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BRAIN INJURY + STROKE + NEURO

# Journey to Self-Advocacy:

Early Signs, Common Symptoms, and the Importance of Early Intervention

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SMALL STEPS. GIANT STRIDES.

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## Objectives

1. Identify the four common symptoms associated with Parkinson's Disease.
2. Recognize uncommon signs and symptoms experienced in Parkinson's Disease.
3. Discuss the benefits of early intervention in the treatment of Parkinson's Disease and why a transdisciplinary approach is helpful.

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## You're Invited!

### Journey of Self-Advocacy for Parkinson's Disease

What: \_\_\_\_\_

Who: \_\_\_\_\_

When: \_\_\_\_\_

Where: \_\_\_\_\_

RSVP: \_\_\_\_\_

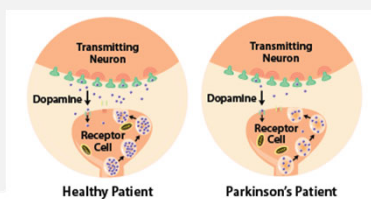
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## What: Is Parkinson's Disease

- A neurodegenerative disorder of the brain
- Affects dopamine-producing neurons
- Dopamine: a chemical (neurotransmitter) that helps send signals in the brain
  - Plays a role with executive function, motor control, motivation, arousal, reinforcement, reward



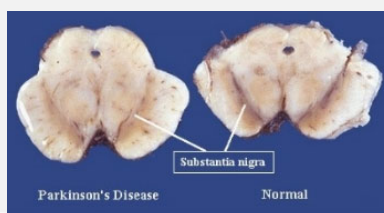
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## What: Is Parkinson's Disease

- Where is dopamine found in the brain?
  - Substantia nigra → motor function/control
  - Amygdala → emotion formation and processing
  - Hippocampus → learning, working memory, long-term memory
  - Olfactory bulb → sense of smell



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## Who: is diagnosed with Parkinson's Disease

- ~1 million people in the US and 10 million worldwide
- Men > Women (men 1.5x more likely)
- > 60 years old at increased risk
  - ~4% diagnosed before age 50

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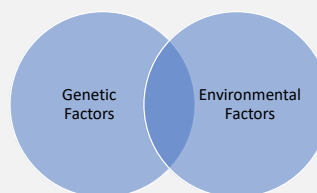
## Why: does Parkinson's Disease occur

### Genetics:

- Cause ~10-15% of PD cases
- Links to gene mutations which can be inherited through generations
  - LRRK2, GBA, SNCA

### Environmental:

- Head injury
- Occupation
- Geographic location
- Exposure to chemicals
- Exposure to metals



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## How: are individuals diagnosed

There is not one single test or scan that is used to determine a PD diagnosis

4 common symptoms that assist diagnosis:

- Bradykinesia
- Tremor
- Rigidity
- Postural instability (usually later in disease process)

Typically will consider if at least 2 of the above are present

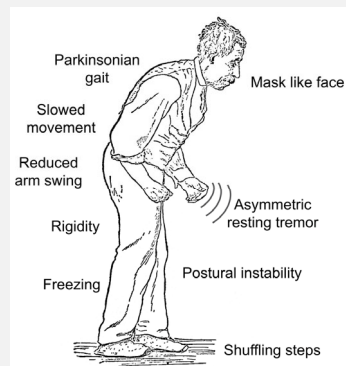
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## 10 Early Signs of Parkinson's Disease

- Tremor
- Small handwriting
- Loss of smell
- Trouble sleeping
- Trouble moving or walking
- Constipation
- Soft or low voice
- Masked face
- Dizziness or fainting
- Stooping or hunching over



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## Motor Symptoms

- Muscle cramping
- Drooling
- Dyskinesia
- Festination
- Freezing
- Masked face
- Micrographia
- Shuffling gait
- Soft speech



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## Non-Motor Symptoms

- Cognitive changes
- Constipation
- Early satiety
- Excessive sweating
- Fatigue
- Increase in dandruff
- Hallucinations/delusions
- Lightheadedness
- Weight loss
- Loss of sense of smell or taste
- Mood disorders
- Pain
- Sexual problems
- Sleep disorders
- Urinary urgency, frequency, incontinence
- Vision problems

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## Parkinson's Iceberg

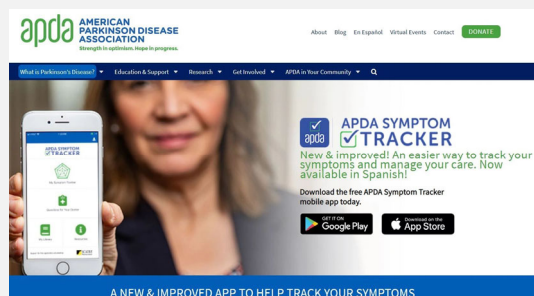


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## APDA Symptom Tracker App



Keep track of  
your symptoms



Create reports  
to share with  
care team



Consult with  
team for more  
personalized  
resources and  
support

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## Modified Hoehn and Yahr



- **Stage 0:** No signs of disease
- **Stage 1:** Unilateral Disease
- **Stage 1.5:** Unilateral plus axial involvement
- **Stage 2:** Bilateral disease without impairment of balance
- **Stage 2.5:** Mild Bilateral disease with recovery on pull test
- **Stage 3:** Mild to moderate bilateral disease; some postural instability; physically independent
- **Stage 4:** Severe disability; still able to walk or stand unassisted.
- **Stage 5:** Wheelchair bound or bed ridden unless aided

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## When: should intervention begin

As early as possible!

“The most evident benefit of early intervention is a reduction in symptoms, particularly dyskinesia, and the delay of levodopa initiation....Both the diminishment of symptoms and the potential for slowing disease progression have large implications for improving patient quality of life.”



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## Early Intervention

- Medications
- Surgical Interventions
  - Deep Brain Stimulation (DBS)
- Lifestyle Modifications
  - Nutrition
  - Exercise
- Therapy Intervention
- Wellness/Support Groups
- Participate in Clinical Trials if interested
- Education and Resources

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## Parkinson's Hospital Kit

“Aware in Care” through the Parkinson’s Foundation

- 3 out of 4 people with Parkinson’s do not receive medications on time when staying in the hospital
- 2 out of 3 will experience unnecessary complications
- 3 free options to choose from
  - Download printable resources
  - Aware in Care packet
  - Full Aware in Care kit (\$8 shipping cost)



<https://www.parkinson.org/Living-with-Parkinsons/Resources-and-Support/Hospital-Kit>

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## Nutrition

Challenge	Recommendation
Constipation	<ul style="list-style-type: none"> <li>• Drink enough water throughout the day (at least 6 glasses)</li> <li>• Eat fiber-rich foods (brown rice, whole grains, fruit, beans)</li> </ul>
Optimizing Medication	<ul style="list-style-type: none"> <li>• Take medication with a full glass of water to help with break down</li> <li>• Talk with your doctor about taking medication with food vs. with an empty stomach</li> </ul>
Nausea from Medication	<ul style="list-style-type: none"> <li>• Talk with your doctor about options for this (i.e., small snack)</li> </ul>
Difficulty swallowing	<ul style="list-style-type: none"> <li>• Discuss swallowing interventions and diet modifications with health care team (i.e., speech therapist, dietician)</li> </ul>

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## Nutrition

Challenge	Recommendation
Loss of appetite	<ul style="list-style-type: none"> <li>• Try foods to stimulate appetite (i.e., bitter greens, spicy food)</li> <li>• Exercise to increase hunger</li> </ul>
Difficulty eating with motor symptoms (tremor, stiffness, etc.)	<ul style="list-style-type: none"> <li>• Meet with an occupational therapist to problem solve positioning, adaptive equipment, and interventions</li> <li>• Equipment may include non-slip material, weighted utensils, etc.</li> </ul>
Urinary urgency (reduced water intake)	<ul style="list-style-type: none"> <li>• Try eating foods with high water content (celery, watermelon, strawberries, squash)</li> <li>• Sip water throughout the day vs. drinking full glasses at a time</li> </ul>

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## Exercise Recommendation

ACSM Parkinson's Exercise Guidelines:

- Includes 4 domains of exercises
- Provides recommendation for frequency, intensity, time, type, volume, and progression (FITT-VP)
- Highlights importance of balance/agility with multitasking
- Consideration for cognitive changes with nonmotor symptoms
- Recommends exercising during "on" periods when taking medication

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## Exercise Recommendations

**Parkinson's Exercise Recommendations**

Parkinson's is a progressive disease of the nervous system marked by tremor, stiffness, slow movement and balance problems.

**Exercise and physical activity can improve many motor and non-motor Parkinson's symptoms:**

Aerobic Activity	Strength Training	Balance, Agility & Multitasking	Stretching
<p>3 days/week for at least 30 minutes per session of continuous or intermittent at moderate-to-vigorous intensity.</p> <p><b>TYPE:</b> Continuous, rhythmic activities such as brisk walking, running, cycling, swimming, bicycling, etc.</p> <p><b>CONSIDERATIONS:</b> Safety concerns due to risks of increased fall, blood pressure, muscle heart rate, respiratory. Supervision may be required.</p>	<p>2-3 non-consecutive days/week for at least 10 reps per session of 10-15 reps for major muscle groups resistance, speed or power focus.</p> <p><b>TYPE:</b> Major muscle groups of upper/lower extremities such as using weight machines, resistance bands, light/heavy resistance weights or body weight.</p> <p><b>CONSIDERATIONS:</b> Muscle stiffness or joint flexibility may hinder full range of motion.</p>	<p>2-3 days/week with daily integration if possible.</p> <p><b>TYPE:</b> Multi-directional stepping, weight shifting, dynamic balance activities, large movements, multitasking such as yoga, tai chi, dance, bowling.</p> <p><b>CONSIDERATIONS:</b> Safety concerns with cognitive and balance problems. Hold to something stable as needed. Supervision may be required.</p>	<p>&gt;3 days/week with daily being most effective.</p> <p><b>TYPE:</b> Sustained stretching with deep breathing or dynamic stretching before exercise.</p> <p><b>CONSIDERATIONS:</b> May require adaptations for flexion/extension, osteoporosis and pain.</p>

**See individual therapist for specific Parkinson's or functional limitations and recommendations.**

**Safety:** If not used daily or on days when taking medication, if not talk to exercise on your own, have someone with you.

**Referenced to modify and progress your exercise routine over time.**

**Participate in 150 minutes of moderate-to-vigorous exercise per week.**

Reprints: 800.473.4636/Parkinson.org

### Parkinson's Exercise Guidelines Video

Miriam Rafferty, PT, DPT, PhD  
<https://www.youtube.com/watch?v=RSZvGNzXPvQ>

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## Therapy/Rehab Recommendations

“Exercise increases synaptic strength and influences neurotransmission, thus potentiating functional circuitry in PD. In addition, exercise is a pivotal element of motor learning.”

“...rehabilitation could induce short-lasting, but clinically important benefits, particularly for gait and balance...”

“The rehabilitative program for PD should be “goal-based” ...and the program should be tailored to the individual patients' characteristics.”

FULL LENGTH ARTICLE | VOLUME 22, SUPPLEMENT 1, 560-564, JANUARY 01, 2016

**Rehabilitation for Parkinson's disease: Current outlook and future challenges**

Giovanni Abbruzzese, A. B. • Roberta Marchese • Laura Avanzino • Elisa Patsini

Published: September 03, 2015 • DOI: <https://doi.org/10.1016/j.parkreldis.2015.09.005>

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## Exercise and Wellness Programs

Specific to PD	Non-Specific to PD
LSVT BIG/LOUD	Tai Chi
Dance for Parkinson's	Water Aerobics
Delay the Disease	Zumba
PWR!	Silver Sneakers
Rock Steady Boxing	Walking Groups
Virtual – Move It!	Yoga

Search for group classes in your local area!

<https://www.apdaparkinson.org/community/iowa/resources-support-ia/exercise-2/>



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## Cognitive Exercise

- ~40% of PD population will experience mild cognitive impairments
  - Memory, visual spatial ability, speech dysfunction
  - Can impact quality of life
- Up to 80% will develop into dementia in the later stages of disease process
- Evidence indicates that cognitive training is safe and modestly effective on cognition in people with PD

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## Cognitive Exercise



- Cognitive Stimulation
  - Challenging puzzles, trying new activities, participating in social environments
- Cognitive Training
  - Learning specific strategies to overcome an area of impairment (i.e., memory aids)
- Cognitive Rehabilitation
  - Individualized, skilled therapy program to improve overall function and quality of life

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## Where: can you find more information

Education and Resources:

- parkinson.org
- American Parkinson's Disease Association (APDA)
- Iowa APDA
- Michael J Fox Foundation
- Parkinson's Foundation
- Brian Grant Foundation
- Davis Phinney Foundation
- PDEdge Task Force
- Parkinson's Disease and Caregiving (Family Caregiver Alliance)

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## RSVP: your healthcare team

- Primary Care Physician or Family Medicine
- Neurologist or Movement Specialist
- Physical Therapist
- Occupational Therapist
- Speech Therapist
- Counselor
- Neuropsychologist
- Social Worker or Case Management
- Chiropractor
- Massage therapist
- Acupuncturist

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## Transdisciplinary Approach

Benefits:

- Team of experts brings a variety of expertise
- Communication between team members for highest quality of care
- Address wide range of symptoms associated with Parkinson's Disease
- Established health care team to assist with changes over the course of PD progression



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## Case Studies

### Early Stage

- Recently diagnosed
- Lived out of town
- Therapy Focus → establish a HEP, provide several resources and educational information

### Mid Stage

- Diagnosed 10+ years ago
- Episodes of care
- Therapy Focus → physical and cognitive training, care partner training/education, equipment needs

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