Understanding Stem Cell Therapy for Parkinson's Disease

A Patient Guide from Auragens

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Advancing Regenerative Medicine:
Treatments & Empathy Amplified by Science and Technology

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Welcome

Receiving a diagnosis of Parkinson's disease — or supporting a loved one through it — can be one of life's most challenging experiences. The progressive nature of the condition, the gradual changes to movement, independence, and daily life, and the uncertainty about what lies ahead can feel overwhelming. At Auragens, we understand that you are not just looking for information — you are looking for clarity, honesty, and hope grounded in real science.

This guide has been prepared to help you understand what Parkinson's disease is, how it affects the brain and body, what current treatments can and cannot do, and why researchers around the world are exploring regenerative approaches using human umbilical cord-derived mesenchymal stem cells (hUC-MSCs) from Wharton's Jelly as a potential complementary and investigational therapy.

This is not a sales document. It is an evidence-based educational resource designed to prepare you for an informed consultation with the Auragens medical team and your own physicians. The science discussed here is real, the limitations are real, and the hope — while carefully framed — is real.

We are honored to be part of your journey.

1. Understanding Parkinson's Disease and Current Treatment Limitations

What Is Parkinson's Disease?

Parkinson's disease (PD) is a progressive neurodegenerative disorder characterized by the gradual loss of dopamine-producing neurons in a region of the brain called the **substantia nigra pars compacta** — a structure deep within the brain that plays a central role in coordinating smooth, controlled movement. As these neurons die, dopamine levels fall, and the brain's ability to regulate movement becomes increasingly impaired [1, 2].

But Parkinson's disease is far more than a movement disorder. It is now recognized as a **multisystem synucleinopathy** — a disease that affects multiple brain regions, multiple neurotransmitter systems, and multiple organ systems throughout the body [3]. This broader understanding helps explain why people with Parkinson's experience such a wide and varied range of symptoms.

At the cellular level, a hallmark of Parkinson's disease is the accumulation of a misfolded protein called **alpha-synuclein** inside neurons, forming toxic clumps known as **Lewy**

bodies and **Lewy neurites**. These protein aggregates are believed to spread through the nervous system over time, contributing to the progressive nature of the disease [1, 2].

Who Is Affected?

Parkinson's disease becomes increasingly common with age, affecting approximately **1% of people over the age of 60** worldwide. It is one of the fastest-growing neurological conditions globally, and prevalence is expected to rise substantially as populations age [2]. Both men and women are affected, though the condition is somewhat more common in men.

Symptoms and Progression

Parkinson's disease produces both **motor** (movement-related) and **non-motor** symptoms, and the balance between these can vary significantly from person to person.

Motor symptoms typically include: - **Bradykinesia** — slowness of movement, the most characteristic feature - **Resting tremor** — shaking, often starting in one hand - **Rigidity** — muscle stiffness and resistance to movement - **Postural instability** — impaired balance and coordination, increasing fall risk in later stages

Non-motor symptoms often appear before motor changes and can include: - Loss of sense of smell (anosmia) — frequently one of the earliest signs - Sleep disturbances, including REM sleep behavior disorder - Constipation and other gastrointestinal symptoms - Autonomic dysfunction (blood pressure changes, urinary issues) - Mood changes, depression, and anxiety - Cognitive changes, ranging from mild slowing to, in some cases, dementia in advanced disease - Fatigue

These non-motor features reflect the disease's widespread effects across the central and peripheral nervous system, and they often become the most burdensome aspects of living with Parkinson's over time [1, 3].

Disease progression is variable. Some individuals experience a relatively slow course over many years; others progress more rapidly. This variability makes prognosis difficult and underscores the importance of personalized care.

Current Standard Treatments

Today's treatments for Parkinson's disease are primarily **symptomatic** — they help manage the effects of dopamine deficiency but do not stop or slow the underlying neurodegeneration.

Levodopa (combined with a decarboxylase inhibitor) Levodopa remains the most effective symptomatic treatment for Parkinson's disease. Converted to dopamine in the brain, it reliably improves bradykinesia, rigidity, and tremor. However, long-term use is

associated with significant complications [1, 2]: - **"Wearing off"** — the duration of benefit between doses shortens over time - **Levodopa-induced dyskinesia** — involuntary, often disabling movements caused by the medication itself - Behavioral and psychiatric side effects related to dopamine system stimulation

Dopamine agonists These medications mimic dopamine's effects at brain receptors and are sometimes used earlier in treatment to delay levodopa complications. They are less potent than levodopa and carry risks including impulse control disorders, excessive daytime sleepiness, and peripheral side effects [1].

MAO-B inhibitors These drugs slow the breakdown of dopamine in the brain, providing mild symptomatic benefit. They are typically used as adjunctive therapy and do not provide meaningful disease modification [2].

Deep Brain Stimulation (DBS) DBS is a surgical procedure in which electrodes are implanted in specific brain regions to modulate abnormal neural activity. It can meaningfully reduce motor fluctuations and dyskinesia in carefully selected patients. However, DBS is invasive, not appropriate for all patients, and does not halt the underlying neurodegeneration [4].

The Limitations Gap

Despite decades of research, **no treatment has yet been proven to slow, stop, or reverse the progressive loss of dopamine neurons** in Parkinson's disease. All current therapies address symptoms; none address the root cause. As disease progresses, symptom control becomes increasingly difficult, medication side effects compound, and the burden on patients and families grows.

This unmet need — the absence of a proven disease-modifying therapy — is precisely why researchers worldwide are investigating regenerative approaches, including cell-based therapies, as potential complementary or disease-modifying strategies [5].

2. What Are hUC-MSCs from Wharton's Jelly?

Understanding Mesenchymal Stem Cells

Mesenchymal stem cells (MSCs) are a class of adult stem cells found in multiple tissues throughout the body, including bone marrow, adipose (fat) tissue, and perinatal (birth-related) tissues. They are **multipotent**, meaning they have the capacity to differentiate into several specialized cell types, including bone, cartilage, and fat cells.

But perhaps more relevant to their therapeutic potential is what MSCs *secrete*. MSCs are prolific producers of a rich and complex array of **growth factors, cytokines, anti-inflammatory molecules, and extracellular vesicles** — including exosomes — that act on surrounding cells and

tissues in powerful ways. Through this **paracrine signaling**, MSCs can modulate immune responses, reduce inflammation, support tissue repair, and promote cell survival, often without needing to physically replace damaged cells themselves.

MSCs are also notable for their **low immunogenicity** — they express low levels of the immune-triggering surface molecules (particularly HLA-DR) that typically provoke immune rejection. This property makes them attractive for potential allogeneic (donor-to-patient) use, as the risk of immune rejection is substantially lower than with many other cell types.

What Is Wharton's Jelly?

Wharton's Jelly is the soft, gelatinous connective tissue found inside the umbilical cord, surrounding and protecting the blood vessels that connect mother and baby during pregnancy. It is a remarkably rich source of mesenchymal stem cells — cells that are young, biologically vigorous, and highly potent compared to MSCs derived from adult tissues such as bone marrow.

After birth, umbilical cords are typically discarded as medical waste. The collection of Wharton's Jelly MSCs (hUC-MSCs) from donated cords is therefore **ethically uncontroversial** — it involves no harm to mother or baby, no embryo use, and no ethically sensitive procedures. Donors undergo thorough health screening, and collection is performed under strict protocols [6].

Key Properties of hUC-MSCs

Human umbilical cord-derived MSCs from Wharton's Jelly offer several properties that distinguish them as a particularly promising cell therapy source:

- **Ethical, non-controversial sourcing** from donated umbilical cords
- **Abundant availability** — large numbers of cells can be obtained from a single cord
- **Youthful biology** — these cells exhibit higher proliferative capacity and potency than MSCs from older adult donors
- **Low immunogenicity** — they express low levels of immune-triggering surface molecules, reducing rejection risk
- **Rich secretome** — they produce a diverse array of neurotrophic factors, growth factors, anti-inflammatory molecules, and exosomes
- **Scalable laboratory expansion** — hUC-MSCs can be grown in large quantities under controlled conditions to meet clinical needs
- **Rigorous donor screening** — all donors are tested for infectious diseases and genetic conditions prior to cell processing
- **Quality control and cryopreservation** — cells are processed, characterized, tested for safety and potency, and cryopreserved under carefully controlled conditions to maintain viability and function until the time of treatment [6, 5]

These properties collectively make hUC-MSCs from Wharton's Jelly one of the most actively studied and clinically promising sources of MSCs in regenerative medicine today.

Why Auragens: AABB Accreditation — The Gold Standard in Cellular Therapy

Auragens Stem Cell Center is proud to be AABB accredited — a critical distinction that sets us apart from unaccredited clinics.

What is AABB Accreditation?

AABB (Association for Advancement of Blood and Biotechnologies) is the internationally recognized leader in setting quality and safety standards for cellular therapies. AABB is a deemed status organization by the FDA and AABB accreditation represents the gold standard in the field — the most rigorous, comprehensive certification available for facilities that process and administer cellular products.

What Does AABB Accreditation Mean for You?

When you choose an AABB-accredited center like Auragens, you can trust that we meet the highest international standards in:

- **Cell Processing Excellence:** Our laboratory protocols follow strict, validated procedures ensuring every cell product meets pharmaceutical-grade quality specifications.
- **Donor Screening & Safety:** Comprehensive screening protocols ensure all donor tissue is thoroughly tested and meets stringent safety criteria.
- **Laboratory Practices:** Our facilities, equipment, and processes undergo regular inspection and must meet exacting standards for sterility, environmental control, and quality assurance.
- **Patient Safety:** From cell arrival through administration and follow-up, every step is designed and monitored to protect your safety.
- **Staff Expertise:** Our team maintains specialized training and competency requirements specific to cellular therapy.
- **Traceability & Documentation:** Complete tracking and documentation of every cell product ensures full accountability.
- **Continuous Quality Improvement:** Regular audits, proficiency testing, and quality reviews.

Why This Matters

The field of stem cell therapy is rapidly growing, but not all clinics meet the same standards. Many facilities operate without independent accreditation or oversight. AABB accreditation means an external, U.S., FDA, expert organization has thoroughly inspected and validated our practices — giving you independent verification, proven quality systems, and genuine peace of mind. When you choose Auragens, you're choosing a center that has been independently verified to meet the most stringent international standards for cellular therapy quality and safety.

AABB accreditation is not easy to achieve or maintain — it requires significant investment in infrastructure, training, quality systems, and ongoing compliance. We've made this commitment because you deserve nothing less than the highest standard of care.

3. How hUC-MSCs May Help in Parkinson's Disease

The mechanisms by which hUC-MSCs may benefit patients with Parkinson's disease are grounded in a growing body of preclinical and early translational research. These mechanisms are not speculative — they have been demonstrated in laboratory and animal studies. However, it is important to understand that their magnitude and durability in human patients are still being investigated.

The following subsections describe the key mechanisms that are most relevant and best supported by the scientific literature for Parkinson's disease specifically.

3.1 Neuroprotection and Neurotrophic Support

Perhaps the most fundamental potential benefit of hUC-MSC therapy in Parkinson's disease is the **protection of surviving dopamine neurons** from further damage and death.

hUC-MSCs secrete a rich array of **neurotrophic factors** — naturally occurring proteins that support the survival, growth, and function of neurons. These include factors that act directly on dopaminergic neurons in the substantia nigra, helping them resist the toxic environment created by Parkinson's disease pathology.

In landmark early research, Weiss and colleagues demonstrated that hUC-MSCs from Wharton's Jelly could be transplanted into rodent models of Parkinson's disease, where they survived, migrated to relevant brain regions, and produced measurable neuroprotective effects [6]. Subsequent work showed that hUC-MSCs could be guided in the laboratory to differentiate into cells expressing **tyrosine hydroxylase** — the key enzyme responsible for dopamine production — suggesting both direct dopamine-producing potential and trophic support capacity [7].

Research has also demonstrated that specific molecular pathways mediate MSC neuroprotection. Parga and colleagues identified that **prostaglandin EP2 receptor signaling** — a specific molecular switch on dopamine neuron surfaces — is activated by MSC-derived factors, triggering intracellular survival signals that help neurons resist degeneration [12]. This level of mechanistic specificity strengthens the biological plausibility of MSC-based neuroprotection in Parkinson's disease.

3.2 Immunomodulation and Anti-Inflammatory Effects

Chronic neuroinflammation is a major driver of dopamine neuron loss in Parkinson's disease. Activated microglia (the brain's resident immune cells) and reactive astrocytes release harmful inflammatory molecules — including pro-inflammatory cytokines and reactive oxygen species — that accelerate neurodegeneration in a self-reinforcing cycle.

hUC-MSCs have well-documented **immunomodulatory and anti-inflammatory properties**. They can shift the brain's immune environment from a pro-inflammatory to an anti-inflammatory state by modulating microglial and astrocyte activation.

In a 2024 study, Huang and colleagues demonstrated that **intranasal administration of hUC-MSC-derived exosomes** in a mouse model of Parkinson's disease significantly reduced microglial and astrocyte activation, lowered neuroinflammation, and produced measurable improvements in both motor and non-motor outcomes [8]. A related study found that hUC-MSC exosomes inhibited **microglia-mediated pyroptosis** — a particularly damaging form of inflammatory cell death — in a rat model of Parkinson's disease, further protecting dopamine neurons from inflammatory injury [9].

These findings suggest that even without direct cell replacement, hUC-MSC-derived factors can meaningfully reshape the neuroinflammatory environment in ways that may slow disease progression.

3.3 Oxidative Stress Reduction

Dopamine-producing neurons in the substantia nigra are particularly vulnerable to **oxidative stress** — cellular damage caused by reactive oxygen species (free radicals) that overwhelm the cell's natural defenses. Oxidative damage is a key contributor to dopamine neuron death in Parkinson's disease.

Research has demonstrated that hUC-MSC-derived exosomes can deliver **protective microRNA cargo** — small genetic molecules that activate the brain's natural antioxidant defenses. In a 2023 study by He and colleagues, exosomes enriched with miR-100a-5p reduced NOX4-driven reactive oxygen species production, activated the **Nrf2 antioxidant pathway**, and preserved dopamine neurons in MPTP and MPP+ models of Parkinson's disease [10].

This antioxidant mechanism represents an important complementary pathway through which hUC-MSC-derived factors may protect neurons — acting not just on inflammation but on the fundamental oxidative injury that drives cell death.

3.4 Alpha-Synuclein Modulation

The toxic accumulation of **alpha-synuclein** protein — the formation of Lewy bodies and Lewy neurites — is a defining feature of Parkinson's disease pathology and a key driver of neurodegeneration. Strategies that reduce alpha-synuclein aggregation or promote its clearance represent a potentially disease-modifying approach.

Emerging preclinical evidence suggests that MSC-derived secretome and exosome preparations may help modulate alpha-synuclein pathology. Studies have reported reductions in levels of toxic, **phosphorylated alpha-synuclein species** following

treatment with MSC-derived factors in animal models of Parkinson's disease [11]. While this research is at an early stage, it raises the intriguing possibility that hUC-MSC-based therapies may address not just the downstream consequences of neurodegeneration but one of its upstream molecular drivers.

3.5 Exosome and Paracrine Signaling

A growing body of research suggests that many of the therapeutic effects of MSCs are mediated not by the cells themselves but by the **extracellular vesicles and soluble factors** they secrete — particularly **exosomes**. These nanoscale vesicles carry proteins, microRNAs, lipids, and other bioactive molecules that can be taken up by target cells, reprogramming their behavior in powerful ways.

For Parkinson's disease, exosome-based therapies offer several potential advantages: - Exosomes may cross the **blood-brain barrier** more readily than whole cells - They can be administered through less invasive routes, including **intranasal delivery** - They carry multiple therapeutic payloads simultaneously, addressing several disease mechanisms at once - They may be easier to standardize and quality-control than living cell preparations

The preclinical evidence supporting hUC-MSC exosomes in Parkinson's disease models — spanning anti-inflammatory, antioxidant, neuroprotective, and alpha-synuclein-modulating effects — makes this one of the most active and promising areas of current research [8, 9, 10].

4. Clinical Evidence and Research Findings

The State of the Evidence

It is important to be transparent: the clinical evidence base for hUC-MSC therapy in Parkinson's disease is currently **early-stage**. The most robust evidence comes from preclinical (laboratory and animal) studies, which have consistently demonstrated biological plausibility and promising results. Human clinical data, while encouraging, remains limited to small observational studies and early interventional reports. Large, randomized, controlled trials have not yet been completed.

This does not mean the therapy is without promise — it means that the science is still developing, and that decisions about participation should be made with a full understanding of what is and is not yet known.

Preclinical Evidence: What Animal Studies Show

The foundation of the evidence base rests on a substantial body of preclinical research:

Cell differentiation and transplantation studies have shown that hUC-MSCs from Wharton's Jelly can be successfully converted into dopamine neuron-like cells in the

laboratory. When these cells were transplanted into animal models of Parkinson's disease, they survived in brain tissue, expressed dopamine-producing enzymes, and produced measurable improvements in motor function [7, 4].

Functional improvement studies using Wharton's Jelly MSCs in rodent PD models have reported improvements in memory, hippocampal electrophysiology, and motor behavior, alongside biological evidence of dopaminergic support [See DOI: 10.1016/J.JCHEMNEU.2020.101865].

Exosome studies using hUC-MSC-derived extracellular vesicles have demonstrated neuroprotection, reduced neuroinflammation, antioxidant effects, and improvements in both motor and non-motor outcomes across multiple animal models [8, 9, 10].

Long-term animal safety studies have not reported tumor formation following hUC-MSC transplantation, an important baseline safety observation [6].

Early Human Studies

Two small human studies using umbilical cord-derived MSCs in Parkinson's disease patients have been published and provide preliminary clinical data:

30-Patient Observational Series (Wu et al., 2009) In this single-center study, 30 patients with Parkinson's disease received umbilical cord blood-derived MSCs administered via **lumbar puncture** (intrathecal delivery). Patients demonstrated significant improvements in **UPDRS scores** — the standard clinical measure of Parkinson's disease severity — at three months following treatment. No cases of **graft-versus-host disease** (a serious immune complication) were reported [14].

20-Patient Observational Study (Liao et al., 2010) In this study, 20 Parkinson's disease patients received umbilical cord blood MSCs via lumbar puncture. Significant reductions in **UPDRS-III motor scores** were observed, with the greatest improvements at three months. Brain imaging using **SPECT scans** demonstrated increased cerebral blood flow in the basal ganglia — the brain region most affected by Parkinson's disease — following treatment. No graft-versus-host disease was reported [13].

Interpreting the Human Evidence

These findings are encouraging, but they must be interpreted with appropriate caution. Both studies have significant limitations:

- **Small sample sizes** limit the reliability and generalizability of findings
- **Absence of control groups** means improvements cannot be definitively attributed to the treatment (placebo effects, natural fluctuation, or concurrent treatments may contribute)

- **Short follow-up periods** (primarily three months) do not address durability of benefit
- **Heterogeneity in cell preparation and delivery** makes direct comparisons difficult
- **Limited objective biomarker data** means changes in underlying disease biology are not well characterized

As Anisimov and colleagues noted in their comprehensive review of MSC transplantation for Parkinson's disease, these reports demonstrate **feasibility and short-term tolerability** but are insufficient to draw conclusions about true efficacy or long-term outcomes [5]. Larger, randomized, controlled trials with robust outcome measures and longer follow-up are needed.

Response Variability

Even within the small studies available, individual responses to treatment varied. Some patients showed more pronounced improvements than others. Factors that may influence response — including disease stage, duration, subtype, age, and individual biological differences — are not yet well understood. This variability is common in early-phase research and will be an important focus of future studies.

Ongoing and Future Research

The field is advancing on multiple fronts:

- **Directed differentiation** protocols are being refined to convert hUC-MSCs into more mature, functional dopamine neurons prior to transplantation, with promising results in primate models [4, 15]
- **Genetic modification strategies** — including introduction of transcription factors such as Lmx1α and growth factors such as neurturin — are being explored to enhance the dopaminergic differentiation and neuroprotective capacity of hUC-MSCs [4]
- **Cell-free exosome therapies** are advancing rapidly, with multiple preclinical studies demonstrating that intranasal or systemic administration of hUC-MSC-derived exosomes can reach the brain and produce meaningful neuroprotective effects [8, 10]
- **Biomarker research** is working to identify predictors of response and objective measures of biological effect that could guide patient selection and treatment monitoring [5, 12]

5. Safety Profile: What the Research Shows

Transparency About What Is Known

At Auragens, we believe that honest communication about safety is as important as honest communication about efficacy. Here is what the current evidence shows — and where important gaps remain.

Short-Term Safety Signals

Available evidence from animal studies and the small human studies published to date provides cautiously reassuring early safety data:

- **No tumor formation** has been reported in long-term animal transplantation studies using hUC-MSCs [6]
- **No graft-versus-host disease** was observed in either of the published human studies using umbilical cord-derived MSCs via intrathecal delivery [14, 13]
- **Procedural tolerability** — the intrathecal (lumbar puncture) delivery route used in published human studies was reported to be tolerated in both study populations

The **low immunogenicity** of hUC-MSCs, resulting from their low expression of immune-triggering surface molecules, is thought to contribute to the favorable immune tolerance observed in early studies. This property distinguishes hUC-MSCs from some other cell types and is considered one of their key safety advantages [6].

Intravenous Delivery Considerations

At Auragens, expanded hUC-MSCs are typically delivered through **intravenous infusion** — a less invasive route than intrathecal or direct brain injection. The general safety profile of intravenous MSC infusion has been evaluated across a range of conditions, with most studies reporting mild and transient adverse effects such as low-grade fever or infusion-related reactions in a minority of patients. Serious adverse events have been uncommon in published MSC infusion studies across multiple conditions, though comprehensive route-specific data for Parkinson's disease specifically remain limited.

What Is Not Yet Known

It is equally important to be transparent about what the current evidence cannot yet tell us:

- **Long-term safety** (over years to decades) after hUC-MSC therapy has not been established in large, prospectively followed cohorts
- **Rare but serious adverse events** may not be detectable in small studies and would require larger patient populations to characterize
- **Optimal dosing, frequency, and delivery route** to maximize both safety and efficacy have not been definitively established

- **Safety in specific subpopulations** — including patients with advanced disease, significant comorbidities, or concurrent immunosuppressive medications — requires further study

The Overall Safety Picture

Based on the available evidence, hUC-MSC therapy appears to have an **acceptable short-term safety profile** in the populations studied to date, with no reports of serious immune reactions or tumor formation in published studies. However, the evidence base is small, and comprehensive long-term safety data are not yet available.

This means that hUC-MSC therapy for Parkinson's disease should currently be understood as **investigational** — a therapy with biological plausibility and early encouraging safety signals, but one that requires continued rigorous study before its full safety and efficacy profile can be established.

At Auragens, patient safety is the foundation of everything we do. Our AABB-accredited processes, rigorous donor screening, and comprehensive quality controls are designed to minimize risk at every step of the cell therapy process.

6. What to Expect Next at Auragens

Your Journey Begins with a Conversation

If you are considering hUC-MSC therapy for Parkinson's disease, your first step at Auragens is a **comprehensive medical consultation** with our clinical team. This is not a sales conversation — it is a thorough, honest, and individualized medical discussion designed to help you and your family make the most informed decision possible.

What the Consultation Includes

Comprehensive Medical History Review Our team will review your complete medical history, including your Parkinson's disease diagnosis and staging, current and past medications, other medical conditions, prior treatments, and any relevant imaging or laboratory results. Understanding your individual situation is essential to providing appropriate guidance.

Goals and Expectations Discussion We will take the time to understand what you are hoping to achieve — whether that is improved motor function, better quality of life, slower progression, or simply a better understanding of your options. We will be honest about what the current evidence does and does not support, and we will help you develop realistic expectations.

Treatment Review and Personalized Planning Based on your medical history and goals, our team will explain the treatment approach being considered, including the cell product, delivery route, dosing, and schedule. We will discuss how this fits within your overall care plan, including your ongoing relationship with your neurologist and standard Parkinson's treatments.

Transparent Evidence Discussion We will walk you through the current state of the science — what preclinical studies show, what early human studies suggest, where the evidence is strong, and where important questions remain. We will not overstate what is known or minimize what is uncertain.

Logistics and Follow-Up Our team will explain the practical aspects of treatment at Auragens — what to expect before, during, and after your infusion, how follow-up is structured, what monitoring is included, and how to reach us with questions or concerns at any time.

Our Commitment to You

At Auragens, every patient is treated as an individual — not a diagnosis, not a case number. We are committed to providing you with the highest quality cellular therapy products, the most honest and evidence-based guidance we can offer, and the kind of compassionate, attentive care that acknowledges the full weight of what you and your family are navigating.

7. Next Steps

Is This Consultation Right for You?

You may wish to explore a consultation with Auragens if:

- You have been diagnosed with Parkinson's disease and are seeking to understand all available options, including investigational approaches
- You are experiencing limitations with current medications — such as wearing off, dyskinesia, or side effects — and are interested in complementary strategies
- You are in the earlier stages of disease and wish to explore whether regenerative approaches might support your long-term neurological health
- You are a caregiver or family member seeking to understand the full landscape of options for a loved one

Questions to Consider Before Your Consultation

Preparing thoughtful questions will help you get the most from your consultation. Consider asking:

- **About the cells:** Where do the cells come from? How are they screened, processed, and quality-controlled?
- **About the evidence:** What does the research actually show for Parkinson's disease? What are the known limitations of the evidence?
- **About expectations:** What outcomes might I realistically hope for? How long might it take to see effects, if any?
- **About safety:** What are the known risks? What monitoring will be in place? What should I do if I experience side effects?
- **About my current care:** Will this affect my current Parkinson's medications? Should I discuss this with my neurologist first?
- **About the process:** What does treatment involve? How many sessions? What is the follow-up plan?

The Importance of Your Existing Medical Team

Pursuing a consultation at Auragens does not mean stepping away from your neurologist or primary care team. We strongly encourage you to:

- **Inform your neurologist** that you are exploring this option and invite their input
- **Continue all prescribed Parkinson's medications** unless specifically advised otherwise by your medical team
- **Bring any relevant records** — imaging, laboratory results, medication lists — to your Auragens consultation
- **Ask questions freely** — of both the Auragens team and your own physicians

The best outcomes in complex neurological conditions come from collaborative, well-coordinated care — not from choosing between providers, but from working with all of them together.

A Message of Hope

Living with Parkinson's disease asks a great deal of you — of your body, your spirit, and the people who love you. The uncertainty, the gradual changes, the daily negotiations with a condition that does not pause — these are real, and they matter.

Science does not yet have all the answers. The honest truth is that hUC-MSC therapy for Parkinson's disease is investigational — it is a field of genuine promise, grounded in compelling biology and early encouraging data, but one that still requires the rigorous work of larger clinical trials before it can be called a proven treatment.

And yet, something meaningful is happening in this field. Researchers around the world are demonstrating, study by study, that the cells of the umbilical cord carry extraordinary biological potential — the ability to protect neurons, quiet inflammation, reduce oxidative damage, and perhaps influence the very protein pathology that drives Parkinson's disease forward. The science is not complete, but it is real, and it is advancing.

At Auragens, we hold hope and honesty in equal regard. We believe that patients deserve both — the hope that comes from understanding what science is discovering, and the honesty that comes from knowing exactly where the evidence stands today. We will never promise what we cannot deliver. We will never overstate what the research shows. But we will also never stop working to understand, to improve, and to offer the best of what regenerative medicine can provide.

You are not defined by your diagnosis. You are a person, with a life, with people who love you, with things you want to do and experience. Our work is in service of that — of you.

Thank you for trusting us with your questions. We look forward to meeting you.

The Auragens Patient Care Team

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