

Exercise and Parkinson's Disease



KELLIE P. MOORE, PT, DPT

Physical Effects of Parkinson's¹



- **Primary Motor Symptoms**
 - Resting Tremor
 - Bradykinesia
 - Rigidity
 - Postural Instability
- **Secondary Motor Symptoms**
 - Freezing
 - Micrographia
 - Mask-like expressions
 - Unwanted accelerations

Benefits of Exercise

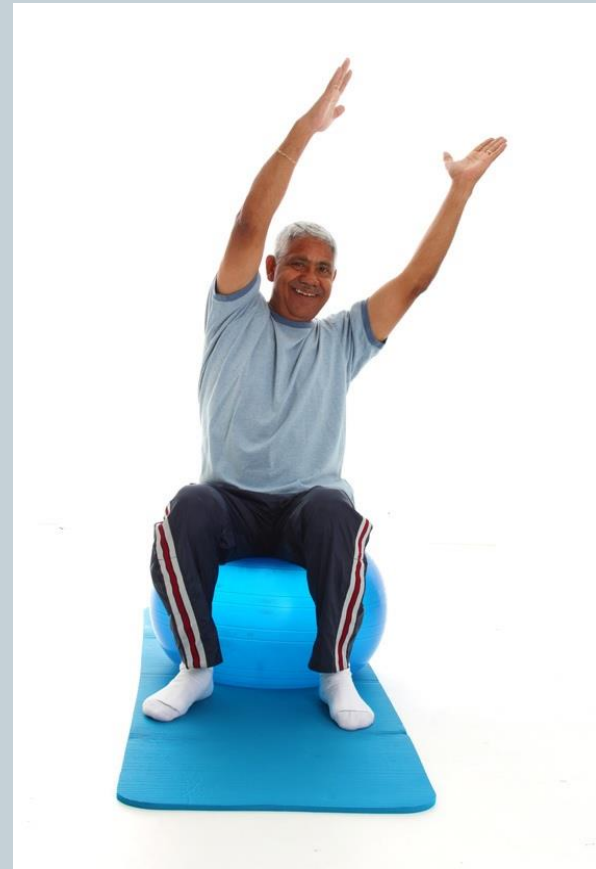


- Low intensity exercise performed for 50 minutes, 3 times per week may be beneficial in improving mobility issues associated with Parkinson's²
- Low intensity exercise
 - Walking
 - Stretching
 - Strengthening
- Exercise may postpone symptoms and assist with retaining independence, improve mobility and quality of life

Benefits of Exercise



- Inhibition of joint malformation²
- Enhanced coordination and balance
- Improved posture
- Increased cardiovascular fitness
- Enhanced joint mobility



Benefits of Exercise



- Improved muscle strength and flexibility
- Less muscle cramping
- Decreased stress levels
- Improved control over gross motor skills, such as walking
- Increased confidence in carrying out daily activities



Physical Therapy Interventions



- **Gait Training**
 - Body Weight Support Treadmill Training
 - AlterG Anti-Gravity Treadmill
- **Balance Training**
 - Static and dynamic
- **Postural Re-education**
- **Strengthening**
- **Stretching**

Alter-G Treadmill²



- <http://www.alterg.com/videos/320/anti-gravity-treadmill-helps-patients-reach-their-goals>

Effects of Body Weight Support Treadmill Training on Parkinson's Disease



- Long lasting effects on gait disturbances, specifically short-step gait³
- Induces motor learning through enhancement of alternative brain networks
- Improvements in activities of daily living, motor performance, and walking speed⁴
- Improvements in balance⁵

Effects of Whole Body Vibration on Parkinson's



- Improved equilibrium and gait⁶
- Improved postural stability⁷
- Improvements in tremors
- Improvements in rigidity



Questions



References



- www.pdf.org
- <http://www.alterg.com/treadmill-training-rehab/rehabilitation/senior-mobility/seniors-with-mobility-issues-from-parkinsons-disease/>
- [http://www.archives-pmr.org/article/S0003-9993\(02\)00053-9/fulltext](http://www.archives-pmr.org/article/S0003-9993(02)00053-9/fulltext)
- <http://www.ncbi.nlm.nih.gov/pubmed/10895994>
- [http://www.pmrjournal.org/article/S1934-1482\(13\)01035-6/abstract](http://www.pmrjournal.org/article/S1934-1482(13)01035-6/abstract)
- <http://www.ncbi.nlm.nih.gov/pubmed/18295614>
- <http://www.researchgate.net/publication/228892332> The effects of whole-body-vibration exercises in Parkinsons disease a short review /file/79e41506d91f177f97.pdf