

Exercise and Parkinson's Disease

Parkinson's Disease (PD) is a chronic progressive neurologic disease that affects the part of the nervous system that controls muscle reflexes. It is believed that PD is caused by a reduction in dopamine, which is a neurotransmitter, and so the muscle reflexes are adversely affected. Over time, the person will likely experience slow movements (bradykinesia), a resting tremor, rigidity, and negative changes in his gait and posture.

PD is classified as early, moderate or advanced. Someone newly diagnosed with early PD will experience only minor symptoms. In the moderate stage, the person will start to show limitations in his movements, and have a mild to moderate tremor. Substantial limitations in activity, in spite of treatment, mark the advanced stage of PD. Exercise is not a solution to PD, but it will be helpful with balance and rigidity problems.

Some of the concerns with exercising with PD include the fact that rigidity affects a person's ability to move freely, including fingers and toes. He may also be unable to stand easily from a seated position, or to walk without shuffling. Freezing is also a challenge to carrying out exercise. Communication can also be quite affected, and the person with PD may not be able to speak clearly verbally, nor be able to use facial expressions to help communication, due to a loss of motor skills. Since each person with PD has a unique set of symptoms and challenges, it's not really possible to list a universal set of rules for exercise. Sometime a person with PD has trouble with thermoregulation, because the autonomic nervous system is malfunctioning; and so becoming overheated during exercise is a common concern. Freezing can make certain activities more challenging than others, as can the stooped-over posture (kyphosis) that is prevalent in persons with PD.

In spite of these challenges, there are several documented benefits to bringing exercise to someone with PD. They may experience positive changes in motor performance, ability to rotate their trunks, hand-eye coordination, muscle size and strength, and better balance and stability.

Exercise may not have a significant impact on the specific symptoms of the disease, but appropriate exercise may help combat the effects of PD on the patient's muscle structure and cardiovascular health. Some of the recommendations include aerobic work three times a week, short supervised walks, as the person is able, 4-6 times per day. Strength training with light weights, 8-12 reps, three times a week, will help maintain the strength in the upper and lower body. Stretching up to three times a week will help maintain their ROM (range of motion), and help cope with the spasticity. Exercise can play an important part in retaining as much physical ability as possible. The trainer must be able to adapt exercises to the ability of the PD client on any given day. For instance, exercise in the pool is a good choice on a day when balance is less stable.

As with any condition, it is important to take medications into consideration when investigating exercise. Most medications have significant to minor side effects, such as confusion, poor sleep and gastrointestinal problems. Also, medications tend to lose their effectiveness over time, and each person will respond differently to different medications, thus changing the exercise response. Some medications are metabolized in peripheral muscle, such as legs and arms, and that decreases the amount of medication going to the target, the brain. Therefore it is crucial to discuss with the medical staff the optimal time and level of exercise appropriate for that person.

Some people with PD have widely varied response to aerobic exercise, and this makes it hard to achieve their target heart rates. These people should also be monitored for any changes in symptoms that occur during exercise, as this may be a sign that there are changes in drug absorption. Choose a trainer experienced in this type of population, and ensure that there is frequent communication between the trainer and the medical staff.