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## **Understanding Parkinson's Disease (PD) and the Role of Exercise in Symptom Management Recorded September 5, 2017**

**Course Type: Recorded 1 Hour Webinar**

**Course Level: All Levels**

### **Course Objectives**

After completing this course, you will be able to:

1. Define Parkinson's disease and list 19 symptoms of the disease.
2. Describe the 3 stages of Parkinson's disease.
3. Discuss who gets Parkinson's disease and list 6 members of a typical PD team.
4. Describe 2 optimal ways to fight PD.
5. List 5 assessments recommended by American College of Sports Medicine for clients with PD.
6. Explain the ACSM guidelines for exercise prescription for those with PD, and 2 overall desired outcomes.

### **Course Description**

While Parkinson's Disease (PD) can be debilitating, there is plenty of compelling data to show that exercise is one of the best ways of managing PD symptoms. Studies show that regular exercise can improve gait, grip, balance, stability, strength, and motor control in those with PD.

This webinar will cover:

- What is Parkinson's Disease (PD)?
- Who gets Parkinson's Disease?
- What are the symptoms of PD? (motor and non-motor symptoms)
- How does PD affect strength, movement, mobility, stability, flexibility, cognitive function, posture, and overall functionality?
- What can people with PD be doing to manage disease symptoms and reduce or eliminate falls and injury?

For personal trainers: what assessments and programming can we use help people with PD?

### **About the Presenter**

#### **Carisa Campanella, BA, AS**

Carisa began her career as a Mental Health Worker in Wayne NJ, where she worked as a residence and day program counselor for mentally-ill adults. She managed patient caseloads while simultaneously facilitating diverse therapy groups.

After seven years she transitioned to pharmaceutical sales and spent eleven years with Pfizer promoting psychotropic agents to psychiatrists and hospital programs. After moving to Florida in 2004 she worked for Allergan promoting Botox to neurologists for therapeutic indications such as cervical dystonia and migraine. Her exposure to the neurology community and commitment to patient care led her to become a volunteer at Neuro Challenge Foundation in 2012, and in April of 2013 she accepted a full-time position as Care Advisor for Neuro Challenge Foundation for Parkinson's, and has recently moved into the position of Program Manager for the organization. She is a graduate of the 2016 class of Leadership Sarasota County.

Over the past five years, Carisa has also had an active role in helping her local community adopt healthy behaviors through her work at Sarasota Memorial Hospital's HealthFit Fitness Center. Carisa provided support

as an intern for the hospital's Wellness Coaching Program, where she offered support and guidance to individuals struggling with obesity and inactivity. She went on to perform as an Exercise Specialist assisting older adults in exercise programming and health risk assessments. She also is an enthusiastic Spinning instructor!

Carisa now focuses the majority of her efforts on helping the southwest Florida Parkinson's community find resources that can help improve their quality of life. She is committed to the pursuit of health through sound nutrition and exercise and helps the Parkinson's community find programs that will improve their physical and mental well-being.

## Course Outline

### What is Parkinson's Disease?

- A **chronic and progressive disorder** of the brain and central nervous system that causes a variety of movement and cognitive challenges
- Marked by a deficiency of a chemical messenger (neurotransmitter) in the brain which helps regulate movement called

### Dopamine

Most Common Motor Symptoms of Parkinson's Include:

- Unilateral tremor of the hand or limb at rest
- Slowness of movement (Bradykinesia)
- Muscle rigidity and stiffness
- Impaired balance and postural instability

([http://www.pdf.org/symptoms\\_primary](http://www.pdf.org/symptoms_primary))

Other Progressive Motor Symptoms:

- Difficulty initiating movements (Akinesia)
- Episodes of Freezing – inability to move during execution of a movement sequence
- Over reactivity of muscles; wriggling/writing movements (Dyskinesia)

(*American College of Sports Medicine, 2014, ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition, pages 321-330, Wolters Kluwer Health, Lippincott Williams and Wilkins*)

Secondary or Non-Motor Symptoms of Parkinson's Include:

- Loss of smell (Early Stage)
- Constipation/Urinary
- Fatigue
- Orthostatic Hypotension
- Reduced vocal amplitude
- Dysarthria
- Decreased facial expression
- Depression
- Anxiety
- Apathy
- Cognitive Impairments
- Dementia (Later Stages)

([http://www.pdf.org/symptoms\\_nonmotor\\_early](http://www.pdf.org/symptoms_nonmotor_early))

Stages of Parkinson's

**Early:** Movement symptoms may be inconvenient, but do not affect daily activities. Symptoms are minor and may include tremor or stiffness (This is the stage where exercise has the greatest impact)

**Moderate:** The body moves more slowly, and trouble with balance and coordination as well as cognitive deficits may develop

**Advanced:** Great difficulty walking; the person with PD may be unable to ambulate and have significant cognitive and behavioral challenges. There are limitations in activity regardless of treatment or medication

*(American College of Sports Medicine, 2014, ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition, pages 321-330, Wolters Kluwer Health, Lippincott Williams and Wilkins)*

#### Who Gets Parkinson's Disease?

- Approximately 1.5 Million People in the US have PD – 70,000 new cases every year
- Average age of onset is 62 – two thirds of individuals with PD are men. When PD is diagnosed before age 50, it is classified as “young onset”
- Possible causes of PD have been linked to toxin and chemical exposure – approximately 10% of cases are hereditary. PD can also be idiopathic – no known origin.

*(American College of Sports Medicine, 2014, ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition, pages 321-330, Wolters Kluwer Health, Lippincott Williams and Wilkins)*

#### Who Treats Parkinson's Disease?

- Neurologist: A physician who specializes in brain diseases and disorders of the central nervous system; for optimal treatment, PD patients may seek out a Neurologist who is also Board Certified in Movement Disorders

#### The Parkinson's Treatment Team

##### Members of the Parkinson's Treatment Team

Physical Therapist: Works towards overcoming significant muscular impairment that impedes functioning.

Occupational Therapist: Can work with an individual to safely ambulate in their homes and function optimally in various environments

Speech Therapist: Can assist with voice amplification, verbal articulation, swallowing and cognitive function

Personal Trainers: Can enhance overall functionality in a person with PD by implementing specific programs for stability, posture, balance, strength and endurance

#### Optimal Ways to Fight Parkinson's Disease

##### Medication

- Prescribed by a physician to help minimize movement symptoms and provide optimal levels of functioning
- People with Parkinson's experience “on” and “off” times – exercise is particularly challenging during an “off” time
- Levadopa therapy is mainstay
- Exercise is as important as medication in Parkinson's symptom management

##### Exercise

- Evidence demonstrates exercise improves gait performance, quality of life, reduces disease severity and improves aerobic capacity in individuals with PD
- Selection of the exercise type is dependent on the individual's clinical presentation of disease severity

#### Nationally Recognized Parkinson's Specific Exercise Programs

(not a complete list)

- LSVT BIG: 4-Week Physical Therapy program focusing on amplified movements  
<http://www.lsvtglobal.com/>
- Rock Steady Boxing: Functional exercise class utilizing punching bags and speed bags  
<https://www.rocksteadyboxing.org/>
- Pedaling for Parkinson's: Spinning class that is heart-rate geared <http://www.pedalingforparkinsons.org/>
- Delay the Disease: focuses on strength training and correcting disease-specific physical challenge  
<http://www.delaythedisease.com/>
- Parkinson's Wellness Recovery (PWR) : research based integrated exercise and wellness programming <https://www.pwr4life.org/moves/>
- Dance for PD: Integrative movement to engage participants' minds and bodies and create an enjoyable, social environment for artistic exploration. <https://danceforparkinsons.org/>

#### Exercise Testing and Assessments or People with Parkinson's

*Most individuals with Parkinson's have impaired mobility often accompanied by low levels of physical fitness – decisions regarding exercise testing protocols may be influenced by severity of PD*

*Fall History should be evaluated as well as a general Health Risk Assessment*

*Be aware of the emergence of fatigue, shortness of breath, BP fluctuations and deterioration in general appearance*

- Flexibility: Sit and Reach Test
- Functional Mobility: Chair Sit to Stand
- Balance: Tandem stance, single limb stance
- Muscular Strength: arm curl, weight machines
- Cardio Respiratory Endurance: 6 Minute Walk Test (For early stage participants)

American College of Sports Medicine:

Guidelines for Exercise Prescription for Individuals with PD

FITT Recommendations (Frequency, Intensity, Type, Time)

Aerobic: 3 days per week, 40%-60% HRR, 30 minutes of continuous or accumulated exercise. Focus on walking, cycling, swimming, dancing

Resistance: 2-3 days per week, 40%-50% of 1-RM, 1 set of 8-15 Repetitions. Focus on major muscles of lower extremities to maintain mobility

Flexibility: 1-7 days per week, full extension, flexion and rotation to the point of slight discomfort, 10-30 seconds. Focus on slow, static stretches that enhance full range of joint motion

*(American College of Sports Medicine, 2014, ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition, pages 321-330, Wolters Kluwer Health, Lippincott Williams and Wilkins)*

*Overall goal of exercise for individuals with PD: delay disability, prevent secondary complications, and improve quality of life as PD progresses*

*Health outcomes of an exercise program designed for individuals with PD: improved gait, transfers, balance, and joint mobility and muscle power to improve functional capacity*

Question and Answer Segment

## REFERENCES

- Parkinson's Disease Foundation. Primary Motor Symptoms. Accessed 9-2017.  
[http://www.pdf.org/symptoms\\_primary](http://www.pdf.org/symptoms_primary)
- American College of Sports Medicine, 2014, ACSM's Guidelines for Exercise Testing and Prescription, Ninth Edition, pages 321-330, Wolters Kluwer Health, Lippincott Williams and Wilkins
- Parkinson's Disease Foundation. Nonmotor Symptoms. Accessed 9-2017.  
[http://www.pdf.org/symptoms\\_nonmotor\\_early](http://www.pdf.org/symptoms_nonmotor_early)