Exercise and Rehabilitation for Parkinson's Disease

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HOW MUCH EXERCISE?

150 minutes of moderate – vigorous exercise per week.

Aerobic

Strength

Balance

Flexibility

EXERCISE PRESCRIPTION

<u>Principles of Exercise</u>:

Specificity

Overload

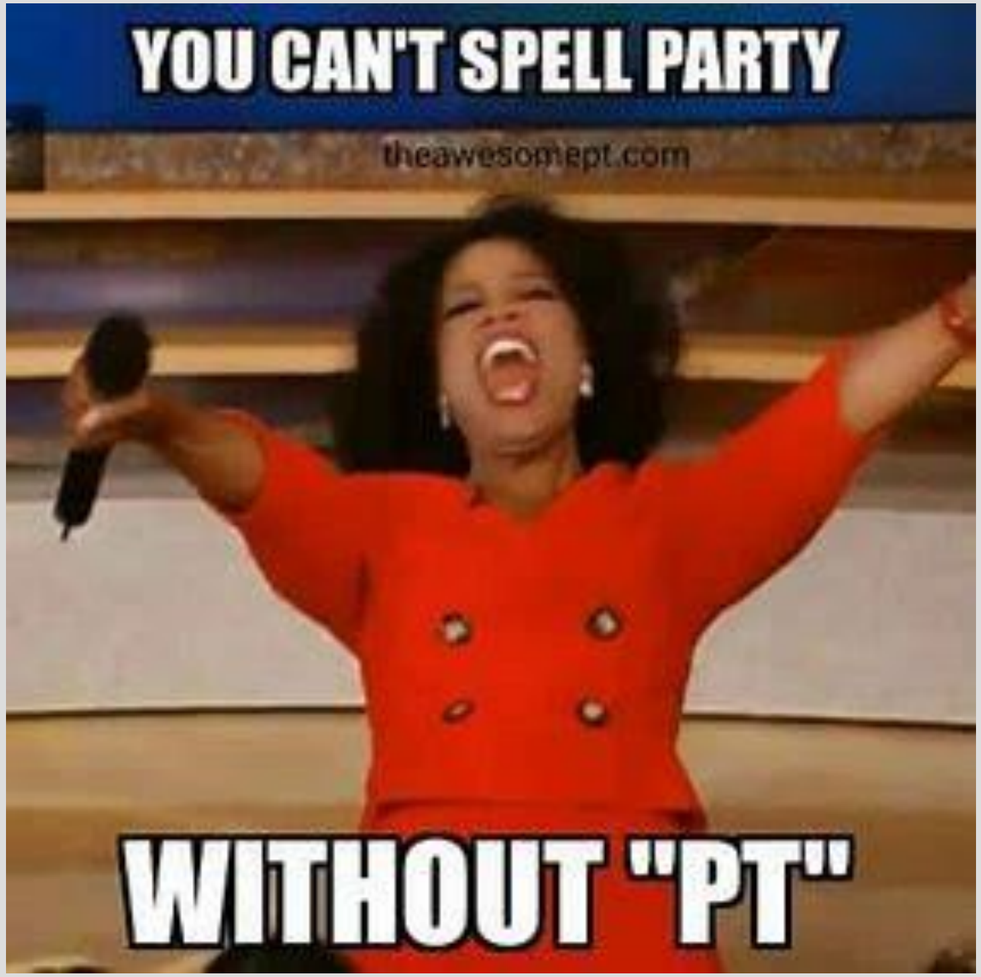
Variation

SELF EFFICACY

-Barriers to exercise
-SMART goals
-Choices and variability
-Social support
-Adaptability

WHERE TO START?

Consult a physical therapist specializing in Parkinson's for a full evaluation and recommendations, help with design and progression of exercise program



SECONDARY CONDITIONS

Diabetes

Osteoporosis

High Blood Pressure

Muscle/Joint Pain

Take into consideration your other health conditions, Exercise during ON periods for the most benefit, have another person with you if you need help

Deconditioning

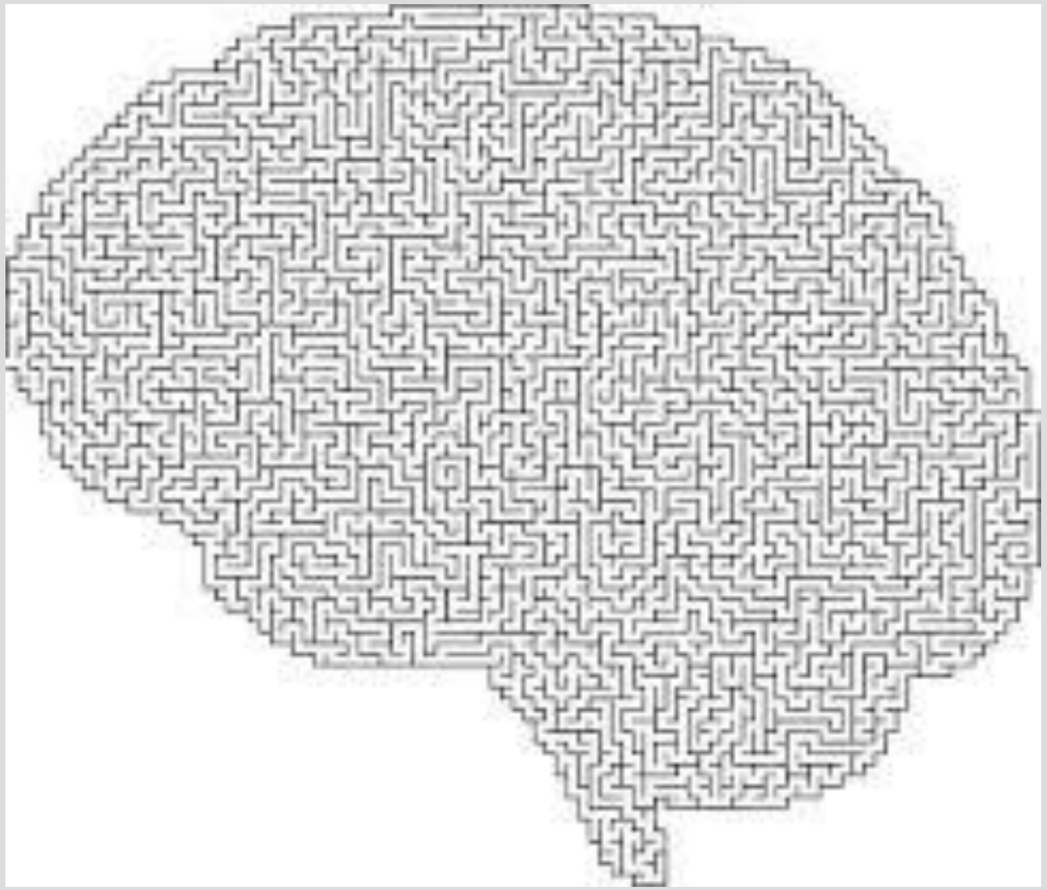
Arthritis

Weight Problems

Chronic Pain

Dorsey et al. 2007. Huse et al. 2005. Oguh and Videnovic. 2012. Rimmer and Lai. 2015. Kowal et al. 2013.

NEUROPLASTICITY



Principles of Neuroplasticity:

Intensity matters
Complexity matters
Repetition matters
Salience matters
Timing matters
Specificity matters

LSVT BIG

LSVTBIG®

Focus:

- Amplitude
- Intensive, High Effort
- Sensory Calibration

Outcomes:

-Faster walking
-Bigger walking
-Improved balance
-Improved trunk rotation
-Improved dual tasking
-Improved mobility-related quality of life

UPDATES: CHALLENGING EXERCISE

- Voluntary vs Forced Exercise
  - Forced exercise was a 30% increase past comfortable exercise exertion
  - Resulted in similar HR/aerobic improvements but 35% increase in UPDRS motor scores and significant improvements in grasping/dexterity scores
  - Rigidity, bradykinesia, and dexterity score remained improved for 4 weeks following an 8 week exercise regimen

UPDATES: GROUP EXERCISE

- Group Exercise Effect on Motor Function and Mobility (2024)
  - Similar effect as individual exercise
  - Larger effect when group exercise and individual exercise are combined
  - Long term effects for exercise adherence related to increased access, socialization, and accountability

UPDATES: PT FOLLOWING DBS

- Physical therapy combined with DBS further improves upon dynamic and static balance, gait performance, posture, motor symptoms (bradykinesia), and quality of life.
- “PT should be prescribed following DBS to maximize the effects of the stimulation.”
- 2024

- Guidetti

UPDATES: SPACED PT

- 6 weeks verses 6 months
- Balance and functional scores maintained after 6 months with spaced out PT
- Complications: insurance
- 2024

- UF Neuro

UPDATES: HIGH INTENSITY EXERCISE

- High-intensity exercise actually allows neurons to grow and produce stronger dopamine signals. “Pharmaceuticals help with current symptoms but do not change disease course. Exercise seems to go one step beyond and protect the brain at the neuronal level.”
- 80% maxHR 3x/week for 6 months resulted in decreased motor symptoms

- Yale: Backman

QUESTIONS?

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