

# Flex Therapist CEUs

## Parkinson's Disease Exercise Mode Comparison

### Effects of Resistance Training on Measures of Muscular Strength in People with Parkinson's Disease: A Systematic Review and Meta-Analysis

1. All of the following are common motor symptoms of PD, except for:

- A. Muscle weakness
  - B. Sensory disturbances
  - C. Bradykinesia
  - D. Freezing of gait
- 

2. Which of the following may contribute to postural instability and gait difficulties and has been identified as a secondary cause for bradykinesia in PD?

- A. Muscle weakness
  - B. Sensory disturbances
  - C. Tremor
  - D. Rigidity
- 

3. It has been demonstrated that increases in muscular strength in response to RT are accompanied by cellular adaptive mechanisms such as myofiber hypertrophy in people with PD.

- A. True
  - B. False
- 

4. RT alone resulted in significantly greater strength compared to controls-without-intervention.

- A. True
  - B. False
- 

5. RT should be included in interventions because it has been shown to improve:

- A. Leg muscle power
- B. Balance control
- C. Disease severity

**D. All of the above**

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**6. Data from the individual studies suggest that it is possible to maintain improved strength levels for up to \_\_\_\_\_ after completion of the intervention.**

- A. 1 month**
  - B. 3 months**
  - C. 6 months**
  - D. 12 months**
- 

**7. Corcos and colleagues showed that strength increased consistently over the course of a two-year progressive RT intervention in people with PD.**

- A. True**
  - B. False**
- 

**8. Until better evidence is available, health professionals are advised to incorporate RT of moderate to high intensity in an exercise treatment that combines different exercise modalities and that is designed progressively over a mid- to long-term period.**

- A. True**
  - B. False**
- 

### **Resistance versus Balance Training to Improve Postural Control in Parkinson's Disease: A Randomized Rater Blinded Controlled Study**

**9. Studies have shown that balance training alone can be effective to improve postural control in people with PD.**

- A. True**
  - B. False**
- 

**10. With regard to the large effect size when comparing the effects of the two training interventions, a tendency is given that balance training might be more effective than resistance training to improve postural control in people with PD.**

- A. True**
  - B. False**
- 

**11. Which of the following improved due to RT?**

- A. Gait velocity
  - B. Stride lengths
  - C. Bilateral coordination
  - D. None of the above
- 

12. The fact that especially the RFD of the less- but not the more affected PD side contributed to better postural control is in accordance with a recent study showing that training the less affected side leads to higher improvements in PD than standard exercise.

- A. True
  - B. False
- 

### **Adaptive training with full-body movements to reduce bradykinesia in persons with Parkinson's disease: a pilot study**

13. Individuals with PD spend about 10% more energy than healthy people during movements, which points at a poor management of energy expenditure in terms of economy of movement.

- A. True
  - B. False
- 

14. During motor exercise, the attainment of peak aerobic power occurs at a significantly lower exercise level with respect to healthy persons, thus indicating poor metabolic efficiency.

- A. True
  - B. False
- 

15. All of the following are true with regard to bradykinesia, except for:

- A. Persons with bradykinesia cannot perform fast movements.
  - B. Persons with bradykinesia can exceed their preferred moving speed while maintaining a movement accuracy comparable to the one of healthy subjects.
  - C. Bradykinesia in persons with PD is not a mere compensatory mechanism for impaired motor control or defective sensory processing.
  - D. Bradykinesia may be a consequence of an implicit decision to select movements that have a lower energy expenditure or are characterized by lower force levels.
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**16. Physical exercise may help to reduce the motor symptoms, especially bradykinesia and balance problems, while keeping the levodopa dose as low as possible.**

- A. True**
  - B. False**
- 

**17. Over the training session, all subjects:**

- A. Exhibited a gradual increase of target distance.**
  - B. Maintained the movement score close to the target value of 25/100.**
  - C. Both (A) and (B).**
  - D. None of the above.**
- 

**18. It is suspected that in the present experiment, the observed undershoot may be at least partly a consequence of parsimonious strategy to deal with:**

- A. A change in target elevation.**
  - B. The lack of depth information.**
  - C. The related bradykinesia.**
  - D. All of the above.**
- 

**19. A weak but significant correlation was found for which of the following?**

- A. Disease severity and the pre-treatment speed**
  - B. Disease severity and performance improvement**
  - C. Both (A) and (B)**
  - D. None of the above**
- 

**20. This study found that before training MT is significantly greater at high elevation than at low elevation, but by the end of the training, MT not only decreases but also becomes less dependent on MA.**

- A. True**
  - B. False**
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