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Disease Is Your Body's Aging Process on Fast-Forward

Analysis by Dr. Joseph Mercola | June 28, 2026

STORY AT-A-GLANCE

- Many symptoms attributed to "normal aging" indicate accelerated biological aging caused by dietary toxins, lifestyle factors, and environmental stressors that undermine cellular repair mechanisms
- Your food choices shape how fast you age. Linoleic acid (LA) from vegetable oils drives oxidative stress and mitochondrial breakdown, while refined carbs and excessive fructose boost inflammation and metabolic dysfunction
- Gut damage accelerates aging from the inside out, as a disrupted gut microbiome lowers butyrate production, weakens the colon, and makes even healthy foods like fruit trigger inflammation
- C15:0, a saturated fat found in grass fed ruminant animals, increases your longevity by protecting cardiolipin in mitochondrial membranes, which stabilizes cellular energy production
- Reclaiming biological foundations through movement, sunlight exposure, and addressing environmental toxins like EMFs and microplastics is essential for restoring mitochondrial function

Editor's Note: This article is a reprint. It was originally published April 20, 2025.

Getting older is part of life. You expect to slow down, feel a little more tired, and notice more wear and tear. But many of the symptoms people associate with "normal aging" — like creeping fatigue, brain fog, or chronic aches — could actually be signs that your

body is aging too fast because it's constantly under attack from poor diet, inappropriate lifestyle, and toxins in the environment.

In the featured video, I spoke with Dr. Shawn Baker on his podcast to explain why disease is not separate from aging — rather, it's aging accelerated. Disease is like putting the pedal to the metal on the destruction of your biology. If you want to slow the clock, you have to stop the biological damage and give your cells what they need to heal.

Disease Is Typically an Accelerated Form of Aging

If you want to live long and live well, it's important to understand the distinction between normal aging and disease. Normal aging is a gradual process marked by a slow decline in cellular repair and regeneration. Disease, on the other hand, is what happens when those natural mechanisms are overwhelmed or sabotaged by constant biological stress, causing what should be a gradual decline to accelerate.

- **The Free Radical Theory of Aging —** Proposed by Denham Harman in the 1950s, this theory suggests that unstable molecules called free radicals drive cellular dysfunction.[1] It's the resulting oxidative stress that breaks down critical cellular components, like your DNA, cell membranes, mitochondria, and proteins. Over time, this damage accumulates and accelerates the aging process from the inside out.

- **Your body is built to repair itself —** Your body relies on endogenous antioxidant systems like glutathione and superoxide dismutase to neutralize oxidative stress and maintain cellular integrity. Cellular energy is what you need to support these protective systems. Understanding how your body creates and maintains that energy is essential if you want to slow aging and prevent disease.

- **Cellular energy fights premature aging —** In our discussion, I shared insights from my book, "Your Guide to Cellular Health," where I emphasize that energy is the foundational currency of healing. Without sufficient cellular energy, even the best

nutrients and therapies won't work as intended. Aging may be inevitable, but disease is avoidable if you understand which inputs restore energy and which ones destroy it.

Why Your Food Choices Could Be Aging You Faster

Food is the most consistent and direct input you give your body. Unfortunately, the modern diet is designed to sabotage your health.

- **Linoleic acid (LA) is the worst offender in your diet —** LA is an omega-6 polyunsaturated fat found in soybean, canola, corn, safflower, and sunflower oils. It's in almost every processed food. I call these fats PUFs, short for polyunsaturated fats. That term is more accurate than PUFAs (polyunsaturated fatty acids) because most people recognize them as fats, not acids.

  These highly refined vegetable oils have become the primary source of calories for most people, and this shift has profoundly reshaped the human diet — not for the better. When LA intake exceeds 2% of your daily calories, oxidative stress rises dramatically, leading to widespread damage to all your important cellular tissues.

- **LA embeds in your cells and drives oxidation —** Once incorporated into cell membranes, LA is highly susceptible to oxidative damage.

  This peroxidation process generates toxic byproducts like oxidized linoleic acid metabolites (OXLAMs), 4-hydroxynonenal (4-HNE), malondialdehyde (MDA), and epoxyketooctadecenoic acids (EKODEs), which disrupt mitochondrial membranes and signaling. These compounds accelerate aging and lay the groundwork for chronic disease.[2,3]

- **LA destroys cardiolipin and mitochondrial integrity —** We also discussed cardiolipin, a vital fat in your inner mitochondrial membrane that stabilizes energy production.[4] It also plays an essential role in forming mitochondrial super

complexes by crowding Complexes I through V closer together, which facilitates efficient electron flow through the electron transport chain (ETC).

Structurally, cardiolipin has four fatty acid tails. However, with the modern diet, most of those tails are now made of LA. This destabilizes the structure. It's like you burn it up — it self-destructs the mitochondria, which are essential for producing cellular energy. As a result, large portions of your mitochondria die prematurely because the cardiolipin is loaded with LA.

- **Carbs have been wrongfully vilified —** In the interview, I described carbohydrates as "the innocent victim at a fire" because they're often blamed for metabolic problems. Markers like insulin resistance, elevated glycohemoglobins, advanced glycation end products (AGEs), and glycosylated proteins do rise with elevated glucose. But these are symptoms, not root causes.

  In fact, paradoxically, lower glucose levels in a broken system can sometimes accelerate damage by further disrupting redox signaling. The real issue isn't carbohydrates themselves, but the refined versions often paired with damaging vegetable oils and high-fructose corn syrup (HFCS). Think donuts and fries — these foods contain the trifecta of aging accelerators.

  To understand the role of healthy carbohydrates in gut and metabolic function, check out "**Why Your Gut Needs Carbs for Optimal Health**."

- **Fructose by itself is not pernicious —** I also clarified that fructose isn't inherently harmful. There's nothing dangerous about eating a small apple or any whole fruit when your gut and metabolism are functioning well. Fruit, I believe, is one of the healthiest foods on the planet. The difference is that the fructose in fruit is delivered in its natural matrix, along with fiber, water, and polyphenols that slow absorption and support the microbiome.

- **HFCS and fruit juice are a different story —** When fructose is extracted from its whole food matrix, as in HFCS or fruit juice, it becomes disruptive to metabolic health. HFCS accelerates many of the same pathologies triggered by omega-6 fats,

including fatty liver disease.

Both elevated fructose and PUFs promote similar patterns of metabolic breakdown. While fruit juice isn't identical to HFCS, the fructose it contains has still been stripped from its original matrix. This leads to sharper spikes in blood sugar and pathological insulin responses that wouldn't occur with whole fruit.

- **Even fruit becomes problematic when the gut is broken —** People with a disrupted microbiome may not be able to tolerate even healthy foods like whole fruit. This happens when vegetable oils and other toxins cause a massive gut imbalance, creating a microenvironment with elevated oxygen levels that kills off the beneficial anaerobic bacteria, which produce a very important fat called butyrate.

- **Butyrate is a short-chain fat that fuels colonocytes —** When butyrate production drops, colonocytes begin to die, which leads to the breakdown of the gut barrier and the development of leaky gut.

  This creates a vicious cycle where, instead of being metabolized by beneficial bacteria, healthy fibers like fruit or grains are processed by the wrong microbes. The result is an increase in endotoxin production, another mitochondrial poison that worsens metabolic destruction.

- **Removing dietary toxins restores your ability to thrive —** Healing starts when you eliminate vegetable oils, processed sugars, and refined carbs from your diet. Once the inflammatory load is lifted, your beneficial gut bacteria will repopulate and butyrate production increases. Fruit and fiber become nourishing again instead of triggering reactions.

- **Delivering butyrate where it matters has long been a challenge —** When taken orally, butyrate is typically absorbed too early in the digestive tract; when administered rectally, it only reaches a limited portion of the colon. That's why a time-release formulation is needed — one that distributes butyrate gradually along the length of the large intestine.

This approach ensures that the areas most affected by inflammation and microbial imbalance receive adequate support, allowing for a more complete restoration of gut health. This is a solution we're currently developing, and I'll be sharing more details as it becomes available.

C15:0 Is the Most Important Fat You're Likely Not Getting

One of the most important topics we covered in our discussion was the role of specific fats in mitochondrial health — particularly C15:0 (also known as pentadecanoic acid). This little-known, odd-chain saturated fat has been recognized as essential for your health. In fact, it's likely more important than omega-3 fats to your biology.

- **C15:0 protects cardiolipin from damage —** Unlike LA, which oxidizes easily and drives inflammation, C15:0 is highly stable and resistant to oxidation.[5] Substituting C15:0 into cardiolipin makes the structure more stable and efficient. This small structural change boosts energy output and cellular lifespan. As I noted in the interview, C15:0 could increase longevity anywhere from 10% to 80%.

- **C15:0 is also a signaling fat with systemic benefits —** It modulates inflammation, improves insulin sensitivity, and supports brain metabolism. Unlike most dietary fats, which only serve as fuel or storage, C15:0 acts like a hormone, influencing genetic expression and intercellular communication. These signaling roles help regulate immune response and metabolic rate.[6]

- **Most people are deficient in C15:0 due to modern farming practices —** Your body can't produce meaningful amounts of C15:0 on its own; it needs to come from your diet. But grain-fed livestock does not generate this fat, which makes it nearly absent from the modern food supply. To get enough C15:0, you'd need to drink about half a gallon of milk or eat several pounds of cheese — and that's if the animals were grass fed.

Grain-fed dairy contains little to none, because C15:0 is found only in grass, not in grains. For most people, food alone is no longer a reliable source. This is why we're developing a C15:0 supplement that would help you optimize your intake of this fat affordably — and I'll be sharing more about that in the near future.

Learn more about how C15:0 supports cellular health, longevity, and metabolic function in "**C15:0 — Found in Dairy — May Be an Essential Fat**."

Environmental Toxins That Accelerate Aging

In addition to dietary toxins, your body is also being hijacked by invisible environmental poisons that silently accelerate cellular breakdown. Two of the biggest offenders are electromagnetic fields (EMFs) and estrogenic pollutants, which are nearly impossible to avoid in modern life. These toxins share one destructive mechanism — they flood your cells with calcium and trigger the formation of peroxynitrite, a powerful free radical.

- **EMFs are a biologically disruptive form of wireless pollution —** EMFs open voltage-gated calcium channels in the cell membrane, allowing excessive calcium to pour into the cytoplasm. This calcium surge triggers nitric oxide to combine with superoxide, producing peroxynitrite. Peroxynitrite damages proteins, lipids, and DNA, and it wreaks havoc on mitochondrial membranes.

- **Telecom industries suppress EMF health risks —** Just like Big Tobacco once denied the cancer risks of smoking, telecommunication companies have dismissed the dangers of EMFs. Studies that show harm are ignored or buried, while industry-funded research shows inconclusive results. This creates confusion and gives the illusion of safety. However, biological damage occurs long before symptoms appear.

- **Microplastics are another widespread mitochondrial toxin —** These particles have been detected in the blood, brain, liver, testes, and placenta. Microplastics carry endocrine-disrupting chemicals (EDCs) that mimic estrogen and interfere with

hormone signaling, contributing to estrogen dominance and hormonal imbalance, a defining feature of modern premature aging.[7]

EDCs and EMFs, along with excess linoleic acid and endotoxins, are what I call the "Four E's." To address these four primary drivers of inflammation, I invite you to explore my article, "**Cellular Health Revolution — Unveiling Hidden Threats and Empowering Solutions**."

Tracking Metabolic Function with HOMA-IR

One of the most effective ways to prevent disease and slow premature aging is by tracking how your body is functioning before symptoms appear. Biomarkers related to mitochondrial health, blood sugar regulation, and metabolic resilience provide early warnings when something's off. In the interview, I highlighted one of the most practical tools for this — the HOMA-IR score.

- **What HOMA-IR tells you —** HOMA-IR, which stands for Homeostatic Model Assessment of Insulin Resistance, is a simple but powerful way to gauge how efficiently your body is responding to insulin. A high HOMA-IR score suggests your body is beginning to resist insulin's signals — a key driver of aging, inflammation, and metabolic disease.[8]

- **How it works —** You only need two standard fasting lab values to calculate your score — fasting glucose and fasting insulin, both taken first thing in the morning. With those two numbers, you plug them into this formula:

  HOMA-IR = (Fasting Glucose in mg/dL × Fasting Insulin in μU/mL) ÷ 405

- **Interpreting your results —** A score below 1.0 generally indicates healthy insulin sensitivity. A score above 1.0 suggests you may be moving toward insulin resistance, even if your glucose still looks "normal" on a basic lab report. The earlier you identify that shift, the more effectively you can intervene through diet and lifestyle changes.

- **Why HOMA-IR beats complex testing —** The euglycemic hyperinsulinemic clamp is the gold standard for measuring insulin sensitivity in research, but it's completely impractical for daily life. It requires IV infusions over several hours in a clinical setting. HOMA-IR, while not perfect, offers enough accuracy for personal health tracking without the complexity or cost.

- **Making it more accessible —** To make this type of testing more accessible, we're working on an at-home testing system that uses a simple finger prick to collect blood, which is then mailed in for analysis. The results would be comparable in quality to what you'd receive from major labs at a fraction of the cost. This approach aims to remove barriers to testing, bypass insurance restrictions, and give you direct access to your metabolic data.

For more information about the HOMA-IR test, check out "**Unlocking Your Gut's Power to Control Blood Sugar**."

Reclaiming Biological Foundations — Movement, Sunlight, and Joy

While supplements and advanced therapies have their place, they aren't a substitute for the biological foundations your body depends on. Your body was built to move, to be outdoors, to experience light, and to generate meaning through Joy. These factors are essential for energy, longevity, and emotional balance. When you neglect them, every system begins to deteriorate.

- **Movement is a biological requirement —** You can't be truly healthy without regular physical activity. Walking remains one of the most effective and accessible forms of movement. It requires no equipment and fits into nearly any lifestyle; almost everyone can do it.

  Walking supports mobility, flexibility, and immune function — and when it's missing, health declines across the board. Your health begins to suffer when you lose the ability to walk, because everything is connected to movement. While walking is the

simplest and most accessible form, any kind of movement — whether it's dance, yoga, or stretching — will also help.

- **Sunlight is essential, but keep this caveat in mind —** Sun exposure regulates circadian rhythm, stimulates vitamin D production, supports immune balance, and promotes mitochondrial melatonin production.[9]

  More than that, the sun may directly fuel mitochondrial energy via a process I call photometabolism, wherein you turn energy from the sun and integrate it into your biology. In this way, sunlight could act as a complementary energy source, much like nutrient-dense fuel.

  However, this process only works safely when your tissues are free of unstable fats. If your body is saturated with LA, sun exposure will do more harm than good by increasing your risk of oxidative damage and sunburn. That's why it's important to avoid high-intensity sun exposure until you've been off vegetable oils for about six months. Discover the keys to safer sun exposure in "**The Role of Sun Exposure in Optimizing Your Cellular Health**."

- **Joy is the natural result of optimal biology —** Baker asked why I included "Joy" in the title of my book on cellular health, and it's because Joy is not just a mindset — it's a biological outcome. Joy is not fleeting like happiness, but a deep, sustained sense of coherence and purpose.

  The brain consumes 20% of the body's energy, so when mitochondrial output drops, emotional resilience collapses. You can't create Joy in a body starved for energy. When your cells have the energy they need and your systems are functioning properly, Joy becomes your default state — not something rare or fleeting.

Systemic Failure of Conventional Medicine

Toward the end of our conversation, Baker and I talked about what has gone wrong in conventional medicine and why so many people remain sick, misdiagnosed, or stuck on a fast track to accelerated aging.

- **Drug-based care replaced root cause medicine —** Modern medicine follows the Rockefeller model, where symptoms are matched to drugs rather than investigated for underlying causes. This framework prioritizes drug sales over patient outcomes and locks physicians into algorithmic, surface-level care that overlooks true healing.

- **Scientific journals have been hijacked by industry influence —** We also discussed how conflicts of interest have distorted medical research, including disclosures from former editors of top journals like The New England Journal of Medicine.

  The implementation of this industry-driven distortion has become pervasive and represents one of the most dangerous philosophies adopted throughout the medical field, as it shapes how research is interpreted, published, and ultimately applied in clinical practice.

- **Physicians are trapped in a broken framework —** Most doctors want to help, but the structure of insurance-based medicine prevents them from doing meaningful work. In many cases, physicians have only five to 15 minutes with each patient — nowhere near enough time to fully assess what's going on or to address the root cause of disease. For doctors who want to practice real, foundational medicine, stepping outside the system is often the only way to do it.

Frequently Asked Questions (FAQs) About Accelerated Aging and Disease

Q: How is disease connected to aging?

A: Disease is not separate from aging — it's aging that's been accelerated by chronic biological stress. When your mitochondria are impaired and your body is overwhelmed by toxins, inflammation, or poor metabolic signaling, repair systems begin to fail. What we often call "normal aging" is frequently the result of avoidable damage that pushes your biology beyond its natural pace.

Q: Why is linoleic acid considered more harmful than other dietary ingredients?

A: Linoleic acid, found in most vegetable oils, embeds into your mitochondrial membranes, where it oxidizes and generates toxic byproducts like 4-HNE and OXLAMs. These compounds disrupt energy production and promote chronic inflammation. While sugar and high-fructose corn syrup are harmful in excess, LA lingers in your tissues and drives damage long after it's consumed.

Q: Is fructose always harmful, or does the source matter?

A: Fructose is only problematic when it's removed from its whole-food context. In fruit, it's packaged with fiber, polyphenols, and water that slow its absorption and support your microbiome. But when extracted, as in fruit juice or high-fructose corn syrup, it overwhelms the liver, spikes insulin, and mimics the damaging effects of vegetable oils. If your gut is healthy, whole fruit is one of the most beneficial foods you can eat.

Q: What is C15:0, and how does it support healthy aging?

A: C15:0 is a rare, odd-chain saturated fat found in grass fed dairy. It resists oxidation and helps stabilize cardiolipin, a key fat in the mitochondrial membrane that supports energy production. Unlike polyunsaturated fats like linoleic acid, C15:0 protects mitochondrial function rather than disrupting it. Due to modern farming

practices, however, most diets today are deficient in this essential fat.

Q: What does Joy have to do with energy and aging?

A: Joy is not just an emotion — it's a sign that your biology is working properly. Your brain consumes about 20% of your body's energy, and when mitochondrial output declines, so does your capacity for mental clarity, emotional balance, and motivation. When energy systems are restored, Joy becomes your natural state — not something that is fleeting or constantly out of reach.

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