Background on Parkinson’s disease

Parkinson’s is a chronic and progressive disorder of the central nervous system. It affects how your body moves and also can affect the way you think. Parkinson’s belongs to a group of disorders known as movement disorders, a neurological condition that affects the speed and ease of your movement.

Chronic means it is a long-term condition – once you have it, you will always have it. Progressive means your symptoms will evolve over time.

There is no cure for Parkinson’s, but a variety of medications provide relief from the symptoms. The experience of living with Parkinson’s disease is different for each person affected, and while medications can help suppress symptoms, none have been shown to slow or stop the disease from progressing.

Diet, exercise, and overall focus on wellness are important in living with Parkinson’s. Health care providers familiar with Parkinson’s can help determine the right foods, timing of meals and quantities to ensure you feel well and get the most benefit from your medications.

Regular physical exercise will enhance balance and mobility. It is best to choose movements and exercises that support flexibility, strength training and aerobic activity. These include running, biking, tai chi, dance, pilates and boxing.

Parkinson’s disease can affect the ability to perform common, daily activities. Although Parkinson’s disease is associated with a wide range of symptoms, there are features of Parkinson’s disease that most people with the condition will experience.

These symptoms are typically divided into those that affect movement (motor symptoms) and those that do not (non-motor symptoms). It is important to note that although there are common symptoms of PD, they can vary greatly from person to person. Moreover, how these symptoms change over time and whether other symptoms of Parkinson’s disease emerge differ from person to person.

Symptoms are often on only one side of the body, and this typically persists throughout life. Communication may be hindered by a softness of voice, decreased articulation, monotone speech, loss of normal inflection, and a decline in facial animation and expression. Loss of the sense of smell may be one of the earliest symptoms, sometimes preceding the onset of the disease by many years.

Here’s a rundown of some of the main symptoms:

**Motor Symptoms**
- Tremor
- Bradykinesia (slowness of movement)
- Rigidity and freezing in place
- Stooped, shuffling gait
- Decreased arm swing when walking
- Difficulty arising from a chair
- Micrographia (small handwriting)
- Lack of facial expression
- Slowed daily activities
- Difficulty turning in bed

**Non-motor Symptoms**
- Diminished sense of smell
- Low voice volume
- Painful foot cramps
- Sleep disturbance
- Depression
- Constipation
- Drooling
- Increased sweating
- Urinary frequency/urgency
- Hallucinations
- Low blood pressure/dizziness
There is no single laboratory test a doctor can order to confirm whether a person has Parkinson’s disease. There are, however, four key symptoms, the combination of any two being enough for diagnosis:

1. Resting tremor
2. Bradykinesia (slowness of movement)
3. Rigidity
4. Postural Instability

What makes Parkinson’s disease distinctive from other movement disorders is that cell loss occurs in a very specific region of the brain called the substantia nigra. The nerve cells, or neurons, in this region actually appear dark under a microscope.

Those dark neurons produce a specific type of neurotransmitter (a chemical messenger that allows neurons to communicate) called dopamine. The neurotransmitter dopamine helps to regulate movement. This loss of dopamine is the reason that many treatments for Parkinson’s disease are intended to increase dopamine levels in the brain.

In addition to decreases in dopamine and the cells that make dopamine, you might also read or hear about alpha-synuclein. We do not yet know what this protein does in the healthy brain, but in Parkinson’s disease it clumps up in what are called Lewy bodies. Researchers believe that alpha-synuclein build-up contributes to the cause of Parkinson’s disease and that it may be possible to develop new treatments based on this idea.

Parkinson’s disease is named after British surgeon James Parkinson, who in 1817 wrote “An Essay on the Shaking Palsy.” While Parkinson was the first to observe and describe the symptoms in a number of patients, it was actually Jean-Martin Charcot, a French neurologist, who would later coin the name Parkinson’s disease.

**Stages of Parkinson’s disease**

**Stage 1:** During the earliest stage, the symptoms are often mild and tend to go unnoticed. Slight tremors or other movement symptoms may occur on one side of the body.

**Stage 2:** Tremors or other movement symptoms become stronger and affect both sides of the body. Changes in how a person walks or moves is recognizably different as daily tasks become more difficult.

**Stage 3:** As the disease continues to progress, balance becomes more challenging and movements become even more slowed. The person may still live independently but functions like eating or dressing themselves become more burdensome.

**Stage 4:** Oftentimes, this becomes the transitional period where the person is no longer able to live alone. Walker’s or other aides are used daily to help support a person’s limited mobility.

**Stage 5:** Patients are confined to a wheelchair or bed and require a caregiver’s presence around the clock.

**Parkinson’s Registry**

Nebraska was the first state to implement a Parkinson’s Registry. This registry allows our state to capture reportable data and identify people with the disease. It is required that physicians and pharmacists report any individual using drugs associated with the treatment of Parkinson’s.

The registry serves as a resource to help patients better deal with the disease. Access to the database is strictly limited to protect patient confidentiality.