

THE AMN DUAL-MECHANISM SUPPORT PROTOCOL

(Family Overview)

A Structured Approach to Axonal Preservation and Exploratory Myelin Support

Researched and Prepared By: Patrick Shipp Nutrition RNCP

www.patrickshipp.com

January 2026

SOURCE VERIFICATION:

This protocol is not an experiment based on opinion. It is a synthesis of peer-reviewed research and safety data from:

- The University of Minnesota (USA): Mechanism of action and metabolic defense.
- Bellvitge Biomedical Research Institute (Spain): Antioxidant neuroprotection trials.
- The European Food Safety Authority (EFSA): Safety and toxicology standards.

Basis of Protocol

This strategy is derived from peer-reviewed clinical literature published between 2018 and 2025, including established pharmacological data, Phase 1 human safety trials, **Phase 2 exploratory efficacy trials**, and pre-clinical mechanism studies. Rather than proposing disease reversal, it integrates evidence suggesting that targeted reduction of metabolic and oxidative stress may allow preserved neural pathways to function more reliably. The protocol applies these interventions in a structured way while monitoring functional outcomes over time.

Purpose of This Document:

To provide a scientifically grounded explanation of the "Dual-Mechanism" strategy without requiring a background in neurology. It distinguishes between proven biological mechanisms and theoretical clinical outcomes.

HOW TO READ THIS DOCUMENT (IMPORTANT)

This document is meant to explain, in plain language, **why we are exploring a specific, research-informed support protocol**, and how we are doing so **carefully, transparently, and safely**.

It is **not** a claim of a cure.

It is **not** a rejection of medical care. It is **not** based on hope alone.

Instead, it reflects a structured attempt to answer a simple question:

*Because the biological mechanisms contributing to damage are increasingly wellcharacterized, it is possible to apply specific, mechanism-informed interventions, then monitor whether reducing metabolic, oxidative, or conduction failure under stress** allows preserved neural pathways to function more reliably.*

***Conduction stress describes the conditions that make partially damaged neural pathways fail more often than they otherwise would, and the protocol is designed to reduce those conditions in a measurable, monitored way. (Examples include lack of sleep, food intake, and heat)*

How This Approach is Different

Most conventional neurological care focuses on managing symptoms after they appear. This can be helpful for comfort, but it does not usually aim to change the underlying biological environment that contributes to ongoing nerve stress.

This approach is different in scope and expectation.

Rather than promising recovery or reversal, the goal is to:

- reduce ongoing biological stress on vulnerable nerves
- preserve remaining neurological function
- improve reliability and stability of movement
- reduce secondary damage that accumulates over time

In neurology, maintaining function and slowing decline is considered a meaningful outcome. In some cases, modest functional improvement can also occur, not because the disease is cured, but because existing nerve pathways are able to function more consistently when stressors are reduced.

This is not an attempt to “beat” the disease. It is an attempt to give the nervous system the best possible conditions to function within known biological limits.

What This Approach is Not:

It is important to be clear about expectations.

This approach does **not** claim to:

- regenerate lost nerves
- reverse genetic disease
- restore the nervous system to a pre-illness state

Adult human nervous tissue has strong biological constraints. These limits are respected in this framework.

Instead, the focus is on reducing factors that worsen nerve performance over time, with the understanding that stability itself is a valuable neurological outcome.

A Brief Note on Myelin Support and Limits

Nerve signals depend on a protective coating called myelin. This coating is produced and maintained by specialized support cells called **oligodendrocytes**.

The nervous system also contains **oligodendrocyte precursor cells (OPCs)**. OPCs are immature support cells whose role is to become oligodendrocytes when conditions allow. They persist throughout adult life, but their ability to mature and support myelin is tightly constrained.

In adults, oligodendrocytes do not readily regenerate once they are lost, and the nervous system has limited ability to rebuild damaged myelin. There is currently no known way to force this process.

However, many adult neurological conditions involve **impaired support and instability**, rather than complete absence of these cells. When oligodendrocytes and OPCs are still present, their ability to maintain myelin can be influenced by factors such as inflammation, oxidative stress, energy availability, and overall metabolic strain.

This approach is designed to reduce those stressors so that existing support systems can function as reliably as possible. It does not attempt to force repair or override biological limits.

*For readers who want a more detailed explanation of how oligodendrocytes, OPCs, and adult nervous system constraints relate to functional change, a separate document titled **Functional Recovery in Adrenomyeloneuropathy** is available. That material is optional and intended for more technical or clinical audiences.*

<https://amn-protocol-app.netlify.app/docs/functional-recovery-amn.pdf>

A separate Clinical Reference document is also available for clinicians or readers who want detailed citations, dosing rationale, and safety boundaries. It is not required reading for understanding this overview.

<https://amn-protocol-app.netlify.app/docs/amn-clinical-reference.pdf>

Exploratory and Pioneer Context

To the best of our knowledge, this specific combination of interventions, framing, and structured self-tracking has not been formally studied in adrenomyeloneuropathy (AMN). This is not because the approach is radical, but because AMN has very limited treatment options and relatively little research focused on day-to-day functional variability.

As a result, this protocol represents an exploratory, real-world effort to observe whether functional reliability can be preserved or improved under known biological constraints. Rather than testing a single intervention in isolation, it tracks how a carefully bounded protocol performs over time while accounting for confounding factors such as sleep, hydration, stress, heat, nutrition, and endocrine state.

This work is best understood as early ground-clearing rather than proof of efficacy. Any observed improvements are interpreted conservatively as changes in functional margin or recovery behaviour, not as evidence of cure or disease reversal. The goal is to document what is possible, what is inconsistent, and what appears sensitive to conditions, in an area where little guidance currently exists.

The Current Approach:

Medical care primarily focuses on monitoring and symptom management. This protocol explores whether a proactive, research-informed approach can help preserve functional reliability, reduce secondary stress on vulnerable systems, and improve day-to-day stability within known biological constraints.

1. THE PROBLEM (THE "WIRES")

Imagine the nerves in our spinal cords are like electrical wires.

- Healthy Nerves: Have a thick rubber coating (Myelin) that protects them and lets signals move fast.
- The Problem: Our bodies are slowly stripping that coating off. This causes the signals to slow down (walking issues) and the wires to get damaged.

2. What Improvement Might Look Like

This approach is not about reversing the disease or returning to how things were before diagnosis. If it works at all, improvement would likely be partial and functional, not dramatic or sudden.

That could include things like:

- More consistency from day to day
- Less rapid fatigue
- Easier movement initiation
- Fewer “bad” days caused by stress, heat, or exhaustion
- Better use of the function that is already present

Even small changes in these areas can meaningfully affect daily life.

What Is Unlikely – BUT not impossible

It's important to be clear about limits.

This approach is not expected to:

- Regrow damaged nerves
- Completely rebuild destroyed pathways
- Restore pre-disease function

Those kinds of changes require biology that typically isn't available in adults.

However, meaningful functional improvement does not require nerve regrowth. In some cases, better signaling, better energy support, and reduced stress on existing pathways can allow the nervous system to work more reliably with what remains.

Why Changes Can Be Subtle and Variable

With this condition, day-to-day function is strongly affected by factors like:

- Sleep

- Stress
- Hydration
- Pain
- Temperature
- Fatigue This means good days and bad days can happen even when the underlying disease hasn't changed.

That's why progress can't be judged by one day or one moment. The goal is to look for patterns over time, not isolated highs or lows.

Understanding day-to-day variability

Day-to-day function in AMN naturally fluctuates. Some factors determine whether improvement is possible at all, such as overall neurologic reserve or structural disease burden. Other factors, including sleep, hydration, illness, stress, pain, or missed doses, can influence daily performance without reflecting underlying change. These day-to-day influences are called *confounders*. Accounting for confounders helps avoid mistaking normal variability for meaningful improvement or decline.

3. THE SOLUTION (THE "TWO-STEP" APPROACH)

We are using a protocol backed by research from the University of Minnesota and Spain. It does two things:

Step 1: The Protector (Antioxidants). We use specific supplements: N-acetyl cysteine (NAC), Vitamin E and Alpha-Lipoic Acid (ALA) to stop the inflammation. Think of this as "putting out the fire."

Step 2: The Builder (Nervonic Acid). This is the missing ingredient. It is a healthy fat found in nature that the body uses to support the maintenance and repair processes of that rubber coating. (from Acer Truncatum, also called the Purpleblow Maple plant) Think of this as supporting the body's ability to maintain or repair insulation, where biologically possible.

Why This Fat is Different

Although nervonic acid is a long-chain fatty acid, it is structurally and biologically different from the saturated fatty acids that accumulate pathologically in AMN. Its unsaturated structure allows it to be incorporated into membranes rather than behave as a toxic buildup.

SAFETY & DATA COLLECTION

This protocol is based on nutritional science and peer reviewed studies, using ingredients found in nature (amino acids, vitamins, and plant extracts). However, because we are conducting this as a structured self-experiment with formal data tracking, we are adhering to strict data collection standards that go above and beyond typical supplement use.

DATA TRACKING & OVERSIGHT

To support consistent monitoring and reduce reliance on memory or informal notes, I have a dedicated tracking system already in place. This includes a private application designed to log daily supplement intake, timing, and observations.

For me, this includes symptom tracking, biometric data, lab results, and protocol adjustments. For Nieve, the focus is simpler: daily confirmation of intake, basic notes, and any subjective changes. This allows both of us to maintain clear records and identify patterns or concerns early, while keeping the process organized and transparent.

This system is intended to support safety, accountability, and data continuity throughout the protocol.

1. THE TEST PILOT PHASE (PATRICK) Patrick will begin the protocol at least 1 year before Nieve.
 - Goal: To establish a clean "data baseline" and optimize the timing of doses.
 - Monitoring: Patrick will track daily biometrics (Resting Heart Rate and Blood Pressure) to ensure his autonomic nervous system remains stable and to document the body's positive response to the regimen.
2. THE PASSENGER PHASE (NIEVE) Once Patrick has validated the routine, Nieve will begin her "Prevention Protocol."
 - Goal: Consistency and long-term cellular protection.
 - Monitoring: Since Nieve is on a standard nutritional dose (lower than Patrick's), she does not need daily biometric tracking. Her primary metric is simple compliance (taking the daily dose).
3. STOP RULES (STANDARD SAFETY) As with any new health regimen, we have established clear guidelines. If any unexplained symptoms occur, the

protocol will be paused immediately for review. This ensures we always prioritize safety over speed.

4. THE "ELASTIC SODA" STRATEGY (HOW I HACKED THE SYSTEM)

I chose to approach this through structured procurement and independent verification rather than retail purchase.

- The "Retail Trap": Buying this in standard bottles would cost the family \$11,000 every year.
- The "Pharmacy Approach": I realized the manufacturers only sell to pharmaceutical companies, not people. So, I used my software company, Elastic Soda, to get us in the door.
- The Setup: I created a professional procurement division (shipping@elasticsoda.com) and built a corporate landing page with a "Restricted Employee Login" to prove to the Chinese suppliers that we were a serious biotech partner.
- www.elasticsoda.com

Note: The plant that Nervonic Acid is sourced from, the Acer Truncatum also known as Purpleblow Maple plant, grows abundantly in China

- **The Result:** It worked. They verified us as a commercial entity and unlocked the wholesale price.

COST COMPARISON: RETAIL CAPSULES VS BULK SOURCING

Before explaining the details, it helps to see the two options side by side.

- Retail capsules: ongoing monthly cost, no independent verification, paid forever
- Direct bulk sourcing: higher upfront cost, independently verified, covers nearly two years for both of us

This section explains why the bulk option, despite the upfront expense, is the more sustainable choice.

OPTION A: THE RETAIL CAPSULE ROUTE

Retail products are marketed as convenient and “safe,” but for long-term use, the costs add up quickly.

- Product: Nervous system support capsules (retail) - Nervydine
- Cost: \$109 USD per bottle
- After exchange and shipping: ~\$155 CAD per bottle
- Strength: 240 mg per capsule
- Purity: Not independently verified

Daily cost (for both of us)

- Patrick (1 g/day): 4 capsules = \$20.68/day
- Nieve (0.5 g/day): 2 capsules = \$10.34/day
- Total daily cost: \$31.02/day

Ongoing cost

- Monthly cost: ~\$930 CAD
- Yearly cost: ~\$11,167 CAD
- This cost repeats every year, indefinitely.

OPTION B: DIRECT BULK SOURCING (ONE-TIME INVESTMENT)

Instead of buying capsules forever, the bulk approach treats this more like a pharmacy or research-grade purchase.

When wanting to source Nervonic Acid, in 2025, I inquired with the same company as an individual. The quoted price was approximately \$2,230 USD per kilogram. After Elastic Soda Inc. was verified as a legitimate commercial entity, the supplier provided a revised quotation of \$1,490 USD per kilogram, representing a reduction of roughly 33%.

This change did not reflect a difference in material quality, but rather access to standard commercial pricing tiers that are not available to individual consumers.

What the upfront cost covers

The one-time purchase includes:

- a small preliminary sample
- independent lab testing to verify identity and purity and safety
- bulk material purchase
- import taxes
- additional safety testing

Estimated total upfront cost:

➡ ~\$3,700–\$3,800 CAD (one time)

This higher initial cost buys 1 kg (1,000 g) of material.

HOW LONG THAT SUPPLY LASTS

Our combined daily use is 1.5 g/day.

- Total supply: 1,000 g
- Daily use (both of us): 1.5 g
- Total duration: ~666 days
- That's about: 1.8 years of supply

The duration depends only on dosage, not cost.

DAY-TO-DAY COST (WHEN BOUGHT IN BULK)

Because the material is purchased once in bulk, the effective daily cost drops dramatically.

- Patrick (1 g/day): ~\$3.75/day
- Nieve (0.5 g/day): ~\$1.88/day
- Total daily cost: ~\$5.63/day for both of us

That's the equivalent of a modest daily expense rather than a recurring medical bill.

THE BREAK-EVEN POINT

- Retail option: ~\$930 per month, forever
- Bulk option: ~\$3,700–\$3,800 once

Break-even: approximately 4 months

After that point, the remaining ~1.4 years of supply represent net savings compared to continuing with retail capsules.

THE BOTTOM LINE

- Bulk sourcing costs more upfront, but:
- it is independently verified
- it avoids recurring monthly expenses
- it covers nearly two years for both of us

Estimated savings over two years:

→ ~\$18,500–\$19,000 CAD, compared to retail capsules

This approach was chosen for long-term sustainability, transparency, and practicality, not convenience.

**These figures reflect the cost of Nervonic Acid only. Other supportive measures, including the three components of the triple antioxidant protocol that we are combining with Nervonic Acid, were already in place and do not materially change the overall cost.*

**If the protocol remains well tolerated and stable over time, dosage adjustments may be considered later based on safety data, functional tracking, and clinical judgment. No increases are planned without clear justification.*

THE QUALITY CHECK

How Safety and Verification Are Handled

1. Before any material is used, it goes through a step-by-step verification process designed to confirm identity, purity, and safety. A small sample is tested first to confirm that the material is what it claims to be and that it does not contain concerning contaminants.
2. Only if this initial testing passes is a larger quantity obtained. That larger batch is then tested again to confirm that it matches the verified sample and has not changed between shipments.
3. If there is any uncertainty about how the material was produced, additional testing is performed to check for residues from manufacturing solvents. If any test raises concern at any stage, the material is rejected and not used.
4. This process is intentionally conservative. Nothing is taken on trust alone, and no material is used unless all required checks have passed.

The full verification criteria, testing methods, and decision thresholds are formally defined in the clinical reference document; this overview is provided to explain the intent and safety philosophy in plain language.

<https://amn-protocol-app.netlify.app/docs/amn-clinical-reference.pdf>

7. FINAL CONCLUSION

We aren't guessing. We are following a protocol derived from top researchers, but we are sourcing it like a business to save money, and testing it like scientists to ensure safety. This is the most responsible way to protect our future and quality of life .

A SPECIAL NOTE FOR NIEVE: THE "N OF 2" PROJECT

Why aren't we waiting for a doctor to prescribe this?

You might ask: "If this science is so good, why aren't Big Pharma companies doing a trial?"

The answer is largely economic and structural.

Pharmaceutical companies spend billions on trials only if they can patent the drug and charge a fortune for it. But you cannot patent nature. Because Nervonic Acid is a natural plant extract (like a vitamin), no company can "own" it, so no company will pay to study it.

That means that it's unlikely that pharmaceutical companies will pursue this line of research.

If we want answers, we have to find them ourselves.

The Strategy: Repair vs. Prevention

We are testing this protocol for two different reasons:

*I am the Subject (The Repair): I have symptoms. My goal is to see whether any degree of recovery or improvement is possible.

*Nieve, you are the **observational prophylactic case**

(The Insurance): You are healthy. While many women with this gene never develop symptoms (or only mild ones much later in life), we aren't leaving it to chance. For you, this isn't just medicine; it is a conservative structural support strategy, not a guarantee of protection.

The Pioneer Spirit

By doing this, we are taking on the role of careful, self-directed investigators.

We are documenting observations in an area where structured longitudinal tracking is limited.

- We aren't just protecting our own future; we are creating a data point that could help other families who are scared and waiting for answers.
- **We are choosing to be proactive, not reactive. We don't wait for problems; we prevent them.**

Supportive Measures

In addition to the elements being actively tracked, a set of general nutritional and supportive measures is kept consistent throughout the protocol. These supports are not being tested individually and are not adjusted frequently. Their role is to help maintain overall physiological stability so that day-to-day patterns can be observed more clearly.

Because this project focuses on functional reliability rather than attributing outcomes to specific inputs, these supportive measures are treated as part of the background environment and are only changed if medically necessary.

ADDITIONAL CONTEXT: SYSTEMIC ROLE OF NERVONIC ACID

While this protocol focuses primarily on neurological protection and structural support, it is important to recognize that nervonic acid (C24:1) is not a nerve-specific compound. It is a structural lipid used throughout the body in tissues that rely on long-chain fatty acids for membrane integrity and function.

The following sections describe biologically plausible, supportive roles of nervonic acid outside the nervous system. These are not claims of therapeutic outcomes, but contextual explanations of why maintaining adequate availability of this lipid may have broader relevance.

1. SKIN BARRIER INTEGRITY

Nervonic acid is a component of complex lipids involved in skin barrier structure, including ceramides.

- Barrier Function: The skin barrier relies on lipid-rich cell membranes to regulate moisture retention and protect against environmental irritants.
- Inflammation Context: Disruption of this barrier is associated with increased irritation, inflammation, and delayed healing.
- Structural Role: By contributing to membrane lipid composition, nervonic acid may support normal barrier maintenance and resilience.

This is relevant as a structural support function, not as a cosmetic intervention.

2. CENTRAL NERVOUS SYSTEM STRUCTURE & COGNITIVE FUNCTION

Nervonic Acid is highly enriched in central nervous system white matter, where it contributes to myelin composition.

- Signal Transmission: Myelin integrity is associated with efficient signal conduction between brain regions.
- Energy & Endurance: Structural stability of white matter supports sustained neural activity under cognitive demand.
- Developmental and Maintenance Context: Observational studies link adequate nervonic acid availability with white matter composition, but studies testing cognitive effects in humans have not yet been conducted.”

The relevance here is structural sufficiency, not performance enhancement.

3. NERVE STRUCTURAL RESILIENCE

This aspect is particularly relevant given family genetics.

- Genetic Context: Certain genetic backgrounds may increase vulnerability to metabolic or oxidative stress in nerve tissue.
- Structural Supply: Providing adequate availability of a naturally occurring myelin-associated lipids may support baseline structural needs over time.
- Framing: This approach does not imply protection from disease, but rather an effort to avoid avoidable substrate limitation in tissues where this lipid is normally present.

* In simpler terms, this is similar to ensuring a building has access to the materials it normally uses for maintenance. It does not guarantee protection from damage, but it reduces the risk of working with an unnecessary shortage.

SUMMARY CONTEXT

- For Patrick: This protocol explores whether sustained structural lipid availability, alongside antioxidant protection, can support maintenance or limited recovery in the context of existing neurological symptoms.
- For Nieve: The goal is long-term structural sufficiency and support, recognizing uncertainty around future risk while avoiding unnecessary intervention intensity.

This section is intended to explain *why* Nervonic Acid was selected as part of the protocol, not to claim outcomes beyond those supported by current evidence.

Important Framing Note

Any potential benefits described above are supportive and theoretical, based on known lipid biology and tissue composition. They should not be interpreted as guarantees of improvement, cosmetic effects, or disease prevention.

How dosage ranges were chosen

There are currently no formal human dosing trials of isolated Nervonic Acid in adrenomyeloneuropathy. Because of this, dosage decisions were not guessed or improvised. Instead, they were informed by a combination of animal studies, related human neurological research, and established safety data.

The antioxidant dosages are based on human clinical trials in AMN and related conditions showing safety and biomarker improvement. Nervonic Acid dosing was informed primarily by animal models of demyelination and neurodegeneration, including multiple sclerosis models, as well as observational and safety data from human neurological research in conditions such as Parkinson's disease. These sources provide exposure ranges and safety context, not guarantees of benefit.

All doses were selected conservatively and are monitored carefully, with safety and tolerability prioritized over intensity.

THE DAILY MENU (DOSAGE SUMMARY)

1. PATRICK (THE "REPAIR" PROTOCOL)

Targeting active symptom reversal and high-level protection.

- Nervonic Acid: 1,000 mg (measured by scale)
- NAC: 2,400 mg (High Clinical Dose)
- Alpha Lipoic Acid: 600 mg
- Vitamin E: 500 IU

2. NIEVE (THE "PREVENTION" PROTOCOL)

Targeting maintenance and cellular safety.

- Nervonic Acid: 250 mg - 500 mg (measured by scale)
- NAC: 600 mg (Standard Maintenance Dose)
- Alpha Lipoic Acid: 200 mg
- Vitamin E: 200 IU

THE STRATEGY: THE "FIRE & MAINTENANCE" METHOD

You might wonder: *Why do we need two different types of supplements (The Powder and The Pills)? Why isn't one enough?*

The answer lies in how AMN attacks the nerves. Think of your myelin sheath (the coating on your nerves) like the **walls of a house**.

1. The "Firefighters" (The Antioxidants)

Right now, oxidative stress acts like a slow-burning fire risk inside the walls. It weakens the structure over time.

- (NAC, ALA, Vitamin E): These are the Firefighters. Their job is to reduce that ongoing stress so it does not continue damaging healthy areas.
- The Limit: Firefighters do not rebuild anything. They reduce further harm.

2. The "Building Materials" (Nervonic Acid)

Myelin is partly made from specific fats. Nervonic acid is one of those natural components.

- The Powder (Nervonic Acid): Instead of acting like a carpenter repairing walls, it is more accurate to think of it as providing one of the materials the body normally uses to maintain nerve insulation.
- The Limit: Providing materials does not force rebuilding. It simply ensures that, if the body is still capable of maintenance, it is not missing a key structural component.

The Conclusion:

If we only reduce stress, we may slow decline but not improve stability. If we only took the antioxidants, we would stop the fire but leave the house burnt. If we only took the Nervonic Acid, we would add fresh wood to a burning house. **We must do both: Stop the damage (Firefighter) and support structural recovery where possible (Carpenter).**

The goal is not dramatic repair.

The goal is to reduce damage pressure and support the system so the nerves that still function can work more reliably.

PROTOCOL: ABSORPTION & DOSING STRATEGY

Lipid Competition and Daily Scheduling

PART 1: THE SCIENCE OF ABSORPTION

(The “Traffic Jam”)

To understand why specific fats are separated by time of day, it is important to understand how the body processes different types of dietary lipids. For simplicity, imagine the digestive system has two primary transport routes.

Highway A: The Express Lane (Portal Vein)

- Primary Travelers: Medium Chain Triglycerides (MCT Oil)
- Route: Direct transport from the intestine to the liver
- Destination: Immediate oxidation in the liver
- Outcome: Rapid ketone production for energy
- Consideration: When other fats enter this pathway simultaneously, they may be preferentially oxidized rather than incorporated into structural roles

Highway B: The Scenic Route (Lymphatic System)

- Primary Travellers: Nervonic Acid and Fish Oil (Long-Chain Fatty Acids)
- Route: Packaged into chylomicrons and transported via the lymphatic system
- Initial Liver Bypass: These fats are not immediately oxidized
- Destination: Peripheral tissues for membrane, lipid, and myelin-associated processes

Strategic Principle: “Don’t Burn the Lumber”

The objective is to avoid delivering Nervonic Acid to the liver during periods of heightened fat oxidation. Separating MCT oil (energy substrate) from Nervonic Acid (structural lipid) increases the likelihood that Nervonic Acid is used for cellular incorporation, not fuel.

PART 2: PATRICK’S PROTOCOL

(The “Full Stack”)

Overall Goal:

Morning metabolic support and energy optimization, followed by evening structural lipid availability during the body’s natural repair window.

07:00 AM — THE IGNITION (Energy Support)

- Supplement: MCT Oil
- Mechanism: Promotes ketone production for brain and axonal energy support
- Notes: Taken with breakfast or coffee
- Rationale: Provides metabolic fuel without competing with long-chain fats

12:00 PM — THE FIREFIGHTER (Protection)

- Supplements: Fish Oil (Omega-3) + Antioxidants (NAC, Alpha-Lipoic Acid, Vitamin E)
- Mechanism: Reduces oxidative stress and supports membrane stability
- Rationale: Separating fish oil from Nervonic Acid reduces competition for lipid transport and absorption pathways

08:00 PM — THE CARPENTER

(Exploratory Restoration)

- Supplement: Nervonic Acid
- Mechanism: Supplies a long-chain structural lipid associated with myelin and membrane biology, delivered during the body's overnight repair phase
- Instruction: Take with a small fat-containing food (e.g., yogurt, or nut butter) to stimulate bile release and facilitate absorption

Clarification:

“Exploratory restoration” refers to supporting endogenous (inside the body) repair and maintenance processes where biologically possible. It does not imply guaranteed remyelination or reversal of established damage.

PART 3: NIEVE'S PROTOCOL

(The “Modified Stack”)

Overall Goal:

Long-term neuroprotection and structural lipid support without metabolic manipulation.

07:00 AM — THE SHIELD (Morning Protection)

- Supplements: Antioxidants (NAC, Vitamin E)
- Mechanism: Early-day reduction of oxidative stress
- Note: No MCT use eliminates concerns about hepatic (liver) fat competition

12:00 PM — THE FOUNDATION (General Support)

- Supplement: Fish Oil (Omega-3)
- Mechanism: Supports membrane fluidity and general neural health
- Rationale: Midday dosing preserves separation from evening nervonic acid intake

08:00 PM — THE CARPENTER

(Exploratory Structural Support)

- Supplement: Nervonic Acid
- Mechanism: Provides C24:1 fatty acid during the body's nightly maintenance cycle
- Instruction: Must be taken with a small amount of dietary fat to enable absorption

Additional Safeguard:

Initiation is delayed until tolerability is established in the primary subject.

FEATURE	PATRICK (The "Bypass")	NIEVE (The "Shield")
Primary Goal	RESTORATION & Energy Rescue	OPTIMIZATION & Prevention
Strategy Type	Active Metabolic Manipulation	Passive Neuroprotection
The "Engine"	Ketosis (Burning Fat via MCT)	Standard (Burning Glucose)
7:00 AM	MCT Oil (The Fuel)	Antioxidants (NAC + Vit E)
12:00 PM	Antioxidants (NAC + ALA + Vit E) + Fish Oil	Fish Oil (Omega-3)
8:00 PM	Nervonic Acid (The Repair)	Nervonic Acid (The Fortification)
Why the Difference?	You need to hack the metabolism to bypass the defect.	She needs to fortify the structure to prevent wear & tear.

ADDENDUM: THE TRANSLATIONAL GAP

(Why promising research does not always become a prescription drug)\

1. The Funding Reality

You might reasonably ask:

If there is promising research on Nervonic Acid and antioxidants, why are they not standard prescription treatments?

The answer is largely economic and structural.

Developing a new prescription drug requires extremely large clinical trials. These Phase 3 trials often cost tens or hundreds of millions of dollars. Companies typically invest at that level when they can secure patent protection, which provides temporary market exclusivity.

Natural compounds such as:

- **Nervonic acid**
- **N-acetylcysteine (NAC)**
- **Alpha-lipoic acid**
- **Vitamin E**

do not offer strong patent exclusivity in their basic form. As a result, large-scale commercial investment is less common.

This does not mean they are ineffective. It means the economic pathway to formal drug approval is more complicated.

2. The “Valley of Death” in Research

In translational medicine, there is a well-known gap between early research and large-scale clinical adoption. This is often referred to as the “Valley of Death.”

- Early-stage studies (Phase 1 and 2) may demonstrate safety and mechanistic plausibility.
- Large Phase 3 trials are required before regulatory approval and widespread prescription use.
- Rare diseases often struggle to attract funding for these large trials.

As a result, some research findings remain in the academic literature without progressing to formal drug status.

This protocol exists within that gap. It is not presented as a proven therapy. It is an exploratory, monitored effort informed by available evidence in an area where approved disease-modifying treatments are limited.

3. Manufacturing Context

Safety data for Nervonic Acid has historically emerged from agricultural and nutritional research particularly around Acer truncatum seed oil. The Chinese government designated this plant as a strategic economic crop for brain health and oil production.

These programs focused on extraction, toxicology, and nutritional applications rather than rare neurological disease treatment.

That background provides manufacturing and safety context, but it does not substitute for large human trials in AMN.

We are repurposing their agricultural ambition to solve our medical problem.

4. Our Position

We are not claiming to complete what industry refused to do.

We are applying available mechanistic evidence cautiously, within clear safety boundaries, while openly acknowledging uncertainty.

The goal is not to “rescue” suppressed science.

The goal is to act thoughtfully in an area where formal therapeutic development remains limited

OUR ROLE: BRIDGING THE GAP

We are currently standing in the Valley of Death.

- The Science (University of Minnesota, Spain) has built the bridge halfway.
- The Industry (China) has built the safety data.
- **The Final Step: There is no one coming to build the rest of the bridge. If we want to cross it, we have to lay the last planks ourselves.**

Conclusion:

This protocol does not invent new theory. It applies existing mechanistic findings within a structured, safety-monitored framework, recognizing that large-scale clinical validation remains incomplete.

DIGITAL MONITORING & DATA COLLECTION

To ensure strict adherence, safety monitoring, and rigorous data capture, this protocol utilizes a custom-built tracking application. This platform logs daily dosage, qualitative metrics (gait analysis, energy levels), and potential side effects in real-time.

Access The Patient Monitoring Portal: <https://amn-protocol-app.netlify.app/>