

Treating Parkinson's Disease With Physical Therapy and Exercise



By Kelsey Hanlon, PT, DPT

At WWSPT, we specialize in treating patients with various neurological disorders including Parkinson's disease (PD). According to the Parkinson's Disease Foundation, more than 10 million people worldwide are living with Parkinson's, and 60,000 Americans are diagnosed each year.

Although the specific cause of PD is unknown, it is believed that both genetic and environmental factors contribute to the risk of developing the disorder. There is no cure, but the good news is that use of medication combined with exercise can significantly slow the progression of the disease and, in some cases, may actually reverse some of its effects.

In an individual with PD, there is a loss of dopamine-generating cells in the substantia nigra—an area of the brain that helps to control movement. Therefore, many of the signs of the disease manifest as motor symptoms. The four most common symptoms are:

- a resting tremor
- slowness of movement known as bradykinesia
- rigidity that causes stiffness in the muscles of the arms, legs, and trunk
- difficulty remaining steady when standing upright known as postural instability

There are other motor and nonmotor symptoms that result from PD including:

- freezing, which is being stuck in place when attempting to walk
- stooped posture
- a soft voice
- depression
- constipation
- sleep disturbances
- lack of facial expression

An individual may have any combination of these symptoms as well as others, meaning that two people who have PD may present differently.

Many people do not realize the impact that exercise can have on PD no matter how far the disease has progressed. Intensive aerobic exercise has been shown to ease PD motor symptoms by helping the brain use the dopamine that is available more efficiently. It also promotes neuroplasticity, which is the formation of new synapses and pathways in the brain. In addition, aerobic exercise can improve mood, including depression and anxiety.

Since exercise can help relieve many symptoms, it often reduces the amount of medication required to manage symptoms. This is beneficial since the medications used to treat PD often have unwanted side effects.

Specific programs such as the LSVT BIG program and the Parkinson's Wellness for Life (PWR!) program have been developed specifically for individuals with PD. Using large-amplitude motions and functional activities, these programs target the specific impairments of PD to help restore function and improve gait, posture, and fine motor skills.

At WWSPT, our therapists are certified in the LSVT BIG program and have trained in the PWR! program. We are experienced at adapting the treatment to the individual's needs and deficits in order to target specific impairments and goals.

Boxing is another activity that has been shown to improve symptoms related to PD. One of our WWSPT therapists is trained in Rock Steady Boxing which is a method of training that is developed specifically for individuals with PD. Tai Chi and dance classes have also been shown to be beneficial in helping with symptoms. Finding an activity that is enjoyable is essential because physical activity needs to become part of the daily routine of a person who has PD.

Although exercise is beneficial at any stage of the disease,

the earlier that intervention is initiated, the better the outcomes for the patient. Unfortunately, one of the difficulties with PD is that it is often not diagnosed until motor symptoms appear.

Some studies have shown that, by the time motor symptoms develop, up to 50% to 80% of the dopamine in the brain is already lost. For this reason, there has been more focus recently on the nonmotor symptoms, such as loss of smell, sleep disorders, and constipation, which may present prior to motor deficits.

Current research is focusing on determining whether there are any laboratory biomarkers that could be used in combination with nonmotor symptoms to diagnose PD in the very early stages, perhaps even prior to the development of motor symptoms.

When you come to WWSPT with a diagnosis of PD, you will receive a thorough evaluation consisting of assessment of balance and gait, strength, fine motor skills, coordination, and function. We will consider whether you are a good candidate for the LSVT BIG or PWR! programs, determine the areas of the examination that are most impacted, and develop a specific exercise program targeted towards these deficits.

You will learn large-amplitude movements developed specifically for individuals with PD that you will be asked to perform as part of a home exercise program. As PD is a lifelong diagnosis, you will want to continue these exercises as part of your daily routine. You may benefit from yearly "tune-ups" in physical therapy to address any new symptoms or functional difficulties that may arise.

If you or someone you know has been diagnosed with PD, you may feel overwhelmed or uncertain. There are many good resources including the Parkinson's Disease Foundation (pdf.org), National Parkinson Foundation (parkinson.org), and the Michael J. Fox Foundation (michaeljfox.org). There are also local support groups for individuals with PD as well as other groups specifically for caregivers. Often, neurologists or physical therapists are aware of support groups, or you may also be able to find them online.

The important thing to remember about a diagnosis of PD is that you are not alone. While you do not have control over the disease process or your symptoms, what you do to manage those symptoms can make a difference in your quality of life.



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1456 Ferry Rd, Suite 601, Doylestown, PA 18901
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