Motor III scale, Kinesia ONE, Timed up and Go (TUG), and the Modified Clinical Test of Sensory Interaction in Balance (mCTSIB). The control group performed a 5-minute warm-up and 30 minutes of body stretches before completing the assessment tests. **RESULTS:** Six bouts of dynamic cycling significantly improved UPDRS scores ($F = 5.814, p = .030$), kinetic tremor ($F = 15.58, p = .001$), hand movement amplitude ($F = 10.32, p = .006$), rapid alternating hand movement speed ($F = 16.58, p = .001$), gait ($F = 11.504, p = .004$), and TUG time ($F = 8.313, p = .012$).

CONCLUSION: Six bouts of dynamic cycling improve motor function, gait, and mobility individuals with PD.