



Parkinson's Disease and Dysphagia

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International Foundation for Gastrointestinal Disorders (www.iffgd.org)

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Definitions

Parkinson's disease (PD) is a movement disorder that occurs when the brain does not produce enough dopamine.

Symptoms usually develop slowly and get worse over time. Typically, PD starts on one side of the body and overtime affects both sides. As symptoms continue to develop, people living with PD may have trouble walking, talking, or doing simple tasks. There is no specific test to diagnose PD. A healthcare provider makes a diagnosis after reviewing a persons' medical history and checking their balance and coordination.

Dopamine is a chemical that is used by the nervous system to send messages between nerve cells.

Dysphagia occurs when someone has difficulty swallowing. This can include feeling like solid or liquid foods are sticking, or not passing correctly through the esophagus. The esophagus is the muscular tube that connects the mouth and the stomach, allowing food to pass into the stomach. There are two types of dysphagia, each named to match the area of the esophagus affected.

- *Oropharyngeal* dysphagia occurs in the top of the throat behind the mouth. Patients with PD most commonly experience symptoms of oropharyngeal dysphagia.
- *Esophageal* dysphagia occurs only in the esophagus.

Parkinson's disease (PD) and Dysphagia Together

Research studies have shown that 35-80% of people with PD have dysphagia. This wide range is a result of the many testing options that are available, which are described in the diagnosis section. Dysphagia likely happens often in people with PD due to poor muscle movements. Muscles in the upper gastrointestinal (GI) tract may not move properly as a result of the affect PD has on muscles. For dysphagia to occur, the muscles in the esophagus may not contract as strongly, quickly, or in an organized way. The relationship between PD and dysphagia may be caused by changes in the chemical signaling between the GI tract and the central nervous system (brain and spinal cord). This signaling is the way the body allows the brain and GI tract to communicate with each other. The muscle movements may slow down or occur out of their normal rhythm as a result. Changes in muscle movements are common throughout many parts of the body for people with PD, including the GI tract.

The **GI tract** includes all digestive organs, beginning with the mouth and ending with the anus.

Symptoms of Dysphagia

The symptoms of dysphagia depend on the area of the GI tract that is affected. The following symptoms may be seen in all people with dysphagia and include, but are not limited to, those who also have PD.

Oropharyngeal Dysphagia

- Difficulty starting to swallow, or being unable to properly swallow foods or liquids
- Coughing and choking – especially with eating or drinking

Esophageal Dysphagia

- Regurgitation – bringing food back up, this can sometimes occur through the nose
- A feeling that food is stuck in the throat
- Reflux – a burning feeling in the chest, especially the esophagus

Diagnosis of Dysphagia

These tests may be used to diagnose dysphagia in all people. People with Parkinson's disease (PD) who are being tested for dysphagia will need to openly talk about all symptoms and health conditions with their

healthcare provider. This allows them to decide the safest and most effective testing option for each person.

- **Pharyngeal high-resolution manometry (HRM)** – A thin tube is placed in the nose and through the throat and esophagus. Patients then swallow small sips of water while the tube measures the pressure created by each swallow.
- **Videofluoroscopy** – This test involves a moving x-ray that allows a healthcare provider to watch swallowing as it is happening.
- **Barium swallow** – After drinking a liquid containing barium, an x-ray is used to watch and take pictures of the flow of the liquid through the esophagus. Barium is an element that is slightly radioactive, making it safe and effective for use with x-ray tests.
- **Flexible endoscopic evaluation of swallowing** – A camera is attached on the end of a long, flexible tube with a camera and light on the end. It is placed into the nose and travels down the esophagus. This test allows your healthcare provider to see inside your GI tract during the test, so they can see swallowing as it occurs.

Treatment of Dysphagia

The treatment options listed below may be used in all people with dysphagia, including those who are living with Parkinson's disease (PD). Treatment options are dependent on what will best meet the needs of each individual. This can include more options than are provided in this article.

- **Botulinum toxin type A** – This may be injected into the muscles connecting the esophagus and stomach (gastroesophageal sphincter). Botulinum is a toxin produced by bacteria that can be used as a treatment to block nerves and muscles from communicating with each other.

For more information on common gastrointestinal concerns with Parkinson's disease please view the following publications available on these conditions in IFFGD's publication library:

- Parkinson's Disease and GI Motility (401)
- Parkinson's Disease and Constipation (402)
- Parkinson's Disease and SIBO (403)
- Parkinson's Disease and Gastroparesis (404)

- **Dopamine agonists** (such as ropinirole and apomorphine) – This type of medicine mimics dopamine and turns on dopamine receptors. This tricks the brain into thinking there is enough dopamine in the body, which can improve some symptoms.
- **Rehabilitation** - This can include swallowing behavioral therapy and speech pathology to help train the muscles and improve swallowing.

Conclusion

People who are affected by both dysphagia and Parkinson's disease (PD) are at risk of a decreased overall quality of life. To help patients live their best lives day to day, it is important that both conditions are well monitored by a healthcare provider. Nearly all patients with PD are impacted by some degree of GI symptoms. PD can lead to symptoms in all areas of the GI tract (such as esophagus, stomach, small bowel, colon, and rectum). These symptoms must be monitored to allow for the best possible quality of life and while managing these conditions. It is important to discuss all symptoms and concerns with a healthcare provider.

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