Physical Therapy & Exercise

Purpose of Physical Therapy: To guide you. To maximize your independence and quality of life at all stages of Parkinson’s.

Purpose of exercise: To maintain as much normal function and independence as possible. the work
Indication For Physical Therapy

VERY SIMPLE! A DIAGNOSIS OF PD

The sooner the better!
Better late than never!

Look for a physical therapist who specializes in Parkinson’s
# Physical Therapy Evaluation

Tell us where your problem areas are and what you want to focus on in therapy

<table>
<thead>
<tr>
<th>Activity</th>
<th>No Difficulty 1</th>
<th>Little Difficulty 2</th>
<th>Moderately Difficult 3</th>
<th>Much Difficulty 4</th>
<th>Extremely difficult 5</th>
<th>Unable (need help) 6</th>
<th>n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>walking</td>
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<td>getting out of a chair</td>
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<td>getting out of the car</td>
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<td>getting in/out of bed</td>
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<td>rolling in bed</td>
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<td>getting up from the floor</td>
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**Walking Difficulty Scale:**
- No Difficulty (1)
- Little Difficulty (2)
- Moderately Difficult (3)
- Much Difficulty (4)
- Extremely difficult (5)
- Unable (need help) (6)
- n/a (not applicable)
Physical Therapy Evaluation

- Objective measures (your baseline):
  - Strength, flexibility, balance & functional ability (walking/transfers)
  - Other medical problems? Arthritis, orthostatic hypotension, cardiac, neuropathy, cognition

- Determine the causes of your problems so they can be addressed in therapy safely yet effectively
Physical Therapy Can:

- Address **potential** problems before they become **real** problems
- Guide you how to walk better
- Guide you how to perform transfers with less difficulty
- Guide you how to improve your balance OR compensate for it
- Guide caregivers how they can safely help with less strain
Physical Therapy Can:

- Establish an individualized exercise program which is safe and effective for you so you can keep moving at your best -
  
  - Stretching
  
  - Strengthening
  
  - Endurance
  
  - Balance/compensatory strategies
Areas of Focus

Core Areas (Exercise)
- Strength
- Flexibility
- Endurance (cardiorespiratory)

Impact

Functional Areas (Compensatory Strategies)
- Walking
- Balance
- Transfers

- Core areas will impact functional areas
- Both areas are addressed in therapy
Endurance

Endurance - activities such as walking longer distances at a reasonable speed are needed to walk outside of your home with less limitations.

Therapist will help determine the mode of exercise and intensity levels which are safe for you yet challenging.

Research is showing ‘What’s good for the heart is good for the brain’
Aerobic Exercise: How Much if Moderate?

- CDC Minimal Physical activity guidelines:
  - 150 minutes of moderate exercise per week or 30 minute/5x per week.
- What is Moderate Intensity?
  - You can talk but not sing
  - Rating of perceived exertion ‘somewhat hard’

\[ \text{RPE} = \text{HR} + \text{breathing rate} + \text{sweating} + \text{muscle fatigue} \]
Aerobic Exercise: Vigorous?

- What is Vigorous Intensity?
  - You will not be able to say more than a few words without needing to pause for a breath
  - Rating of perceived exertion ‘very hard’

- Difficult to motivate people at this level long term

- Increased risk of injury if older or unable to tolerated due to other medical/orthopedic problems
Aerobic Exercise: Needs To Be Individualized

Higher intensity exercise has shown to improve brain ‘strength’ and function (promotes survival of nerve cells and communication between nerve cells at the molecular level)

Can improve cognition

Exercise intensity is relative to your current physical condition and dosing should be tailored to your level

## Ways To Challenge Yourself

<table>
<thead>
<tr>
<th>Exercise Options</th>
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<tbody>
<tr>
<td>Walking further than what you are accustomed/ monitor with a <strong>pedometer</strong></td>
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<tr>
<td>Nordic walking poles for fitness / Trekking poles for hiking</td>
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<tr>
<td>Water aerobics</td>
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<tr>
<td>House work</td>
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<tr>
<td>Dancing Ballroom/Tango</td>
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<tr>
<td>Bicycling</td>
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<tr>
<td>Walking faster than what you are accustomed provided you are steady and maintain a good step size</td>
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<tr>
<td>Walking up hill</td>
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<tr>
<td>Swimming</td>
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<tr>
<td>Gardening</td>
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<tr>
<td>Boxing</td>
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<tr>
<td>Qigong/Tai Chi</td>
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</tbody>
</table>
Compensatory (New) Strategies

- Motor Cortex (Conscious Awareness)
- Basal Ganglia (Automatic movements)
Compensatory (New) Strategies

- Paying Attention
- Using Music
- Movement strategies
  - Body mechanics
  - Breaking down movements
‘Attention’ Strategy For Walking

тяж
try different phrases and establish a rhythm

• ‘Take big steps’

• ‘Take long steps’

• ‘Heel down first’

• Use the one that works best for you
Where Can Help With Balance

A

B
Using Music To Improve Walking

- Music uses different parts of the brain to normalize your walking
- Improves:
  - Size of your step
  - Freezing
  - Rhythmicity of walking
- Therapy will help guide your needs
Strategy for Turns

Outside foot

Inside foot

Outside foot

Inside foot
Turns & Freezing
(pre/post intervention)
Movement Strategy for getting up from a chair

1. Scoot Forward
2. Feet Back
3. Lean Forward
Outside of your medications, what have you tried that has helped you the most?

Over 60 people responded
How Did People Respond?

- Approximately 95% of the people with PD utilized some form of exercise to improve their PD symptoms
- A few did not mention exercise but mentioned reducing or avoiding stress
- A few mentioned staying active + DBS
Types Of Exercises

- Walking/pool walking/nordic walking → Jogging
- Chair yoga → Gentle yoga → Vigorous yoga
- Sitting exercises → standing aerobic exercises
- Gardening/walking on the beach / horse back riding
- Mindful exercises such as Qigong or Tai Chi which involves: posture, mental focus, breathing techniques
- Weight training and stretching
Combination Responses

- Exercise + healthier diet + better sleeping
- Keep moving + stay positive
- Try to stay active + crafts/ hobbies
- Exercise + nordic walking + biking + kind people
- Exercise + laughter + better sleep + faith
- Staying active + DBS
Who’s in Charge of What?

THERAPIST

1) Guide you on what you need
2) Help you succeed

YOU

1) Let us know what is important to you
2) Do the work