

Atypical Parkinsonism Digest

Director's Corner



**Alexander Pantelyat, MD,
FAAN**

Atypical Parkinsonian Disorders: A Time of Hope and Reasons for Optimism *By Alexander Pantelyat, MD, FAAN*

If you or someone you love is living with progressive supranuclear palsy (PSP), corticobasal syndrome (CBS), multiple system atrophy (MSA), or dementia with Lewy bodies (DLB), you may have previously heard the phrase "there is nothing we can do." At the Johns Hopkins Atypical Parkinsonism Center, we want to clearly tell you: that is no longer true. The landscape has shifted in the past few years, and there are now concrete, tangible reasons for hope.

Better tests, earlier answers

For decades, these diagnoses rested almost entirely on a clinician's judgment, and years often passed before families got a name for what was happening. That is changing. Tests that detect misfolded alpha-synuclein — the protein at the heart of MSA and DLB — can now identify the disease process in spinal fluid or in skin, with accuracy above 90% in most studies, and are also beginning to distinguish MSA from Lewy body disease/Parkinson disease with high accuracy. A similar test looking for the tau protein of PSP in the skin was recently described in research by the University of Toronto and is highly promising. Blood and spinal fluid measures such as neurofilament light chain, a

marker of nerve-fiber injury, are elevated in atypical parkinsonian disorders and can help separate them from Parkinson disease. The FDA has now issued a letter of support for using synuclein seed amplification testing in clinical trials. Earlier, more confident diagnosis means earlier planning, earlier support, and earlier access to research.

Real trials, real drugs, real momentum

More candidate therapies are reaching Phase 2 and Phase 3 trials than at any point in this field's history. The clearest example is the PSP Trial Platform (PTP), led by the University of California, San Francisco and supported by up to \$75.4 million from the National Institute on Aging, with CurePSP as a central partner (Johns Hopkins is a trial site). Rather than testing one drug at a time, the platform tests several simultaneously — currently AADvac1 and LM11A-31 — sharing a single placebo group so that most participants receive an active drug in the first year, and all participants receive active drug afterward. The first participant was enrolled in July of this year at UCSF, a milestone CurePSP announced in August. The trial plans to enroll 440 people across roughly 50 sites.

Awareness that opens doors

None of this happened by accident. CurePSP, MissionMSA, and the Lewy Body Dementia Association have spent years moving these diseases out of obscurity — funding research, training clinicians, building support groups, and making the case to Congress and to industry. And frankly, so have readers like you: every family that shares a story, joins a walk, or answers a survey makes the next trial easier to fund and complete.

Closing the gap in access to care

Expert multidisciplinary care improves quality of life but wait times for appointments at Centers of Care and Centers of Excellence remain far too long (often 6 months or longer for new patient appointments). At Johns Hopkins, we are addressing this directly by opening a new monthly multidisciplinary clinic for atypical parkinsonian disorders, led by our nurse practitioner Maria Schmidt. The clinic is coming soon and is designed specifically for patients and families facing barriers to care such as transportation so that a long drive is never the reason someone goes without expert help.

These days, hope for atypical parkinsonian disorders is not wishful thinking. It is a reasonable reading of the evidence at hand.

BEATs-PD: A new dance and music program for people with Parkinsonian disorders! *By Kerry Devlin, PhD, LPMT, MT-BC & Rebecca Khamishon, MD*

The Johns Hopkins Parkinson's Disease and Movement Disorders Center and the Center for Music and Medicine have collaborated with community partners in Baltimore City to create a **free, accessible dance and music-based exercise program** for **Baltimore City residents** living with Parkinson's disease (PD) or related conditions, and the people who care for them.

Boosting Education and Awareness Together for People with Parkinson's Disease (BEATs-PD) was developed through a community-engaged approach, bringing together people living with Parkinsonism, care partners, clinicians, researchers, and community leaders to design a program that reflects the priorities and needs of the Baltimore City community. Our pilot classes, which ran through August 2026, were facilitated by [Dance & Bmore](#) and combined movement and music with opportunities for social connection, education, and peer support in a welcoming, inclusive environment. This program is designed for people who don't have a formal diagnosis, are newly diagnosed, have lived with a Parkinsonian disorder for many years, or who support someone who has a Parkinsonian disorder.

Who can attend?

Baltimore City residents living with Parkinson's disease or related conditions, their care partners, family members, and anyone interested in learning more are welcome to attend. You do not need a formal diagnosis to attend this class. *Please check with your doctor before beginning a new exercise program.*

Registration: We hope to announce upcoming class dates soon! Please contact us if you would like to learn more or register for this program

Phone: 410-205-9601

Email: beatsparkinsonsdisease@gmail.com

Learn more about BEATs-PD here:

<https://www.hopkinsmedicine.org/neurology-neurosurgery/specialty-areas/movement-disorders/beats-pd>



Rebecca Khamishon, MD



Kerry Devlin, PhD, LPMT, MT-BC

OT and the Importance of Home Safety Evaluation in Atypical Parkinsonism

by Rachael Zangrilli, OTR/L



Rachael Zangrilli, OTR/L

Atypical parkinsonian disorders present unique and complex challenges that affect movement, balance, cognition, swallowing, communication, and daily function. Occupational therapy plays a critical role in helping individuals maintain independence, safety and quality of life for as long as possible. One of the more important OT interventions in this population is the home safety evaluation.

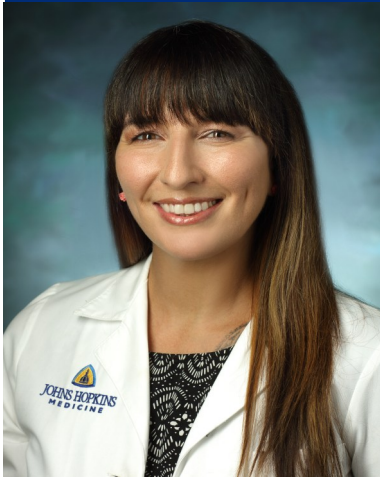
A home safety evaluation allows the occupational therapist to assess how the person functions in their actual environment, not just in a clinic. This is especially important in Atypical Parkinsonism because subtle issues can quickly become major safety risks. For example, reduced postural control, freezing, impulsivity, fatigue, visual-perceptual changes and cognitive decline can all increase the risk of falls or injury. A home visit

gives the therapist the opportunity to identify hazards such as loose rugs, poor lighting, narrow pathways, cluttered walkways, unsafe bathroom setups, and difficult transitions like stairs or uneven flooring.

The value also lies in its individualized nature. Each home is different, and each person's symptoms are unique. OT can recommend practical modifications based on the client's specific needs, such as grab bars, shower chairs, raised toilet seats, bed rail supports, repositioning commonly used items for easier access, or rearranging furniture to support safer mobility with a walker or wheelchair. These changes can reduce caregiver burden to support the client's autonomy in familiar routines.

Early intervention is essential. A home safety evaluation can help prevent falls before they happen and prepare families for anticipated changes in function. It allows the OT to educate caregivers on safe transfer techniques, energy conservation, cueing strategies, and how to adapt daily tasks as symptoms progress. This can reduce emergency room visits, hospitalizations, and anxiety for both the patient and the family. The home safety evaluation is more than a checklist – it is a personalized, preventative, and empowering tool that helps individuals remain as safe and independent as possible in the place they live.

Bridging the Gap: Building New Partnerships to Improve Access to Care in Atypical Parkinsonism *by Maria Schmidt CRNP, DNP & Janvi Srivastava*



Maria Schmidt CRNP, DNP

Living with conditions like progressive supranuclear palsy (PSP), corticobasal syndrome (CBS), multiple system atrophy (MSA), and dementia with Lewy bodies (DLB) affects every part of daily life—not just for patients, but for families and caregivers too. Managing these conditions takes a team of specialists, but we know that getting the right care often isn't easy. Challenges like finding transportation to appointments, affording medications, accessing healthy food, or navigating insurance can stand in the way of staying well. When these everyday needs go unmet, they can make it harder to follow a treatment plan and maintain quality of life. That's why bringing support for these needs directly into the clinic is so important—and it's exactly what a new partnership at our clinic is working to do.

Hopkins Community Connection (HCC) has long worked to connect Baltimore patients with community resources and is now expanding that work through a pilot program at the Johns Hopkins Atypical Parkinsonism Multi-Disciplinary Clinic. HCC is a Johns Hopkins college student-run organization that screens patients for unmet social needs, such as food insecurity, insurance challenges, transportation barriers, medication affordability, and many more. Advocates connect patients with community resources and provide weekly follow-up support to ensure these needs are met. HCC has 7 preexisting locations at the Harriet Lane

Clinic, Johns Hopkins Outpatient Center/Levi Watkins Outpatient Center, East Baltimore Medical Center, Bayview's Comprehensive Care Practice, Bayview's Yard 56, Bayview's General Internal Medicine Department, and the Beacham Center for Geriatric Medicine. The new initiative at the Johns Hopkins Atypical Parkinsonism Multi-Disciplinary Clinic aims to bring HCC's patient-centered model to individuals with complex progressive neuro-degenerative illnesses such as PSP, CBS, MSA, and DLB.

By embedding trained undergraduate advocates directly within the clinic, HCC works to eliminate non-medical barriers that can significantly impact patients' health, quality of life, and treatment plan adherence outside the clinic. In the short time since we began working with HCC this year, we have already seen a positive impact on our patients' care coordination. We look forward to strengthening our collaboration with HCC for years to come!

Your voice is important and we would love to hear your ideas and suggestions for ways to improve advocacy, community outreach, education, access to care and health equity, and add resources and support for patients with MSA, CBS, PSP, and DLB. Please email me at mschmi61@jhmi.edu

We look forward to sharing many more exciting opportunities ahead for our patients and caregivers!

Upcoming Innovative Technology Research to Improve Access to Care *by Claudia Waddell, BS*

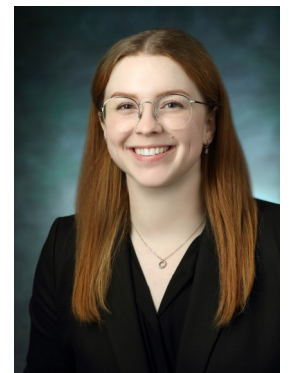
Since the COVID-19 pandemic, our team has focused on developing a remote assessment platform to assist health professionals with monitoring disease progression from the comfort of a patient's home. Our team began this endeavor in 2021, and we've since expanded our research to include more patients while improving access to quality care. We are excited to share three of our upcoming research projects that will utilize this cutting-edge technology. These studies will monitor symptoms and disease progression via digital tablets and wearable sensors.

Our first study is called A Wearable Sensor Platform for Remote Monitoring of Individuals on the Frontotemporal Dementia Spectrum (ReMoTe). The ReMoTe study will recruit individuals with FTLT syndromes such as Frontotemporal Dementia (FTD) or Corticobasal Syndrome (CBS). Enrolled participants will be asked to visit our Greenspring Station office 5 times over the course of two years for an in-person research visit every 6 months. Between each in-person visit, we will ask participants to complete monthly virtual activities using the tablet provided as part of the remote monitoring process. The ReMoTe study is actively recruiting and will begin enrollment this fall.

A Multi-Modal Remote Measurement Platform for Decentralized Clinical Trials (DCT). DCT will recruit patients with PSP, CBS, and MSA for an entirely virtual study lasting 5 months. Patients and their caregivers will be provided with a pendant sensor to track balance, sway, and falls, along with a tablet containing activities to monitor cognitive function. DCT will likely begin recruitment and enrollment at the end of 2026.

Digital Health Technologies for Monitoring Motor Function in Progressive Supranuclear Palsy and Dementia with Lewy Bodies study (FunDMP) will recruit participants with PSP and Dementia with Lewy Bodies (DLB) for a year-long study that includes 5 in-clinic visits and monthly at-home monitoring. This study features new gait mat technology and ocular assessments the team is excited to see in action. We hope to begin recruitment for FunDMP this winter.

For more information & future contact: AtypicalPark@jh.edu



Claudia Waddell, BS

What Scientist Mean When They Talk about Alpha-Synuclein and Tau *by Sonja Scholz, MD, PhD*



Many neurological diseases can present with overlapping symptoms. Multiple system atrophy (MSA), progressive supranuclear palsy (PSP), and corticobasal degeneration (CBD), for example, can all affect movement, balance, speech, swallowing, and other functions. Parkinson's disease can share some of these features as well. These similarities can make the conditions difficult to distinguish from one another, particularly early in the course of illness.

When we look inside the brain, however, important differences emerge. Among the most revealing concern two proteins: alpha-synuclein and tau.

Neither protein is inherently harmful. Both are normal components of healthy cells. Alpha-synuclein is abundant in nerve cells, particularly around the connections where neurons communicate. Tau is an important building block that supports microtubules, structures that form part of the neuron's support and transport system.

Sonja Scholz, MD, PhD

In several neurodegenerative diseases, however, these proteins change and accumulate in abnormal forms and locations. The resulting deposits provide researchers with something like a biological fingerprint of the disease.

In MSA, the main protein that accumulates is alpha-synuclein. The same protein is involved in Parkinson's disease and dementia with Lewy bodies. These disorders are therefore grouped together as synucleinopathies. Yet sharing a protein does not make them the same disease. Alpha-synuclein can accumulate in different types of cells and different brain regions, and in different shapes.

PSP and corticobasal degeneration (CBD) belong to a different group. Their characteristic abnormal protein is tau, and they are therefore known as tauopathies. Here, too, the details matter. The form of tau and the cells and brain regions in which it accumulates can vary from one tauopathy to another.

Why do these proteins matter?

For researchers, identifying the abnormal protein is more than a matter of classification. It may eventually help answer two practical questions: What disease does a patient have, and which treatment is most likely to help?

Today, physicians diagnose MSA, PSP, and related disorders largely from the symptoms, neurological examination, imaging, and how the illness progresses. But overlapping symptoms can make diagnosis difficult, particularly in an early disease stage. Scientists are therefore developing biomarkers—measurable biological signals in blood or other body fluids—that may reveal whether alpha-synuclein, tau, or other disease processes are present.

That distinction becomes particularly important as treatments grow more targeted. If an experimental therapy is designed to reduce abnormal tau or interfere with its effects, researchers need to know that the people receiving it actually have a tau-related disease. A treatment aimed at alpha-synuclein faces the same requirement. Better biomarkers could therefore improve not only diagnosis but also the design of clinical trials.

Researchers are also investigating how alpha-synuclein and tau change, accumulate, interact with cells, and contribute to brain dysfunction. The hope is that understanding these processes will expose weak points in the disease that treatments can exploit.

Much remains uncertain. Abnormal protein accumulation is part of a complicated biological process, not a complete explanation for why these diseases develop. But the distinction between synucleinopathies and tauopathies is helping researchers move beyond classifying diseases by symptoms alone.

The longer-term goal is straightforward, even if achieving it is not: identify the biology of a patient's disease earlier and more accurately, then match it with a treatment capable of slowing or stopping its progression.

New Study Explores Music-Based Upper-Limb Rehabilitation for Corticobasal Syndrome

by Kyurim Kang, PhD., LPMT, MT-BC



**Kyurim Kang, PhD, LPMT,
MT-BC**

Our team at the Johns Hopkins Center for Music and Medicine recently published a randomized clinical trial in *Movement Disorders Clinical Practice* examining a rehabilitation approach for people living with corticobasal syndrome (CBS). CBS often causes asymmetric symptoms, with one side of the body more affected than the other, including stiffness, slowness, difficulty planning purposeful movements, impaired coordination, and loss of hand and arm function. Some individuals may also experience an “alien limb” phenomenon, in which a limb seems to move or act on its own. Treatment options for CBS remain extremely limited, underscoring the urgent need to develop effective non-drug rehabilitation approaches.

The study included 20 participants with CBS who completed six 30-minute sessions over three weeks. During individualized Neurologic Music Therapy® sessions, participants practiced both fine and gross motor movements using instruments such as small keyboards, hand drums, tambourines, and djembes. Live music and metronome-based cues were used to guide the timing, direction, and force of movements, targeting skills such as reaching, grasping, finger dexterity, arm coordination, and range of motion on both sides of the body.

While participants completed the music-based exercises, half received active high-definition transcranial direct current stimulation (HD-tDCS). This noninvasive technique delivers a gentle electrical current through electrodes placed in a cap to modulate activity in brain regions involved in movement. The other half received sham stimulation using the same setup, allowing the researchers to examine whether active brain stimulation provided additional benefits beyond the music-based training.

Across all participants, we found improvements in measures of upper-limb performance, including hand dexterity and functional arm movement, as well as reduced anxiety. The active HD-tDCS group demonstrated improvement over time on one functional movement measure, although differences between groups were not statistically significant at individual timepoints.

These preliminary findings suggest that music-based rehabilitation is feasible for people with CBS and may help support upper-limb function. Larger studies are needed to confirm the benefits and determine whether brain stimulation adds value.

We are grateful to the individuals with CBS and their care partners who contributed their time, effort, and trust to this research. Their participation made this study possible and continues to guide our efforts to develop meaningful, accessible rehabilitation options for the atypical parkinsonian disorders community. Additional analyses of the study’s brain activity data are underway and will help us better understand how music-based rehabilitation and brain stimulation may influence the brain. We look forward to sharing those findings in a future publication.

Read the full publication: A Randomized Controlled Trial of Dual Upper-Extremity Training [DUET]: Combining Neurologic Music Therapy® with Noninvasive Brain Stimulation for Upper-Limb Performance in Corticobasal Syndrome

Why I Chose Research - Connecting Science to Patient Care by Gia Angelina Perez Sanchez

In July of this year, I joined the Atypical Parkinsonism Center team as a clinical research coordinator. I recently graduated from Johns Hopkins University with a B.A. in Cognitive Science and Psychology, where I had the opportunity to assist with research at the Johns Hopkins Alzheimer’s Disease Research Center under the mentorship of Drs. Anja Soldan and Dr. Corinne Pettigrew.

My undergraduate research focused on understanding how changes in brain connectivity relate to the accumulation of tau protein in cognitively normal older adults. Working with neuroimaging data and clinical research participants led to my interest in human-centered research and reinforced the importance of connecting lab-centered scientific discovery with meaningful improvements in patient care.

My interest in neurodegenerative disease stems from personal experience. Growing up, I watched first-hand the challenges my grandfather and family friends faced with accessing a timely diagnosis and specialized care.

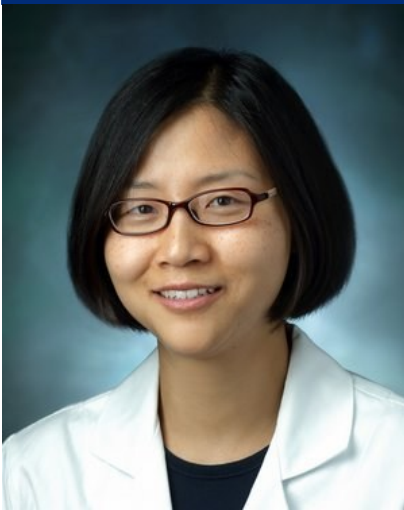
Those experiences continue to motivate my commitment to research that improves the lives of individuals living with neurodegenerative diseases and supports those who care for them.

While my time with the team is just beginning, I am excited to learn from our patients, their families, and my colleagues while supporting studies that advance our understanding of Atypical Parkinsonism and develop better tools for diagnosis, monitoring, and treatment. In the future, I would like to pursue a Ph.D., further studying aging, dementia, and neurodegenerative disease. I am grateful for the opportunity to begin this next chapter with the Atypical Parkinsonism team and look forward to growing as a researcher and advocate for patients and their families!



Gia Angelina Perez Sanchez, BA

Updates on Clinical Trials in Atypical Parkinsonian Disorders *by Jee Bang, MD, MPH*



Jee Bang, MD, MPH

Several promising clinical trials that aim to slow the progression of atypical parkinsonian disorders (APDs) are under way. These studies test drugs that target different parts of the APD disease pathways in volunteers with APDs. Below are some important highlights. Additional information about these trials can be found by searching for the study drug name on www.clinicaltrials.gov. As always, we welcome questions about any trials our patients and families may come across and are happy to discuss them together.

Progressive supranuclear palsy (PSP) and corticobasal syndrome (CBS):

An important project has been developed to streamline PSP clinical trials, called the PSP Clinical Trial Platform (PTP). This research project aims to test several potential treatments for PSP at the same time to speed up the process of finding something that works. It will enroll people with PSP into a study in which some receive a new drug and others receive a placebo (an inactive "sugar pill"), with a larger proportion receiving a drug than placebo (3:1). The plan is to enroll 440 participants at about 50 sites in

North America over 24 months: three groups of 110 participants would each receive a different drug, and another 110 would receive placebo. Several of the drugs have been announced — AADvac1 (an active vaccine against the tau protein) and LM11A-31 (a small molecule targeting the p75 neurotrophin receptor). AZP2006 (an oral liquid designed to reduce tau protein aggregation while promoting neuronal growth and connections) also remains under consideration for trial inclusion. The trial will assess safety and tolerability and will also track participants' symptoms and brain changes over time to see whether any of the drugs are helpful. Of note, AZP2006 (also called ezepegind) has completed a separate Phase 2a trial in PSP, which found the drug was generally safe and well tolerated and identified changes in disease-related biomarkers that will help guide future studies (Corvol et al., *Movement Disorders*, 2025). Eligibility criteria for the platform trial include PSP symptoms for less than 5 years in people able to walk independently or with minimal assistance. The first trial participant was enrolled in July 2026 and Johns Hopkins is a PTP trial site.

NIO752 is an antisense oligonucleotide (ASO), a type of drug that reduces production of the tau protein. It is administered into the cerebrospinal fluid (CSF) via a lumbar puncture (spinal tap), every 4 months over a year. This Phase 1 study, which focuses primarily on safety, has now been confirmed as completed. According to a presentation at the May 2026 Tau Global Conference, a group of 33 patients dosed at the two highest doses for one year saw stabilization of CSF neurofilament light protein. Levels in the treated group were significantly lower than in the placebo group at one year. These CSF findings remain preliminary until they are published in full in a peer-reviewed journal. The Phase 3 trial of this drug in PSP began in May 2026 and is currently recruiting ([Clinicaltrials.gov NCT07498426](https://clinicaltrials.gov/ct2/show/study/NCT07498426)).

At Hopkins, we recently published promising findings from a pilot trial of Neurologic Music Therapy and transcranial direct current stimulation in CBS (see Dr. Kang's article on Page 5). In addition, the trial of Scrambler Therapy vs. TENS for CBS is continuing recruitment. Pain can be a common non-motor complication of CBS. Scrambler therapy is a non-invasive electrical approach to neuromodulation that sends "non-pain" information along existing nerve pathways to modify peripheral and central sensitization (Smith et al., *New England Journal of Medicine*, 2023).

Multiple system atrophy (MSA):

Amlenetug is a drug given by intravenous (IV) infusion that targets alpha-synuclein and reduces its aggregation (clumping). Its Phase 2 trial (called AMULET) has now been published in full (Kjærsgaard et al., *Lancet Neurology*, 2026). Amlenetug showed a trend toward clinical benefit and slowing of functional and motor decline — about 19% slower progression on the main disease scale than placebo — although this did not reach the study's strict threshold for statistical success. The drug was safe and well tolerated (Kjærsgaard et al., *Lancet Neurology*, 2026), showed evidence that it reached its target in the spinal fluid, and had favorable trends on brain imaging. The benefit appeared most noticeable in participants who were less impaired at the start of the study. An accompanying expert commentary emphasized that these are encouraging but preliminary results, because the range of possible outcomes still includes the possibility of no benefit. Given its potential to slow MSA progression, a Phase 3 trial (called MASCOT) is currently ongoing (enrollment completed). Further details are on [clinicaltrials.gov \(NCT06706622\)](https://clinicaltrials.gov/ct2/show/study/NCT06706622).

Updates on Clinical Trials in Atypical Parkinsonian Disorders (continued)

ATH434 is an oral drug designed to redistribute excess loosely bound iron in brain tissue, which in turn may reduce clumping (aggregation) of alpha-synuclein. Because abnormal forms and malfunction of alpha-synuclein are important contributors to MSA, this approach is expected to limit neurodegeneration. The Phase 2 study (NCT05109091) enrolled 77 volunteers who received a low dose, a high dose, or placebo over 52 weeks, with change in brain iron content on MRI as a primary measure. The company has reported that ATH434 reduced or stabilized iron content in key brain regions affected by MSA, with a signal of slower clinical progression and a safety profile similar to placebo; a recent review summarized these encouraging findings (Buonocore et al., *Journal of Neural Transmission*, 2026). Laboratory work has also shown that the drug has antioxidant and mitochondrial-protective effects (Bailey et al., *Journal of Biological Chemistry*, 2025). ATH434 has been granted both Orphan Drug and Fast Track designation by the FDA — a positive sign that the FDA sees enough promise to help expedite further development toward a Phase 3 trial.

AB-1005 (formerly AAV2-GDNF) is a gene therapy injected directly into a brain region called the putamen using a minimally invasive neurosurgical technique. It is designed to increase levels of the protein GDNF, which supports the survival of brain cells but is reduced in MSA and other parkinsonian disorders. The Phase 1 study is ongoing (NCT04680065), enrolling people with the parkinsonian type of MSA who are over 30 years of age, within 5 years of diagnosis, and able to walk 25 feet with or without an assistive device; early reports describe good tolerability of the intraputamin injections (Sartorelli et al., *Journal of Neurology*, 2025; Krismer et al., *Lancet Neurology*, 2024).

Besides targeting alpha-synuclein directly, cell-based (stem cell) therapy is also being studied in MSA. In one approach, a person's own bone marrow-derived mesenchymal stem cells are delivered into the cerebrospinal fluid with the aim of stimulating nerve-cell regeneration and protecting against the MSA disease process; related mesenchymal stem cell trials in MSA are ongoing (Krismer et al., *Lancet Neurology*, 2024) at locations such as the Mayo Clinic in Rochester, MN.

Dementia with Lewy bodies (DLB):

Neflamapimod is an oral drug that inhibits an enzyme called p38 alpha mitogen-activated protein kinase (p38 α MAPK), aiming to reduce neuroinflammation and improve the function of brain circuits important for memory. It was studied in a Phase 2b trial called RewinD-LB (NCT05869669), which enrolled people with DLB and low blood levels of a marker called p-tau. The trial sponsor reported at the 2025 International Lewy Body Dementia Conference that the main study did NOT show a statistically significant benefit on its primary endpoint (the Clinical Dementia Rating–Sum of Boxes, or CDR-SB) or on its secondary cognitive, motor, and global measures. Importantly, the intended drug levels in the blood were not reached during the main trial because of a problem with the drug capsule formulation, which means the main results cannot be used to judge whether the drug truly works. In the open-label extension phase — where participants received a corrected capsule that did reach target drug levels — preliminary industry reports described less worsening on clinical measures (CDR-SB and a global change scale). These extension findings suggest a new, properly dosed trial of neflamapimod in DLB may be warranted (Kaila et al., *Lancet Neurology*, 2025).

Zervimesine (CT1812) is an oral drug that blocks the sigma-2 receptor and is designed to protect neurons from the toxic effects of alpha-synuclein (and amyloid-beta) clumps. It was tested in a Phase 2 trial called SHIMMER (NCT05225415) in about 130 people with DLB, and the full results have now been published in a peer-reviewed journal (Galvin et al., *Alzheimer's & Dementia*, 2025). The drug was safe and well tolerated, and most participants completed the study. Participants treated with zervimesine showed favorable trends across cognitive, behavioral, functional, and motor measures compared with placebo. The authors describe these as encouraging exploratory findings that support larger, more definitive trials rather than proof of benefit.

Vodobatinib (K0706) is an oral tyrosine kinase (c-Abl) inhibitor intended to help nerve cells break down abnormal alpha-synuclein clumps. The DLB study has now been published (Pagan et al., *Parkinsonism & Related Disorders*, 2025): in 29 participants randomized to vodobatinib 192 mg, 384 mg, or placebo for 3 months, the drug was safe and well tolerated, with fewer adverse events and notably fewer falls in the treated groups than with placebo. However, exploratory clinical outcomes did not differ from placebo, and larger, longer trials are needed to determine any real effect on the disease.

(Continued on pages 8 and 9)

RESEARCH STUDIES

Condition	Study Name	Objective	Eligibility	PI	Contact
Atypical Parkinsonian Disorders	Complex Neuro-degeneration Clinic at NIH	Observational research study for understanding molecular and clinical features from a genetic viewpoint.	- Adults (>18yo) diagnosed with an atypical parkinsonian disorder who have a familial genetic component - Study partner required	Sonja Scholz, MD, PhD	Sonja Scholz, MD, PhD Sonja.scholz@nih.gov P#: 240-271-529
Parkinson Disease-MCI Parkinson Disease-Dementia Dementia with Lewy Bodies (DLB)	The B.E.D. Study	Goal is to study the differences in memory, thinking, movement, and body fluids among different individuals using cognitive tests, imaging (MRI/DaT), physical tasks, and blood and CSF collection over 2 years (annual visits).	- Individuals diagnosed with Parkinson's Disease or Dementia with Lewy Bodies - Willing to have a blood draw and lumbar puncture - Willing to undergo imaging - Study partner also required for participation (minor tasks).	Alex Pantelyat, MD	Gia Perez Sanchez AtypicalPark@jh.edu P#: 410-616-2813
Progressive Supranuclear Palsy	PSP Trial Platform (PTP)	Multi-center clinical trial evaluating safety and efficacy of several drugs for the treatment of PSP. Participants will have an equal chance to be randomized to all regimens that are active at the time of screening. Current regimens: A. AADvac1 B: LM11A-31	- Individuals diagnosed with PSP-Richardson syndrome with ≤ 5 years of symptoms at screening - Mini-Mental State Examination (MMSE) score at screening of ≥ 25. - Able to walk at least 10 steps with minimal assistance (e.g., one arm for safety)	Alex Pantelyat, MD	Kori Ribb klough2@jhmi.edu P#: 410-614-2216

Updates on Clinical Trials in Atypical Parkinsonian Disorders (continued)

Dementia with Lewy bodies (DLB)—Continued:

Ambroxol is used outside the U.S. as a cough and sore-throat medicine, but at higher doses it appears to be neuroprotective by increasing the enzyme glucocerebrosidase (GCase), which may reduce the harmful effects of alpha-synuclein. In DLB, ambroxol is being tested in the largest ongoing DLB disease-modifying trial, ANeED, in Norway (NCT04588285), and in Australia in the AXON trial (ACTRN12623000004662), which combines ambroxol with doxycycline (an antibiotic with anti-aggregation and anti-inflammatory properties). A related Phase 1/2 ambroxol trial in DLB is planned in London, Ontario, Canada (NCT04405596). Of note, a completed Canadian Phase 2 trial of ambroxol in Parkinson disease dementia confirmed that the drug was safe, well tolerated, and reached its target in the brain (increasing GCase activity), but did not confirm a benefit on cognition, though there were possible signals of stabilization in neuropsychiatric symptoms and a blood marker of brain injury (Silveira et al., JAMA Neurology, 2025). Reflecting continued interest in this approach, a larger Phase 3 ambroxol trial in Parkinson's disease (ASPro-PD, NCT05778617) has now been designed and its protocol published (Toffoli et al., Journal of Neurology, 2026).

RESEARCH STUDIES (continued)

Condition	Study Name	Objective	Eligibility	PI	Contact
CBS	Scrambler Therapy vs TENS in the Treatment of Pain Associated with CBS	Goal is to compare ST and TENS as pain relief modes Up to 10 in-person visits over 30 days Questionnaires completed at	- Patients with possible or probable CBS - Chronic pain at a level of at least 4/10 for at least 2 weeks prior to enrollment	Alex Pantelyat, MD	Maria Schmidt, CRNP mschmi61@jhmi.edu P: 410-614-5744
CBS PPA bvFTD	The ReMoTe Study	Goal is to develop remote digital platform to assess FTLD symptoms using a tablet computer at home and wearable sensors. Involves 2 years of monthly at-home tablet assessments and 4 visits to Johns Hopkins (once every 6 mo.)	- Individuals dx w/ an FTLD syndrome (Cortical Basal Syndrome, Primary Progressive Aphasia, or FTD behavioral variant) - Able to walk 10 feet unassisted at baseline - Caregiver or study partner needed to assist with tasks at home.	Alex Pantelyat, MD	Claudia Waddell AtypicalPark@jh.edu P#: 410-616-2825
PSP CBS/CBD MSA	DCT	Goal is to validate digital biomarkers using a wearable neck pendant and tablet computer at home. Involves short virtual screening visit and monthly virtual study visits for 4 months.	- Individuals dx w/ PSP, CBS or MSA - Able to walk 10 feet unassisted at baseline - Caregiver or study partner needed to assist with tasks at home. - Either caregiver or participant able to operate and use a tablet	Alex Pantelyat, MD	AJ Hall AtypicalPark@jh.edu P#: 410-616-2813

Updates on Clinical Trials in Atypical Parkinsonian Disorders (continued)

In conclusion: There are many current and upcoming clinical trials testing drugs aimed at slowing the disease process in atypical parkinsonian disorders and/or improving symptoms. The landscape remains active and evolving— some recent readouts (such as RewinD-LB) have been complicated or negative, while others (such as ATH434 and zervimesine) have shown encouraging early signals. The best way to stay up to date is to visit www.clinicaltrials.gov and filter by the specific disease name.

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Through the development of diagnostic tools and new treatment options, the Johns Hopkins Atypical Parkinsonism (AP) Center changes lives. As partners in our mission, supporters like you help accelerate the discovery of novel therapies, offering hope to those impacted by AP and aspirations of ultimately finding a cure.

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Joey Peyton
Development Officer
jpeyton9@jhmi.edu



Joey Peyton

The Johns Hopkins Atypical Parkinsonism Center

Clinic

Our center has a multidisciplinary team dedicated to comprehensive patient care. Eligible patients are seen by multiple specialists in a monthly multidisciplinary clinic.

Neurologists

Alexander Pantelyat, MD, Center Director
Jee Bang, MD, MPH
Sonja Scholz, MD, PhD

Nurse Practitioner

Maria Schmidt, CRNP, DNP

Clinical Fellows

Rebecca Khamishon, MD
Dylan Del Papa MD
Daniella Iglesias Hernandez, MD

Center Coordinator

Dominique Coates, BA

Research Program Manager

Anna J. Hall, BA

Research Coordinators

Gia Perez Sanchez, BS
Claudia Waddell, BS

Genetic Counselor

Weiyi Mu, ScM, CGC

Center Health Educator

Sarah Phelan, BS, MS

Physical Therapists

Albert Mears, PT
Ruben Pagkatipunan, PT, OCS
Jeny Rund, PT

Occupational Therapists

Allyson Lancey, MS, OTR/L
Barbara Ruzicka, MA, OTL
Rachael Zangrilli, OTL

Speech Therapists

Theresa Walker, CCC-SLP

Music Therapist

Kerry Devlin, MMT, MT-BC

Postdoctoral Research Fellow/Music Therapist

Kyurim Kang, PhD, MT-BC

Research

Our team is committed to being at the forefront of research in atypical parkinsonian disorders in order to improve diagnosis, develop treatments, and enhance quality of life. Please contact our clinic if you are interested in research opportunities. In addition to the studies below, other opportunities may be available.

The B.E.D/DLB Consortium Study

This study focuses on changes in cognition, movement, imaging, and body fluids in individuals with Dementia with Lewy Bodies, Parkinson's Disease Dementia, and mild cognitive impairment.
Email: Gia Perez Sanchez
AtypicalPark@jh.edu

The DCT and ReMoTe Studies

In collaboration with Biosensics, LLC, these studies aim to develop remote digital assessment platforms that monitor atypical parkinsonism progression at home. All necessary materials will be provided by the study sponsor.
Email: AJ Hall,
AtypicalPark@jh.edu

Genetic Characterization of Movement Disorders

In collaboration with the NIH, this study seeks to discover genetic changes associated with atypical parkinsonian disorders.
Email: Sonja Scholz,
sscholz5@jhmi.edu

Eye Movement and Vestibular Research Lab

This lab examines eye movements and vestibular changes in those with parkinsonian and cerebellar disorders.
Email: Dr. Daniel Gold,
dgold7@jhmi.edu

Motion Analysis Lab (Kennedy Krieger Institute)

This lab investigates hand/arm movements and walking to develop rehabilitation strategies for patients with parkinsonism and ataxia.
Contact: Anthony Gonzalez, 443-923-2716

Outreach & Education

Our center has developed a robust outreach and education program to include monthly support groups, seminars, and more. To learn more about these programs or request educational information, please contact Sarah Phelan at 410-955-6684.

Atypical Parkinsonism Community Group (Currently Virtual)

Baltimore County
Call Sarah Phelan, 410-955-6684 or
Email: sphelan2@jhmi.edu

DC Area Atypical Parkinsonism Group (Currently Virtual)

Call Kristen Weidner, 715-821-3356 or
Email: weidner.kristen@gmail.com

Music Therapy Support Group (Currently Virtual)

Email: Kerry Devlin, kdevlin5@jh.edu

CurePSP Online Support Groups:

<https://www.psp.org/ineedsupport/online-support-groups/>

Lewy Body Dementia Support Groups (Currently Virtual)

Call Melissa Daily, 248-464-4397
Email: medaily@umich.edu

Online Resources

National Institute of Neurological Disorders and Stroke (NINDS), NIH
<https://www.nia.nih.gov/alzheimers/publication/frontotemporal-disorders-resource-list>

800-352-9424

CurePSP

www.psp.org
800-457-4777

The Association for Frontotemporal Degeneration

www.theaftd.org
866-507-7222

Lewy Body Dementia Association

www.lbda.org
800-539-9767

Mission MSA

www.missionmsa.org
866-737-5999

ClinicalTrials.gov

ClinicalTrials.gov is a registry and results database of publicly and privately supported clinical studies of human participants conducted around the world.

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