Health Basics

Parkinson’s Disease

What is Parkinson’s disease?

Parkinson’s disease is part of a group of conditions that affect the movement of the body. The disease gets progressively worse and can lead to severe disabilities in some individuals.

What are the symptoms of Parkinson’s disease?

The first signs of Parkinson’s may be barely noticeable. A feeling of weakness or stiffness in one limb or trembling of one hand at rest may be the only signs. The main symptoms of Parkinson’s include:

- Tremor in the arms, legs and face
- Rigid muscles
- Slowed movement (called bradykinesia)
- Impaired posture and balance
- Loss of automatic movements
- Speech and writing changes

What causes Parkinson’s disease?

Parkinson’s is caused by a gradual deterioration of nerve cells in the midbrain where movement is controlled. The disease develops when the cells of the basal ganglia, a group of structures in the brain that require two substances known as neurotransmitters (dopamine and acetylcholine) to function properly, begin to degenerate and stop producing dopamine. This throws off the balance between the two neurotransmitters.

Researchers believe that there is a genetic component to Parkinson’s, but in the majority of cases the cause remains unknown.

Who is at risk for Parkinson’s?

Risk factors for Parkinson’s disease include:

- Age. Risk for Parkinson’s usually increases with age. People usually develop the disease around

age 60 or older.

- Heredity. Having a close relative with Parkinson’s disease increases the chances that you’ll develop the disease.
- Sex. Men are more likely to develop Parkinson’s disease than are women.
- Exposure to toxins. Ongoing exposure to herbicides and pesticides may slightly increase a person’s risk of Parkinson’s disease.

How is Parkinson’s disease diagnosed?

Currently, diagnosis of Parkinson’s is based on medical history, a review of your signs and symptoms, and a neurological exam. Labs and blood tests do not help to make the diagnosis. Doctors may order brain scans and lab tests to rule out other diseases.

How is Parkinson’s disease treated?

There is no cure for Parkinson’s, but several medications can help control your symptoms. The main drug prescribed for Parkinson’s is levodopa, a natural chemical the passes into the brain and is converted to dopamine.

Other medicines used to treat the disease include:

- Dopamine agonists to mimic the role of dopamine in the brain
- MAO-B inhibitors to slow down an enzyme that breaks down dopamine in the brain
- COMT inhibitors to help break down dopamine
- Amantadine, an old antiviral drug, to reduce involuntary movements
- Anticholinergic drugs to reduce tremors and muscle rigidity

But surgery may be appropriate in cases in which the disease does not respond to drug therapy.

A nondrug therapy called deep brain stimulation (DBS) reduces the need for levodopa and related drugs. DBS helps control involuntary movement, a common side effect of levodopa. Additionally, DBS decreases tremors, slow movement and walking problems

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