Choosing a Parkinson Disease Treatment

Parkinson disease (PD) is the most common cause of parkinsonism, a syndrome of movement problems such as stiffness, slowness, and tremor.

Less common causes of parkinsonism include other progressive brain diseases, medications, and stroke. An estimated 6.1 million people worldwide had a PD diagnosis in 2016, 2.4 times higher than in 1990. Choosing the right treatment is an important concern for people with PD.

Approaches to PD-Related Rehabilitative Therapy
Rehabilitative therapy is important to start as soon as PD is diagnosed. Exercise is the most common therapy. Stretching, strength training, and aerobic exercise plans are all helpful. Dance and tai chi may also be useful. Physical, occupational, and speech therapy are also prescribed early in the PD course. People with PD should regularly check in with therapists to optimize an individualized plan. Rehabilitative therapy should continue throughout the disease.

What Medication Should Be Started First for PD?
There are many medication options for treating PD, including carbidopa/levodopa, monoamine oxidase-B inhibitors (eg, rasagiline, selegiline), dopamine agonists (eg, pramipexole, ropinirole), adenosine A<sub>2A</sub> receptor antagonists, and amantadine. For disability due to PD symptoms, such as difficulty typing that is affecting one’s job, carbidopa/levodopa typically helps most. There is no evidence that delaying levodopa or dopaminergic therapy has any benefit or that levodopa is toxic. Different PD medications have different adverse effects that can affect treatment decisions. Most people with PD use more than 1 medication so as to receive combined benefits while avoiding adverse effects from high doses of a single medicine.

An overlooked aspect of PD medical therapy is the timing of medication doses. Symptoms of PD can get worse immediately before the next medication dose is due (“wearing off”), and this worsening can affect day-to-day life. Dyskinesias are involuntary dance-like movements often occurring at peak (high) medication levels, midway between doses. Clinicians should be prepared to adjust medication timing and dose to maximize the time when the medicines are working well without dyskinesias.

Deep Brain Stimulation and Other Surgical Approaches
Deep brain stimulation (DBS) and other surgical approaches are considered when individuals with PD experience wearing off or dyskinesias and adjusting medication does not help. These options may also be offered when medication does not help a person’s tremor. DBS typically targets parts of the brain called the subthalamic nucleus and globus pallidus internus and can help one side of the body or both sides. DBS can help tremor, slowness, wearing off, and dyskinesia. Another option is focused ultrasound, which targets the part of the brain called the thalamus. This is used only for tremor and only helps one side of the body. Another surgical option involves placing a tube through the skin of the abdomen to the intestines. A gel form of carbidopa/levodopa is then pumped through the tube. This allows a person with PD to receive a consistent amount of levodopa throughout the day and avoid the ups and downs that happen when taking pills every few hours.

All surgical therapies require a detailed screening by a team of specialists (neurologists, surgeons, psychiatrists, and therapists). The health care team can estimate expected benefits and risks for an individual. Surgical therapies do not help nonmotor PD-related problems such as with speaking, memory, and thinking.

FOR MORE INFORMATION
- Parkinson’s Foundation
  www.parkinson.org
- Michael J. Fox Foundation
  www.michaeljfox.org


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