

Parkinson's Disease



April 2022 Education

Understanding Parkinson's Disease

- Imagine for a minute what would happen if the computers in the air traffic control tower at an airport began malfunctioning, shutting down and then working again at random, or giving the wrong information to the controllers. Airplanes would be flying without proper coordination or direction. The result would be chaos, confusion, and probably many accidents.
- This is similar to what happens when a person has Parkinson's disease. This disorder is the result of the death or impairment of brain cells that produce the chemical dopamine. Dopamine helps direct muscle activity, so when cells that produce it are lost, the brain can't correctly coordinate the body's muscle movements. It's as if the body's control tower computers are malfunctioning, and the muscles are left without direction. The result is disorganized movement and sometimes complete inability to move at all.

Understanding Parkinson's Disease Cont.

- Parkinson's disease is one form (the most common) of a group of disorders called Parkinsonism. These disorders all share the main symptoms and are the result of the loss of dopamine-producing brain cells but may have different causes and treatments. These disorders affect the motor, or movement, systems of the body. There are four main symptoms, which are:
 - Tremor or trembling in hands, arms, legs, jaw, and face.
 - Rigidity or stiffness of limbs and trunk.
 - Slowness of movement.
 - Impaired balance and coordination.

Characteristics of Parkinson's

- It is chronic, persisting over a long time.
- It is progressive, growing worse over time.
- It is not contagious or directly inherited.
- It does not affect the thinking or feeling parts of the brain, so a person is aware of his disabilities and is often depressed by them.

Symptoms of Parkinson's

- **Tremor-** or shaking, usually begins in an extremity. The patient may notice a back-and-forth rubbing their thumb and forefinger, known as a pill-rolling tremor. One characteristic of Parkinson's disease is a tremor in the hand when it is relaxed.
- **Slowed movement (bradykinesia)-** Parkinson's disease may reduce the ability to move and slow the patient's overall movement, making simple tasks difficult and time-consuming. Their steps may become shorter when they walk, or they find it difficult to get out of a chair. Also, the patient may drag their feet as they try to walk, making it difficult to move.
- **Rigid muscles-** Muscle stiffness may occur in any part of the body. The stiff muscles can limit the patient's range of motion and cause pain.

Symptoms of Parkinson's Cont.

- **Impaired posture and balance-** The posture may become stooped, and/or they may have balance problems as a result of the Parkinson's.
- **Loss of automatic movements-** In Parkinson's disease, there may be a decrease ability to perform unconscious movements, including blinking, smiling or swinging of the arms when walking.
- **Speech changes-** There may be speech problems as a result of Parkinson's disease. They may speak softly, quickly, slur, or hesitate before talking. The speech may be more monotone rather than with the usual inflections.
- **Writing changes-** Writing may appear small and become difficult.

Treating Parkinson's Disease

- There is no cure for Parkinson's disease, but some of these treatments may help control the symptoms of the disease or delay the progressive worsening of the symptoms:
 - **Medications-** there are many different kind of medications that can help with some of the symptoms of this disease, and new ones are being developed. No medication exists to cure the disease, and many of the medications become less effective over time.
 - **Surgery-** Surgery is sometimes indicated to destroy parts of the brain that produce some of the symptoms, such as tremors and rigidity.
 - **Exercise-** Physical therapy or muscle-strengthening exercises can tone muscles and put rigid muscles through a full range of motion. Exercises can improve gait, strength, and speaking and swallowing ability. Exercise may also help with depression. It can postpone the worsening of the disability and enable the affected person to be able to continue more activities of daily living for a longer time.
 - **Diet-** Although research has not found any nutrients or special diets that have any therapeutic value for this condition, adequate fluid and calorie intake are important to prevent dehydration and weight loss.

Problems of Parkinson's Disease

- Parkinson's disease presents those affected with many problems, mainly:
 - Impaired mobility- including a halting or shuffling gait and freezing or slowing when trying to move.
 - Slowing of the stomach and intestinal muscles- causing constipation, loss of appetite, and weight loss.
 - Inability to control the muscles in the mouth, face, jaw, and throat- This leads to drooling and swallowing difficulties, causing dehydration and weight loss. It also creates difficulties with speech and is a factor in respiratory infections and pneumonia.
 - Falls- from impaired mobility. Often people with Parkinson's disease need to use ambulatory aids (rails, canes, and walkers) and fall prevention techniques.

Improving Mobility

- Maintaining a rhythmic stride is the key to smooth mobility and gait but is very difficult for someone with Parkinson's disease. Try this:
 - Teach the patient to look ahead and anticipate changes in flooring, such as a change from carpet to tile. Anticipating these changes in advance gives the brain longer time to coordinate the change and may help prevent the freezing or slowing that can occur when an adjustment to the stride is required.
 - Teach the patient to count while they walk, counting "1,2,3,4" over and over again. Another way is to listen to strongly rhythmical music in a headset (such as marching music). This provides cues to the brain, stimulating regular movement.
 - If the patient freezes in place:
 - Never pull him or her forward by the arms- this can cause a fall.
 - Have the patient take a step backward or sideways, which can stimulate a return of movement so the patient can again move forward.
 - Have the patient give orders to his body. He should say, "right foot up, right foot down," etc. While starting to walk. This prompts the brain to send the right signals to the muscles.

Swallowing Difficulties

- To help a patient with swallowing difficulties:
 - Use thick liquids, not thin, for the patient who has trouble swallowing. Give soft and semi-soft foods.
 - Teach the patient to think of swallowing as a sequence of small events:
 - Put food on tongue
 - Close the lips
 - Chew the food
 - Lift the tongue up and back
 - Swallow
 - Teach the patient to alternate chewing on one side of the mouth and then the other.

Stomach Problems

- Constipation can be a very serious problem for these patients. Be sure to:
 - Provide a diet high in fiber- vegetables, fruits, and whole-grain breads are good.
 - Encourage fluid intake- make sure the patient has cups and utensils that he can easily manipulate. Straws often help.
 - Encourage exercise, such as a daily walk.
 - Weight loss caused by a loss of appetite and by swallowing difficulties leads to poor health. It can also help to:
 - Weigh the patient weekly
 - Offer smaller, more frequent meals, which can be easier to swallow and digest.
 - Offer high-calorie liquids like instant breakfast drinks.

Speech Difficulties

- Teach deep breathing exercises to build strength in the respiratory muscles:
 - Take five deep breaths, expanding the stomach muscles on inhalation.
 - Exhale while speaking the sounds “an” and “oh” aloud
 - Deeply inhale, then exhale while saying the days of the week with pronounced facial motions.
- Also, remember too:
 - Have patience. Don't rush the patient who is trying to talk. Be sure your body language is relaxed and that you are patient and encouraging. If the patient becomes frustrated when trying to speak, phrase questions that require only a yes or a no answer. Offer to provide a word or phrase, or offer to return later.
 - Encourage the patient to sing and to read or speak aloud. This provides exercise, stimulation, and practice.