



Glossary of Terms

A

Acetylcholine: a neurotransmitter in the striatum area of the brain. It is involved in many brain functions, such as memory and control of motor activity. There appears to be an interplay between the actions of acetylcholine and dopamine.

Acetylcholinesterase inhibitor: a medication that increases the level of acetylcholine in the brain and is commonly used to treat cognitive disorders.

Agonist: a chemical or drug that enhances the activity of a neurotransmitter such as dopamine.

Akathisia: a movement disorder that makes it hard for you to stay still. It causes an urge to move that you can't control. You might need to fidget all the time, walk in place, or cross and uncross your legs.

Akinesia: delay in initiating movement; inability to move; 'freezing'.

Alpha-synuclein: a protein normally found in neurons and the main component of protein clumps called Lewy bodies. Researchers believe that Lewy bodies are associated with neuron death.

Anticholinergic: a substance that blocks the neurotransmitter acetylcholine in the central and peripheral nervous systems.

Apraxia: a neurological disorder characterized by loss of the ability to execute or carry out learned purposeful movements despite having the desire and the physical ability to perform the movements.

Ataxia: loss of balance and decreased muscle coordination during voluntary movements.

Atypical Parkinsonism: a group of brain disorders that initially look like Parkinson's disease but differ in the course of the disease and response to antiparkinson medications. The term is used interchangeably with Parkinson-plus syndromes.

Autonomic dysfunction: problems with the functioning of the autonomic nervous system, which controls the underlying processes that keep our bodies working, such as bladder and bowel movements, sweating, sexual function and blood pressure regulation.

B

Basal ganglia: a region deep within the brain consisting of large clusters of neurons responsible for voluntary movements such as walking and movement coordination. Many of the motor symptoms of Parkinson's disease are brought on by loss of or damage to dopamine neurons in this region, which encompasses the striatum, the subthalamic nucleus and the substantia nigra.



Blepharospasm: spasmodic winking caused by the involuntary contraction of an eyelid muscle.

Botulinum toxin: a neurotoxin that is injected into a particular muscle. The muscle becomes paralyzed for a temporary period—usually two to six months. It is used to treat a variety of conditions, including eyelid or eye muscle spasms, facial muscle imbalance and/or facial wrinkles. It is also used to treat muscle spasms caused by neurological disorders.

Bradykinesia: slowing down and loss of spontaneous and voluntary movement. One of the cardinal symptoms of Parkinson disease. From the Greek brady - slow, and kinesia - movement.

Bradyphrenia: slowness in thought processing.

C

Carbidopa-levodopa: used to manage the symptoms of Parkinson disease, (stiffness, tremors, spasms, poor muscle control). Levodopa is converted to dopamine in the brain. Carbidopa helps prevent the breakdown of levodopa before it can reach the brain and take effect.

Cognitive dysfunction: loss of intellectual functions (such as thinking, remembering, and reasoning) severe enough to interfere with daily activities. This may include executive dysfunction and/or changes in personality, mood and behavior. Cognitive dysfunction in Parkinson disease typically does not respond to dopamine.

Cognitive remediation therapy: a therapeutic strategy that seeks to improve or restore a person's skills in the areas of paying attention, remembering, organizing, reasoning and understanding, problem-solving, decision making, and higher-level cognitive abilities.

Compulsive behavior: irresistible impulses to act, regardless of the rationality of the motivation. Some compulsive behaviors — excessive gambling or shopping, hypersexuality, and binge eating — have been associated with dopamine agonists used to treat Parkinson disease.

COMT: the second enzyme involved in the metabolism of levodopa to produce 3-O-methyldopa (3-OMD).

Cortical Basal Syndrome: (CBS) a form of atypical parkinsonism is a condition that causes changes in movement, language skills or both. CBS may start with movement problems, such as stiff muscles on one side of the body involving the arm, leg, or both. People with CBS may describe having a hard time controlling their arm or leg.

D

DaTSCAN: a solution of ioflupane that incorporates a radioactive isotope of iodine to emit gamma radiation for imaging with a gamma camera. The solution binds to the dopamine transporter (DAT) on the synaptic terminals of nigrostriatal neurons and identifies patients with presynaptic parkinsonism through the use of a SPECT scan.

D2 receptor: a subtype of dopamine receptor.



Deep brain stimulation (DBS): treatment for the motor symptoms of Parkinson's. In a surgical procedure, thin electrodes are implanted into the brain, targeting motor circuits that are not functioning properly. A small device (similar to a cardiac pacemaker) emits electrical pulses to stimulate a brain region and block signals that cause some Parkinson symptoms. At present, DBS treats only the symptoms that respond to dopamine replacement therapy (tremor, rigidity, and slowness of movement) and is used primarily for patients with severe Parkinson disease, such as those with significant medication-induced side effects like debilitating dyskinesias.

Delirium: a state of altered awareness with agitation, hallucinations and confusion.

Delusion: a false, fixed, idiosyncratic belief not substantiated by sensory or objective evidence.

Dementia: Decline in memory and/or intellectual functioning severe enough to interfere with social or occupational functioning. Some Parkinson's patients experience dementia (Parkinson disease dementia/PDD), generally at later stages of disease progression. This symptom does not respond to dopamine replacement therapy.

Depression: a feeling of sadness and/or loss of interest or pleasure, usually with negative thinking.

Dopamine: a neurotransmitter chemical produced in the brain that helps control movement, balance, and walking. Lack of dopamine is the primary cause of Parkinson's motor symptoms.

Dopamine agonist: class of drugs commonly prescribed in Parkinson disease that stimulate dopamine receptors and produce dopamine-like effects. These drugs are sometimes associated with compulsive behaviors.

Dopamine-non-responsive: refers to symptoms of Parkinson disease that do not improve when treated with current dopamine-replacement therapies. These symptoms include cognitive dysfunction, postural instability and gait difficulty, sleep disorders, speech disorders, depression, and others.

Dopamine-replacement therapy: a class of drugs that are converted into dopamine in the brain. Levodopa is a dopamine-replacement therapy.

Dopamine transporter: a membrane-spanning protein that pumps the neurotransmitter dopamine out of the synapse and into its vesicles for storage until later use.

Drug-induced psychosis: psychosis induced by certain drugs and leading to hallucinations and/or thought distortions.

Dysarthria: slurred speech. A common problem in Parkinson disease.

Disequilibrium: unsteadiness or imbalance. A common problem in Parkinson disease.

Dyskinesia: involuntary, uncontrollable, excessive movements that are a common side effect of long-term levodopa treatment for Parkinson disease. These movements can be lurching, dancelike or jerky; can involve any part of the body (e.g., extremities, head and neck); and are distinct from the rhythmic tremor commonly associated with Parkinson disease.



Dysphagia: difficulty in swallowing.

Dystonia: involuntary spasms or muscle contractions that cause abnormal movements and postures.

E

Essential tremor: a condition, more common than Parkinson disease, that often includes shaking of the hands or head and an unsteady quality of the voice.

Executive dysfunction: disturbances in “executive functions,” brain processes that allow a person to plan and initiate activities toward a goal, regulate behaviors, exercise judgments, maintain attention and concentration, problem solve, and multitask. Many people with Parkinson’s experience some type of executive dysfunction. This symptom does not respond to dopamine-replacement therapy.

F

Facial masking: decreased facial expression and blinking. A form of bradykinesia. Also known as hypomimia.

Festination: an involuntary quickening of steps and shuffling that makes it difficult for a person to stop moving. Festination is a common feature of Parkinson disease.

Freezing: the abrupt and temporary inability of Parkinson’s patients to move. This symptom frequently occurs when beginning to walk, moving through doorways or turning around.

G

GABA: a neurotransmitter in the brain that is involved in muscle relaxation, sleep, diminished emotional reaction, and sedation.

Globus pallidus: a sub-cortical structure of the brain and a major element of the basal ganglia system.

H

Hallucination: A deceptive sensory experience (involving seeing, hearing, tasting, feeling and smelling) that is not congruous with what others are sensing or observing.

Hyperhidrosis: excessive sweating.

Hypophonia: low voice volume or muffled speech

I

Idiopathic: of unknown origin.

Impulse control disorder (ICD): failure to resist an impulse or temptation; failure to control an act or pleasurable behavior, instead performing it repetitively, excessively, and compulsively. ICD behavior is ultimately harmful to oneself or others and interferes in major areas of life. The major symptoms include pathological gambling, hypersexuality, compulsive buying/shopping, and binge eating.

Intercourse-outercourse approach: a sexual therapy approach that emphasizes both the importance of intercourse as well as outercourse activities (defined as any erotic activity that emphasizes intimacy in various ways).

J

Jejunum: the part of the small intestine between the duodenum and ileum. Most nutrients in food are absorbed by the jejunum before being passed to the ileum.



L

Lewy body: a pink-staining sphere found in nerve cells and considered to be a pathological marker for Parkinson disease.

Lewy body dementia/dementia with Lewy bodies: a general term that includes both Parkinson disease dementia (PDD) (in which Parkinson disease is first diagnosed but a year or more later includes dementia) and dementia with Lewy bodies (DLB) (which starts with dementia and is often misdiagnosed as Alzheimer's disease but may include Parkinson-like symptoms at the time of diagnosis or later).

LRRK2: a gene implicated in one to two percent of all Parkinson disease cases. The LRRK2 gene directs the production of the LRRK2 protein kinase, an enzyme that modifies the function of other proteins.

M

Micrographia: small, cramped handwriting that is a symptom for many Parkinson's patients.

Mild cognitive impairment (also known as MCI): a decline in memory and/or intellectual functioning that is not as severe as dementia. MCI occurs frequently in Parkinson disease and may progress to dementia in some patients.

Monoamine oxidase B inhibitors (MAO-B Inhibitors): drugs that enhance the effect of dopamine-replacement therapy by preventing enzymes from breaking medications down.

Motor Fluctuations: inconsistent and sometimes unpredictable responses to levodopa that can include wearing "off."

Movement disorder specialist: a neurologist with specific training in the subspecialty of movement disorders. Movement disorder specialists typically treat a greater number of patients with movement disorders than general neurologists.

Multiple System Atrophy (MSA): a movement disorder that may be confused with Parkinson disease. MSA is a degenerative condition characterized by low blood pressure when standing. It may lead to Parkinsonism, rigidity, ataxia, fainting or incontinence. Also known as Shy-Drager syndrome.

N

Neurodegeneration: slow and progressive death (degeneration) of certain brain cells in conditions such as Parkinson disease, Alzheimer's disease and Lou Gehrig's disease (ALS).

Neurogenic orthostatic hypotension (nOH): Neurogenic orthostatic hypotension is a condition of the autonomic nervous system where there are sudden drops in blood pressure due to the insufficient release of norepinephrine upon standing or postural change. nOH occurs in patients with PD and MSA. Symptoms include dizziness, lightheadedness, tunnel vision, blurry vision, fatigue, and neck and shoulder pain.

Neuroleptics: drugs that block dopamine receptors and usually prescribed to treat psychiatric symptoms.

Neuron: a nerve cell used to transmit information within the central nervous system. Parkinson disease involves death of and/or damage to dopamine-producing neurons.



Neuropsychologist: a licensed psychologist with expertise in how behavior and skills are related to brain structures and systems. In clinical neuropsychology, brain function is evaluated by objectively testing memory and thinking skills.

Neurostimulator: A battery-powered device designed to deliver electrical stimulation to the brain.

Neurotransmitter: a biochemical substance (such as dopamine, acetylcholine, serotonin, or norepinephrine) that carries impulses from one nerve cell to another..

Non-motor symptoms: poorly understood symptoms of Parkinson's that affect capabilities and characteristics other than movement. These symptoms include cognitive impairment, sleep problems, and depression and typically, do not respond to dopamine-replacement therapy.

O

On phenomenon: times when medication is effective and the person with Parkinson's is able to move predictably.

Off phenomenon: times when medication loses benefit and symptoms of Parkinson's return. As the disease progresses, off can occur before the next medication dose is due. Onset may be gradual or sudden and unpredictable.

Orthostatic hypotension: a drop in blood pressure upon standing; can cause fainting.

P

Parkinsonism: any condition that causes a combination of the movement abnormalities seen in Parkinson disease — such as tremor, slow movement, impaired speech or muscle stiffness — especially resulting from the loss of dopamine-containing nerve cells (neurons).

Postural instability: the tendency to fall without explanation, usually when pivoting.

Prodromal: the stage at which individuals do not fulfill diagnostic criteria for PD (ie, bradykinesia and at least 1 other motor sign) but do exhibit signs and symptoms that indicate a higher than average risk of developing motor symptoms and a diagnosis of PD in the future.

Progressive Supranuclear Palsy (PSP): A neurodegenerative disorder with no known cause or cure that affects balance, walking, coordination, eye movement, speech, swallowing and thinking.

Psychosis: A broad medical term used to describe a loss of contact with reality that involves hallucinations and/or delusions.

PWP: an abbreviation for “People with Parkinson’s” or “Person with Parkinson’s”.

R

Rapid-Eye Movement Behavior Disorder (RBD): A disorder in which people act out dramatic and/or violent dreams during rapid-eye movement (REM) stage sleep. Another feature of RBD is shouting and grunting. RBD is a type of parasomnia, which is a condition that occurs during sleep and creates a disruptive event.

Retropulsion: the tendency to fall backwards.



Rhinorrhea: Rhinorrhea is the presence of a runny nose unrelated to allergies, respiratory infections, or sinus problems. While not consistently categorized as a non-motor symptom in PD, it has been found to be present in approximately 33-35% of patients. Rhinorrhea can cause social embarrassment due to uncontrolled dripping of the nose. Treatment may include antihistamine nasal spray.

Rigidity: abnormal stiffness in a limb or other body part. One of the cardinal clinical features of Parkinson disease, rigidity is often most apparent when a clinician moves a patient's limb.

S

Sialorrhea: drooling or excessive salivation common in Parkinson's that can cause social embarrassment but more concerning, can lead to aspiration pneumonia. Sialorrhea is thought to be caused by impaired and infrequent swallowing rather than hypersecretion. Treatment options include oral medications, botulinum toxin injections, and speech therapy.

Sinemet: brand name of the most commonly prescribed medication for Parkinson's. A combination of levodopa and carbidopa.

Substantia nigra: an area of the brain where cells produce dopamine.

T

Tremor - resting: rhythmic shaking of a person's hands, arms, or legs. If the tremor occurs when the limb is at rest (i.e. hand resting in the lap), it is a resting tremor, which is a common symptom of Parkinson's, but not does not always effect people with the diagnosis.

U

Urinary Tract Infection (UTI): an infection in any part of you urinary system, which includes your kidneys, bladder, ureters, and urethra. UTI is common in Parkinson's. The common indicator to look for as pain is not always present includes sudden changes in mental state, such as confusion or hallucinations indicating delirium, and a new onset of incontinence.