

# Feed Your Head



**Repairing Myelin:** Recently, on our Q&A with Leyla podcast, we had a question from a listener who was suffering from CIDP (Chronic inflammatory demyelinating polyneuropathy). It's an autoimmune disease that attacks the nerves, targeting the myelin protein that acts as an "insulator" around nerve fibers. CIDP is a variant on multiple sclerosis, in which the autoimmune attack targets myelin within the brain and spinal cord instead of the peripheral nerves outside of the central nervous system.

The standard treatment for CIDP is intravenous immunoglobulin (IVIG), but we applied principles common to natural support for autoimmunity in our answer: Vitamin D, fish oil, and an autoimmune paleo (AIP) diet. We suggested harnessing the benefits of vitamins B1, B6, and B12 for nerve pain. Extrapolating from the success of low-dose naltrexone for multiple sclerosis, I proposed the listener find a doctor who will prescribe it.

But the question was "how can I feed my myelin?" While we know nutrition is beneficial for a wide variety of health conditions, it's simplistic to think that by merely providing the building blocks for a failing organ, we can restore its function. Examples might include taking raw, desiccated liver tablets for cirrhosis; hoping that huge portions of branched-chain amino acids will suddenly turn you into a chiseled bodybuilder; swallowing "orchic extracts" to make you sexier; or taking

proline supplements to promote hair growth.

The problem is, simply offering the body building blocks for organ repair is an iffy strategy; in disease states, natural repair and regeneration pathways might be interrupted.

Now comes news that an ordinary amino acid, readily available as an over-the-counter supplement, can support myelin reconstitution. That nutrient is N-acetylglucosamine (GlcNAc).

While the research was performed on mice, researchers believe it's an important "proof of concept" study that outlines the precise biological mechanism by which the feeding of GlcNAc can alleviate demyelinating diseases. They write "oral GlcNAc may provide a potent, inexpensive, and safe therapy for MS." They caution, however, that large double-blind placebo-controlled trials in humans are warranted before it can be adopted as a therapy. Given the safety and low cost of GlcNAc, it's a bet many of the hundreds of thousands of sufferers of demyelinating diseases may want to take.

**Want Smarter Kids?** Leyla and I are frequently called upon to offer preconceptual nutrition planning to couples. We prescribe healthy diets, focusing on blood sugar regulation, for expectant moms, as well as specific nutrients like Omega 3 fatty acids, magnesium, vitamin D, and B vitamins. One of the nutrients that I've prescribed to expecting patients is choline.

I frequently joke: "How smart do you want your kid to be? Community college, state college, or Ivy League? Then there're multiple post-graduate degrees or professional education. Just remember it'll cost you big bucks with tuitions headed into the stratosphere!" If they say they want their kid to go to business school, I say, "Fine, just take Centrum." (Just kidding, my fellow business grads!) Invariably, my patients opt for full-bore prenatal support.

With a crop of "my choline kids" now entering university and the professions, it seems to have worked out well for them.

Choline is an essential building block for acetylcholine, a brain neurotransmitter. Current medications for Alzheimer's target production of acetylcholine. Phosphatidylcholine and phosphatidylserine are plausible supplements for fending off dementia.

Now comes a study vindicating choline supplementation for expectant moms. Cornell University researchers found seven-year-old children performed better on a challenging task requiring sustained attention if their mothers consumed twice the recommended amount of choline during their pregnancy.

With the incidence of attention deficit hyperactivity disorder soaring, it may be critically important to provide kids with the edge of prenatal choline supplementation during the formative months in utero when the template for subsequent brain development is established.

**NAD for Alzheimer's:** I take nicotinamide riboside (NR) daily and encourage my patients to do so for mitochondrial support. It helps cellular energy production and may confer anti-aging benefits.

Since the brain is especially energy-dependent, it stands to reason that NR might stave off cognitive decline.

A recent article supports that conclusion: "Oral nicotinamide riboside may represent

a promising stratagem to improve cognitive decline during ‘normal’ aging, Alzheimer’s disease and other diseases.”

Dr. Mehmet Oz just revealed his mother’s diagnosis of Alzheimer’s Disease and interviewed top neuroscientists on his show in a segment entitled “What Regimen Does Dr. Oz Have His Mother On In Her Battle Against Alzheimer’s?”

One of them, Dr. Rudy Tanzi, Professor of Neurology at Harvard and head of the Alzheimer’s Genome Project, where he co-discovered the very first Alzheimer’s gene, offered **this advice about supplements**: “So the most important ones turn out to be Vitamin D3, Vitamin B12, and Vitamin B3 – which some people may not be as familiar with which is also known as *Nicotinamide Riboside NR*”

**Is sugar the culprit?** It’s increasingly evident that high refined carbohydrate consumption has deleterious effects on many organ systems. Dr. David Perlmutter, a frequent contributor on *Intelligent Medicine* and a neurologist, highlighted the connection between brain dysfunction and excess carbs in his groundbreaking book *Grain Brain*.

Long before, one of my guests in the 90s, Carol Simontacchi, profiled the harms of sugary diets on kids in her prescient book, *Crazy Makers*.

In the ensuing decades, we’ve seen an unprecedented rise in developmental and behavioral disorders among children and adolescents. Is there a smoking gun linking sugar consumption to brain pathology?

In a landmark study in mice, entitled “High-sucrose diets contribute to brain angiopathy with impaired glucose uptake and psychosis-related higher brain dysfunctions in mice”, researchers found that excess early life feeding of sugar resulted in profound and irreversible changes in brain structure and function.

Here’s the study’s clincher: “*Similar vascular damage to our model mice was found in the brains of randomly collected schizophrenia and bipolar disorder patients, suggesting that psychiatric disorders are associated with angiopathy in the brain caused by various environmental stresses, including metabolic stress.*” In other words, sugar really is a veritable “Crazy Maker”!