

Ochsner Neurocognitive Program

Understanding Parkinson Spectrum Disorders

Parkinson Spectrum Disorders are a group of neurologic conditions that share common movement symptoms—such as slowness, stiffness, or tremor—but arise from **different underlying causes**. These may include **abnormal protein buildup in the brain, vascular injury, medication effects**, or other neurologic processes.

Parkinson's disease is the most familiar condition in this group, but it is not the only one. Other disorders can look similar early on because they affect overlapping brain networks even though the **biology driving them may be different**.

Why These Conditions Are Grouped Together

The term *parkinsonism* describes a pattern of symptoms, not a single disease. These symptoms reflect changes in brain systems that regulate movement, thinking and memory, vision, sleep, and blood pressure or other automatic functions. Which systems are affected first—and most strongly—shapes how symptoms present and which diagnosis becomes most likely over time.

Conditions Within the Parkinson Spectrum

- Parkinson's disease (PD)
- Dementia with Lewy bodies (DLB)
- Parkinson's disease dementia (PDD)
- Multiple system atrophy (MSA)
- Progressive supranuclear palsy (PSP)
- Corticobasal syndrome (CBS)
- Secondary parkinsonism (medication-, stroke-, or toxin-related)

Diagnosis may evolve as symptoms unfold and patterns become clearer.

What This Means

Parkinson spectrum disorders affect people differently and unfold over time. While many of these conditions are progressive, care focuses on:

- Managing symptoms across multiple brain systems
- Supporting quality of life
- Partnering with patients and caregivers through ongoing monitoring

Clear understanding helps guide treatment, therapy, planning, and expectations.



Key Points



- Parkinson spectrum disorders are related conditions, not one disease
- They share movement symptoms but affect the brain in different ways
- Parkinson's disease is common, but not the only cause
- Diagnosis may change over time as patterns become clearer
- Care focuses on function, safety, and quality of life

Learn More?



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Why Alpha-Synuclein Disease Presents Differently

One Disease. Different Patterns.

Alpha-synuclein disease is one underlying biological process, but it can affect people in different ways.

Differences in symptoms reflect which brain systems are affected first and most strongly. These systems help control movement, thinking, mood, sleep, blood pressure, and perception, so early symptoms may vary from person to person—even though the underlying biology is the same.

Over time, more than one system is often involved.



Movement

Parkinsonism

- Slowness, stiffness, or tremor
- Shuffling gait or balance difficulty
- Smaller handwriting or reduced facial



Thinking & Memory

Lewy Body-Related Cognitive Impairment

- Slowed thinking or trouble multitasking
- Difficulty with attention or problem-solving
- Fluctuations in alertness or clarity



Mood & Motivation

Lewy Body-Related Behavioral Impairment

- Apathy or loss of interest
- Depression or anxiety
- Changes in motivation or emotional response



Sleep & Arousal

REM Sleep Behavioral Disorder

- Acting out dreams during sleep
- Disrupted or restless sleep
- Excessive daytime sleepiness



Blood Pressure & Body Regulation

Dysautonomia (MSA/PAF)

- Lightheadedness when standing
- Blood pressure changes and constipation
- Heart rate and temperature regulation problems



Vision & Perception

Lewy Body Related Cognitive Impairment

- Visual misperceptions or hallucinations
- Delusions and fixed false beliefs
- Trouble judging distance or movement



Key Points

- Alpha-synuclein disease is one underlying condition that can affect different brain systems.
- Symptoms vary depending on which systems are affected first.
- Early changes may involve movement, thinking, mood, sleep, body regulation, or perception.
- More than one system is often involved over time.
- Understanding the pattern helps guide care, safety, and planning.

Learn More?

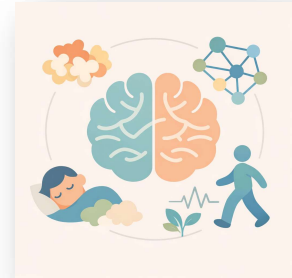


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Understanding Alpha-Synuclein Disease

What Is Alpha-Synuclein Disease?

Alpha-synuclein disease refers to a group of neurologic conditions caused by abnormal buildup of a brain protein called **alpha-synuclein**. This protein buildup disrupts how brain cells communicate and affects networks involved in movement, thinking, perception, sleep, and automatic body functions. Symptoms vary depending on which brain systems are affected.



How Alpha-Synuclein Disease Presents

Alpha-synuclein disease can present differently from person to person.

- Movement changes
- Fluctuating thinking or attention
- Visual hallucinations
- Sleep disturbances, including acting out dreams
- Dizziness, constipation, or blood pressure changes

Key Points



- Caused by abnormal alpha-synuclein protein
- One cause of dementia, not a synonym
- Symptoms vary by brain system affected
- Fluctuation is common
- Skin or CSF testing can confirm pathology
- DaT scans are indirect and non-specific
- Many symptoms are treatable

How Lewy Body Disease Is Diagnosed

- **Parkinson's Disease**
- **Dementia with Lewy Bodies**
- **Parkinson's Disease Dementia**
- **Multiple System Atrophy**
- **REM Sleep Behavior Disorder** (often an early sign)

These conditions share the same underlying protein biology but differ in timing and pattern.

How Alpha-Synuclein Disease Is Evaluated

Diagnosis is based on symptoms, neurologic examination, and cognitive testing. In some cases, alpha-synuclein can be confirmed with skin biopsy or CSF testing, which directly assess the abnormal protein. DaT scans measure dopamine function only and are not specific for alpha-synuclein disease.

What This Means?

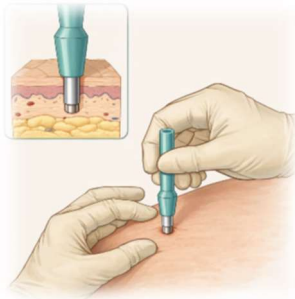
Alpha-synuclein disease unfolds over time and affects people differently. While progressive, care focuses on symptom management, safety, independence, and quality of life through ongoing monitoring and partnership with your care team.

Learn More?



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Understanding Alpha-Synuclein Skin Test



The skin alpha-synuclein test is a **simple skin biopsy** used to look for abnormal buildup of a protein called **alpha-synuclein** in small nerve fibers of the skin.

Abnormal alpha-synuclein is a key feature of several neurologic conditions, including:

- Parkinson's disease (PD)
- Dementia with Lewy bodies (DLB)
- REM Sleep Behavioral Disorder (RBD)
- Multiple system atrophy (MSA)

These conditions are sometimes grouped as

“synucleinopathies.”

Why Test the Skin?

Although these conditions affect the brain, they also involve the **peripheral nervous system**, including nerves in the skin. Testing the skin offers a **safe, minimally invasive way** to look for biological evidence of disease without brain procedures or spinal taps.

What Is the Procedure Like?

- Takes about **15–20 minutes**
- **2–3 very small skin samples** are taken
- Local numbing medication is used
- Stitches are **not required**

Most people **feel pressure, not pain.**

What Do the Results Mean?

- **Positive:** Abnormal alpha-synuclein detected, supporting a synuclein-related condition
- **Negative:** No abnormal protein detected; this does not fully rule out disease, especially early on

Results are interpreted in **context** to other symptoms and other tests.

What This Means

This test helps anchor symptoms to underlying biology and supports more informed care decisions. It is **optional** and used as part of a comprehensive neurologic evaluation.

Key Points



- Least invasive way to test for alpha-synuclein related disease
- Linked to Parkinson's disease, Lewy body dementia, and related conditions
- Local numbing used; no stitches required. Minimal pain.
- Positive supports a synuclein-related condition
- Negative suggests against but does not fully rule out early disease
- The goal is diagnostic clarity, not prediction or alarm

Learn More?

