

S.A. Combs, PT, PhD, NCS, is Assistant Professor, Krannert School of Physical Therapy, University of Indianapolis, 1400 E Hanna Ave, Indianapolis, IN 46227 (USA). Address all correspondence to Dr Combs at: scombs@uindy.edu.

M.D. Diehl, PT, PhD, is Assistant Professor, Krannert School of Physical Therapy, University of Indianapolis.

W.H. Staples, PT, DPT, DHS, GCS, is Assistant Professor, Krannert School of Physical Therapy, University of Indianapolis.

L. Conn, PT, DPT, is Staff Physical Therapist, St Francis Hospital, Indianapolis, Indiana. She was a DPT student in the Krannert School of Physical Therapy, University of Indianapolis, at the time the study was conducted.

K. Davis, PT, DPT, is Staff Physical Therapist, Accord Children's Therapy, Franklin, Indiana. She was a DPT student in the Krannert School of Physical Therapy, University of Indianapolis, at the time the study was conducted.

N. Lewis, PT, DPT, is Staff Physical Therapist, Possibilities Northeast, Fort Wayne, Indiana. She was a DPT student in the Krannert School of Physical Therapy, University of Indianapolis, at the time the study was conducted.

K. Schaneman, PT, DPT, is Staff Physical Therapist, Good Samaritan Hospital, Kearney, Nebraska. She was a DPT student in the Krannert School of Physical Therapy, University of Indianapolis, at the time the study was conducted.

[Combs SA, Diehl MD, Staples WH, et al. Boxing training for patients with Parkinson disease: a case series. *Phys Ther*. 2011;91:132-142.]

© 2011 American Physical Therapy Association

Boxing Training for Patients With Parkinson Disease: A Case Series

Stephanie A. Combs, M. Dyer Diehl, William H. Staples, Lindsay Conn, Kendra Davis, Nicole Lewis, Katie Schaneman

Background and Purpose. A nontraditional form of exercise recently applied for patients with Parkinson disease (PD) is boxing training. The primary purpose of this case series is to describe the effects of disease severity and duration of boxing training (short term and long term) on changes in balance, mobility, and quality of life for patients with mild or moderate to severe PD. The feasibility and safety of the boxing training program also were assessed.

Case Descriptions. Six patients with idiopathic PD attended 24 to 36 boxing training sessions for 12 weeks, with the option of continuing the training for an additional 24 weeks (a seventh patient attended sessions for only 4 weeks). The 90-minute sessions included boxing drills and traditional stretching, strengthening, and endurance exercises. Outcomes were tested at the baseline and after 12, 24, and 36 weeks of boxing sessions (12-, 24-, and 36-week tests). The outcome measures were the Functional Reach Test, Berg Balance Scale, Activities-specific Balance Confidence Scale, Timed "Up & Go" Test, Six-Minute Walk Test, gait speed, cadence, stride length, step width, activities of daily living and motor examination subscales of the Unified Parkinson Disease Rating Scale, and Parkinson Disease Quality of Life Scale.

Outcomes. Six patients completed all phases of the case series, showed improvements on at least 5 of the 12 outcome measures over the baseline at the 12-week test, and showed continued improvements at the 24- and 36-week tests. Patients with mild PD typically showed improvements earlier than those with moderate to severe PD.

Discussion. Despite the progressive nature of PD, the patients in this case series showed short-term and long-term improvements in balance, gait, activities of daily living, and quality of life after the boxing training program. A longer duration of training was necessary for patients with moderate to severe PD to show maximal training outcomes. The boxing training program was feasible and safe for these patients with PD.



Post a Rapid Response to this article at:
ptjournal.apta.org