Parkinson’s Disease (PD)

Parkinson’s disease (PD) is a movement disorder that worsens over time. About 1 in 100 people older than 60 has Parkinson’s. The exact cause of PD is still not known, but research has led to several theories.

The Brain and PD

The brain is made up three main parts – the cerebrum, the cerebellum, and the brainstem. Deep within the cerebrum is a structure called the basal ganglia. This part of the brain helps control voluntary movement, coordination, and mental functioning.

In people with PD, there is a decrease in a chemical called dopamine. Dopamine is made in the basal ganglia. It is used by nerves in the basal ganglia to send signals to other parts of the brain that control movement. A person with PD has fewer nerves that make dopamine. This damages the communication between the brain and the basal ganglia causing problems with movement.

Risk Factors

There are certain factors that may put you more at risk for getting Parkinson’s disease such as:

- Age greater than 60 years old
- Caucasian or European
- Obesity
- Having a relative with the disease

More on next page ➔
• Exposure to certain toxins like manganese, pesticides, drinking untreated well water and Agent Orange.

**Signs of PD**
PD causes problems with movement. As the disease gets worse, other problems may occur such as depression and sleep problems. Talk to your health care team about your signs and ways to control them.

**Problems with Movement**
Problems with movement or motor signs involve the muscles and bones and may include:

- Tremors
- Rigidity
- Akinesia and bradykinesia
- Postural instability

**Tremors**
A tremor or shaking at rest is the most common sign of PD. The tremor often starts in the person’s hand that may be resting on his or her lap or a table and looks like the person is rolling a pill between their fingers. Tremors can also involve the legs, lip, jaw and tongue. The tremor often begins on only one side of the body, but it can progress to both sides over time.

The tremor is most visible when the affected body part is at rest. They may get worse with anxiety, excitement, or stress. Some people report tremors inside their arms, legs, or body that are not seen by others. Tremors often decrease during sleep and with purposeful action such as reaching or walking.

**Rigidity**
Rigidity happens when muscles are tense and stiff, rather than relaxed at rest. Any part of the body can be affected. It can cause pain and may limit the range of motion in joints. For example, you may see a person with PD walking with little arm swing or a stooped posture.
Akinesia and Bradykinesia

Akinesia (ā-kē-nē-zhē) is defined as not being able to start movement and bradykinesia (bra-dē-kē-nē-zhē) is defined as slowness of movement. Patients may complain of feeling weak, tired or clumsy. This can cause problems with using fingers to:

- Button clothes
- Tie shoelaces
- Use utensils
- Brush teeth
- Double click a computer mouse
- Write
- Pick up small objects like coins or paper clips

Bradykinesia can cause problems with walking because it results in:

- Decreased arm swing
- Shuffling steps
- Dragging the legs

Over time, the loss of movement and the limited range of movement can lead to:

- Quiet, monotone speech or problems speaking called dysarthria
- Problems swallowing called dysphagia – This may feel like food gets stuck in the throat or it may cause coughing or choking with liquids and certain foods
- Drooling
- Lack of facial expressions

Postural Instability

This happens when you are not able to be steady on your feet when you stand up. As PD progresses, postural reflexes are lost that keep the person steady when they stand up, turn around, make quick movements or are bumped. As a result, persons with PD tend to sway backwards during these activities. This is called retropulsion and it puts the person at risk for falling backwards.
Other Signs

Cognitive signs
Depression affects more than half of people with PD. Signs may include sadness, decreased interest in hobbies or activities, and apathy. Be sure to talk to your doctor if you have any of these signs.

More than 1 in 3 people with PD have anxiety issues.

Patients with PD sometimes report problems with decision making, multi-tasking, memory, and depth perception. Dementia may occur late in the course of the disease.

Vision Problems
Problems with vision can be from trouble moving the eyes together to coordinate sight. Some patients have report vision problems from medicines taken for PD therapy, such as dry eyes or blurred vision. Tell your doctor if you have trouble seeing.

Sleep Problems
Problems with sleeping are very common for people with PD. A common issue is waking often during the night and waking up early in the morning. The causes of sleep problems vary and include having to get up to urinate, problems turning over in bed, cramps, pain, nightmares, depression and tremors during light sleep.

Bowel and Bladder Problems
There may be problems with constipation and controlling urine flow. These problems happen because of involuntary muscle contractions of the bowel or bladder caused by the disease.

Orthostatic Hypotension
Orthostatic hypotension is a drop in blood pressure that occurs when a person stands up. It may cause the person to feel dizzy, lightheaded, headache or nausea. It can also cause changes in hearing and fainting. It occurs in most people with PD and is often from medicines or changes in the nervous system that control body functions such as heart rate, breathing, and digestion.
**Decreased Sense of Smell**
Often an early sign, some people report a decrease in their ability to identify specific odors or smells.

**Pain**
Parkinson’s pain has been described as burning, tingling, sharp, stabbing, and piercing. The pain can be present throughout all areas of the body or it can be localized to specific areas such as the joints, face, abdomen, or genitals.

**Runny Nose**
A consistent runny nose may occur. Research is being done to find why this occurs.

**Sexual dysfunction**
Decreased sex drive can happen. Males have problems getting or holding an erection while females often report vaginal dryness. Hyperactive sexuality may be seen with certain medicines or surgery.

**Treatment**
Treatment is done to control signs and may include:
- Medicines
- Surgery
- Physical therapy
- Occupational therapy
- Speech therapy

Talk to your doctor or others on your health care team if you have questions. You may request more written information from the Library for Health Information at (614) 293-3707 or email: health-info@osu.edu.