Why The Traditional Model is *Obsolete*
In Dealing With Today's Complex Patients

THE DEATH OF FUNCTIONAL MEDICINE

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The Silent Health Crisis

We have the sickest population we've ever had, and it's only getting worse. I'll show you some statistics that'll make you stop and think. Here's the truth: we're losing. More and more people are getting sick, and it's up to us to do something about it. Our movement needs to be huge.

From 1989 to 2010, deaths from neurological disorders in the 55 to 74 age group went up by almost 50% in females and 82% in males. For those aged 75 and older, the numbers skyrocket—368% in females and 663% in males. You'll notice some of this data is from 2010. It's hard to find newer statistics. And that's intentional. If people saw the current numbers, they'd be freaking out.

So, what's the takeaway here? Our brains are failing us. We're not lasting as long as we should. From 1994 to 2014, Alzheimer's deaths rose by 55%. I'm seeing younger and younger people with Alzheimer's. A family friend of mine, at 49, passed away from Frontotemporal Dementia. Within two years, he was gone. This is happening faster and younger.

Parkinson's disease deaths have shot up 328.7% from 1976 to 2011. A large percentage of that is due to the drugs. We'll talk about those later. Multiple Sclerosis (MS) diagnoses are up to 2.5 million people worldwide. They say MS is rare, but everyone knows someone with MS. You probably do too.

Now let's look at diabetes. Diabetes increases vascular dementia by 138%. It's still the leading cause of blindness in the U.S., representing 12% of all blindness cases. And these numbers are bleak—and they're bleak on purpose. Thirty-two percent of people with diabetes will have heart disease, and a staggering 68% of diabetics will die from heart disease.

I get so many patients who come in and say, "I've got 'normal' diabetes." They mean they're managing it with medication, and their blood sugar looks fine on paper. But here's the truth: even with "normal" diabetes, the long-term damage is still happening.

If you have diabetes, men have a 19% increased chance of getting cancer, while women have a 27% increased chance. Women tend to have higher risks for cancer and autoimmune diseases. We'll talk about why that is. One in three diabetics will end up in full kidney failure.

Autoimmune diseases are another epidemic we're facing. Right now, there are about 100 diagnosable autoimmune diseases, up from 80 a few years ago. That number keeps

climbing. Fifty million people are suffering from autoimmune diseases, costing the healthcare system $100 billion in direct costs. Autoimmune diseases are the epidemic of our time.

2

The Flaw in Functional Medicine

We have some startling data when it comes to neurological disorders. From 1989 to 2010, deaths from neurological disorders in people aged 55 to 74 jumped by almost 50% in women and 82% in men. And for those aged 75 and older, those numbers skyrocket—368% in women and a staggering 663% in men.

Now, you might notice that some of my data is from 2010. You're probably wondering why I'm not showing you more recent stats. The truth is, it's hard to find updated data—and that's not by accident. If people saw the current numbers, they'd be freaking out.

So, what's the takeaway? Our brains are failing. We're not living the way we should be. From 1994 to 2014, Alzheimer's deaths rose by 55%. And here's what's scary: I'm seeing younger and younger people with Alzheimer's. I just lost a family friend at 49 to Frontotemporal Dementia. He didn't know where he was, and within two years, he was gone. This trend is only getting worse.

Parkinson's disease deaths have shot up 328.7% from 1976 to 2011. A lot of that is due to the medications, like L-Dopa, but that's a conversation for another time. MS diagnoses are up to 2.5 million people worldwide. They say it's rare, but everyone knows someone with MS. Look around—you probably know someone too.

One of the biggest flaws I see in functional medicine is this constant claim: "We find and fix the root cause of disease." Sounds great, right? But what is the root cause? Every time I asked, the answer was vague: "It depends." It depends on the person, their genetics, the disease, and so on. That answer just doesn't cut it. We can't keep leaving patients and doctors confused. We need to focus on **first-order principles**—fundamental truths that apply to everyone.

In functional medicine, there is no central philosophy of disease, unlike chiropractic, which is all about the **nervous system**. In chiropractic, the philosophy is simple: remove subluxations to restore the nervous system. But in functional medicine, the lack of a clear guiding principle makes it harder to treat patients effectively.

This is the fatal flaw in functional medicine, in my opinion. We can't clearly explain what the root cause of disease is, and instead, we often say, "We don't know." It depends. It depends on your genetics, your situation, and all these other things. Well, yes, in part, but that leaves doctors and patients confused. We need to have a better understanding because there is no central philosophy of disease in functional medicine.

Every other natural healing modality has a central philosophy. In chiropractic, it's all about the nervous system. The nervous system is the master controller. Subluxations interfere with nervous system communication, and chiropractors remove those subluxations so the nervous system can heal. That’s the central thesis. But we didn’t have this in functional medicine.

It made practice life so difficult because every patient I sat down with had no idea what was going on, and frankly, neither did we. What causes these problems? We didn’t know. Where are we going with all this? We had to develop some kind of ideology to explain these diseases.

3

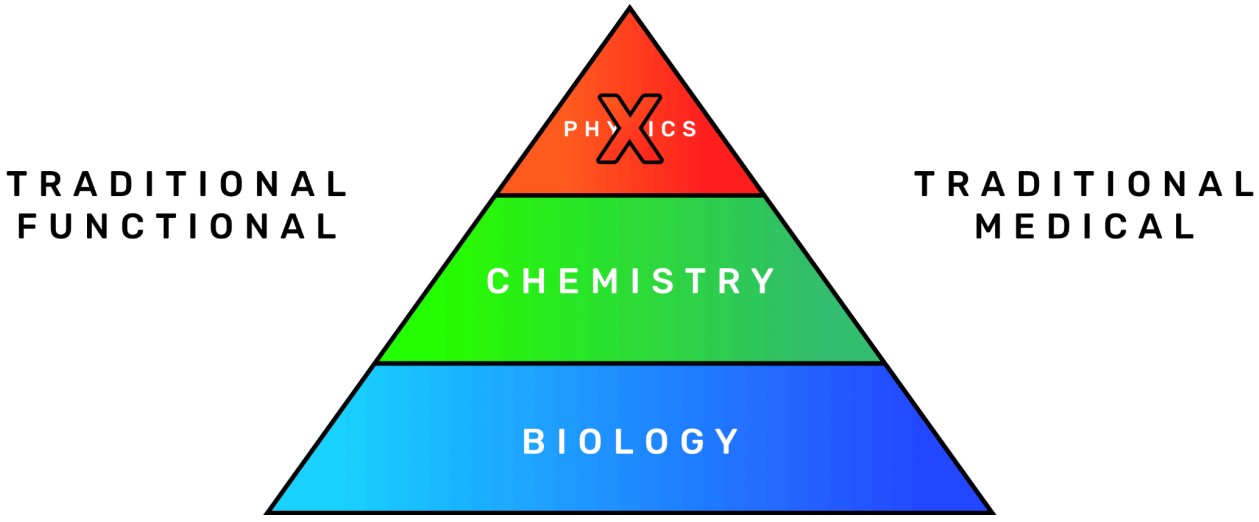
First-Order Principles and the Energetic Model

We need to deal with what we call first-order principles. First-order principles are things that apply to all people, in all places, and at all times. Have you ever had patients come in and say, “Doc, my blood work looks great, but I have all these symptoms?” It happens all the time. Their blood work looks fine, but they’re still sick. Or, they feel great and just want a checkup, but when you look at their labs, they’re far from healthy. These things are not first-order principles. They don't apply to everyone, everywhere.

A good example of a first-order principle is gravity. If I step off something, down I go—at least on Earth. Science works the same for all of us individually, and we need to shift our thinking from a biochemical model to a biophysics model.

The energetic model says that we can lose energy in one part of the body and feel its effects elsewhere. For instance, the brain makes up 2% of your body weight but uses 20-25% of all your energy. If your liver, for example, becomes sluggish and loses energy, your brain will feel that loss.

The total pool of energy available decreases and the brain’s energy usage has to decrease as well, which can lead to neurological symptoms. This is why we need to move toward an energetic model, especially for chronic diseases we see every day in our clinics. The science behind this becomes obvious once you understand how it works.



So, I came up with a concept to explain this to my patients, something easy to grasp. I call it **energetic debt**. All diseases are caused by one of three simple things: either your body isn’t making enough energy, you’re expending too much energy, or you’re not using your energy efficiently.

What is the number one searched health problem on Google? It's chronic fatigue. That's the number one issue people look up, and it's the most common problem we see. Now, let's have a conversation about cause versus effect.

For example, from a chiropractic perspective, how did chiropractic originate? A man falls down the stairs, hits his head hard, and goes deaf after the fall. The first chiropractor checks his neck, notices something is out of place, adjusts it, and his hearing comes back. That's the chiropractic origin story. So, naturally, people with hearing loss started flocking to Davenport, Iowa, looking for the cure. Some got better, but most didn't. The reason? In that case, the cause was a specific injury. But for patients with chronic disease, the situation is far more complicated.

This isn't a case of A plus B equals C. There are multiple layers to chronic diseases, and it's our job to figure out what's the cause and what's the effect. Before we dive into that, let's talk about something else. This might upset some people, but it is what it is.

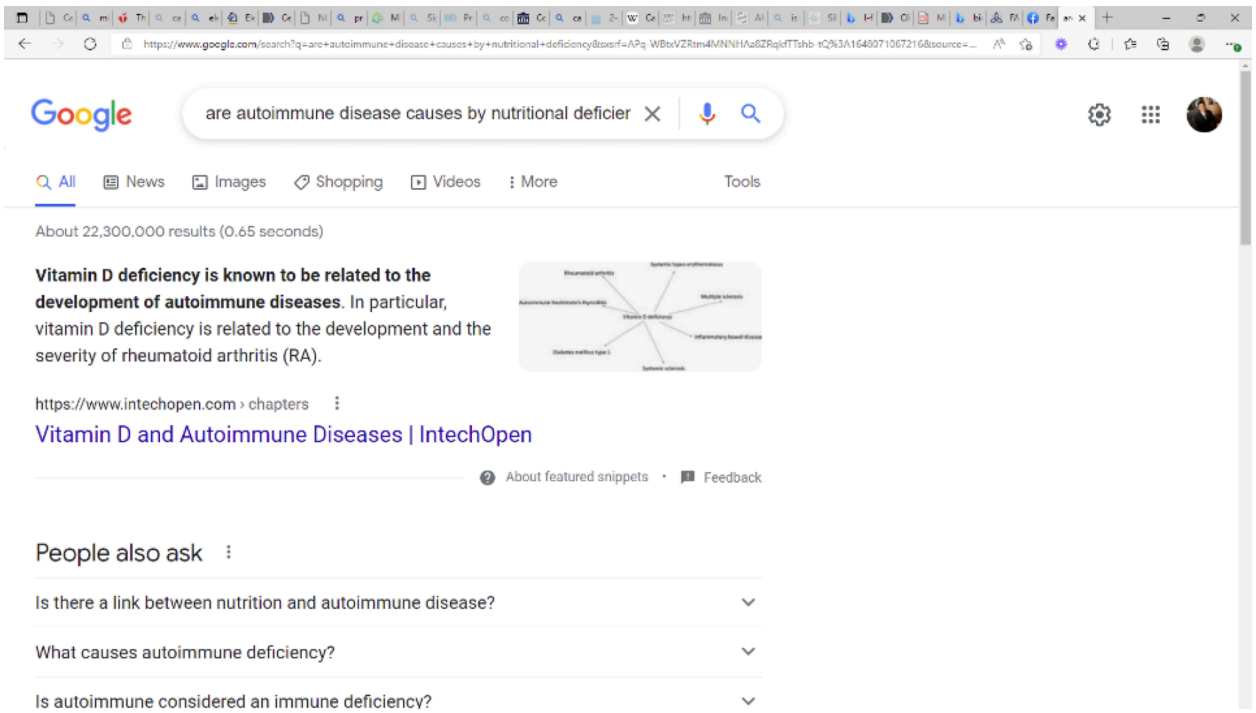
Most people agree that inflammation is bad. Doctors, WebMD, the internet—everyone agrees that chronic inflammation is harmful. But is inflammation the cause of disease? No. Inflammation is like the smoke coming from a fire. Your body doesn't inflame for no reason. When firefighters arrive at a house fire, the first thing they do is knock out the windows to let the smoke out so they can see what's going on. But if all they did was focus on pushing out the smoke, the fire would eventually destroy the house. You need to address the cause—the fire itself.

Many patients believe nutrition is the root cause, but let me give you an example that will drive this point home. A husband and wife came in for a consultation. The wife had an autoimmune disease, and throughout the whole conversation, they were laughing and teasing each other. By the end, the husband turned to his wife and said, "See, I told you, you should try my cheeseburger and smoking diet." She laughed and said, "Sorry, Doc. I eat perfectly. Everything is organic. I watch every piece of food that goes into my mouth. I work out. I do yoga. My weight is under control. Yet I have every health problem under the sun. Meanwhile, he eats cheeseburgers, smokes, drinks beer, and he's perfectly healthy."

Do you ever hear conversations like that? I hear them all the time. And it frustrates people because it doesn't make sense. If I were to tell her to change her diet and take supplements, would that make sense to her? No. These are the people who say, "I'll think about it," because they don't want to be rude and say it doesn't make sense.

It's not that nutrition is unimportant or that I would tell someone to eat cheeseburgers and smoke cigarettes. But is it the cause of disease? No. So I ask them, "What nutritional deficiency causes autoimmune disease? Is there one?"

Are there nutritional deficiencies that cause disease? Sure. If you don't get enough vitamin C, you get scurvy. That doesn't happen much anymore—we're not pirates—but it's an example of cause and effect. There are diseases caused by a lack of specific nutrients.



If you ask about autoimmune disease and its connection to nutritional deficiencies, the information can be misleading. I actually did this—I Googled it. Here's a screenshot of my search: "Are autoimmune diseases caused by nutritional deficiencies?" When Google provides that little box at the top of the search, it means it's sure. It's saying, "This is the correct answer from reliable sources." If it's unsure, it'll just give you a bunch of links to figure it out on your own. But that box at the top is Google's way of saying, "We're 100% certain."

According to the result, vitamin D deficiency is related to the development of autoimmune disease. But here's the thing: is it really a nutritional deficiency, or is it a lack of light? It's a lack of light. So, when you ask the question, you get an answer, but it's the wrong one. They're trying to fit a round peg into a square hole. We're going to come back to light many times because light and frequency are critical in this conversation.

You've probably had patients who come in with bags full of vitamins and a laundry list of supplements they're taking. They're on all sorts of stuff, and I'm standing there thinking, "Oh my God." And then, what do we tell them to do diet-wise? One of the best things for

autoimmune disease is fasting. So, you tell them to fast, but at the same time, you tell them to take all these different supplements. Are those ideas opposite? Yes. And what happens? The patient becomes even more confused than when they walked in. My job is to reduce confusion, not add to it.

Now, are there people whose problems are nutritional? Absolutely. There are people who will say, “I changed my diet, and everything got better.” That’s great, and that’s where you should start. Don’t call me if you haven’t tried that yet—your problem might just be that you’re putting in the wrong fuel. But for at least 66%, and probably more like 90% of people, the issue isn’t the fuel. The issue is that the engine is broken. Premium fuel in a broken engine won’t help anyone.

4

Beyond Nutrition

What about toxicity? That's another big topic. Functional medicine doctors often point to nutrition and toxicity as the cause. I had a guy say to me the other day, "Doc, my uncle smoked until he was 93 years old. He lived a long, healthy life and died of natural causes." I've heard similar stories—another person said their relative lived until 98. So, he asks, "Isn't smoking bad for you? How could they do that?"

Smoking doesn't always kill people early. It doesn't help, but it doesn't always lead to an early death. So, we're not dealing with first-order principles here. Some people can get away with a cheeseburger diet, or smoking, or other bad habits. That doesn't mean those things are good, but it also doesn't mean they're the root cause of disease.

The real issue comes down to energy. We either don't make enough, spend too much, or don't use it efficiently. What I told the man about his uncle is that, while I didn't know him, I can tell you this: somewhere in his system, he was doing something else that allowed him to make enough energy to offset the cost of smoking.

Think of it this way: if you, I, and Elon Musk went to a casino and he bet a billion dollars on one hand of cards, it would seem insane to the rest of us. But if he lost, he'd still have $271 billion left. Does that put him in debt? No. It's the same with energy—the more you have, the more you can get away with. The people who are coming in with energy debt can't get away with the same things. That's why some people can eat cheeseburgers or smoke and still be okay, while others can't.

There's something else happening in their system that's allowing them to generate enough energy to pay that debt.

Gut health is obviously important for a lot of these issues. But one thing you have to be cautious of is when people say, "All you have to do is this." For example, "All you have to do is fix the gut, and then you get rid of autoimmune disease." Is that true? No. I wish it were that simple. Imagine how much easier our lives would be if all you had to do was run one frequency combination and everyone got better.

Life would be so easy—we wouldn't even need to meet in person. We could do everything over the internet. But that's not reality. While I talk about energy, everyone's path to chronic disease is unique to them. That's where the nuance comes in.

So, when doctors talk to me about gut health—saying it's all about the gut, especially for autoimmune diseases—I ask if they know who Jeff Leach is. Do you know him? Jeff Leach spoke at a major biohacking conference in 2014. After his talk, he was banned from

speaking again because his message upset a lot of people. He worked with a tribe called the Hadza tribe, who live at the equator, barefoot, shirtless, and energetically connected to nature.

They call him the “poop doctor” because he took stool samples from them before and after feeding them soda, McDonald’s, gluten, antibiotics, and all the things we in the U.S. blame for leaky gut. He analyzed their samples, and guess what? He couldn’t induce leaky gut in these people. He couldn’t do it. People tried to disprove him, but instead, they confirmed his findings. So he kept going, but he was banned from speaking because his research challenged the “gut health” narrative.

Whenever someone brings up gut health as the solution to everything, I ask, “Do you know who Jeff Leach is?” They usually don’t. I tell them to Google him, and they never get back to me. It’s interesting. If you’re curious, look up Jeff Leach and the Hadza tribe. His research is fascinating.

This all relates to germ theory—the idea that we get exposed to something, and that exposure makes us sick. But that’s not how it usually works. Claude Bernard famously said, “The terrain is everything. The germ is nothing.” I worked through COVID, face to face with many patients, and I didn’t wear masks. It’s not because I thought I had a super strong immune system. It’s because I don’t believe in the idea that germs are constantly attacking us and that our immune system is always at war.

If you're energetically strong, think of it more like having a force field. Nothing gets in. It’s not that you’re constantly killing germs—there’s no nonstop battle going on inside your body. That’s not how the immune system works.

We’ve got this germ theory, where people say, “That water is dirty; we need to give the fish medicine.” But instead of focusing on treating the fish, we could just clean the bowl. The problem is, no one’s teaching us how to clean the bowl. People say, “You need to eat right and exercise.” Great advice, but in terms of leverage, that’s low leverage. We’ve seen countless examples where people don’t eat right, they don’t exercise, and yet they’re still healthy.

My purpose here is to poke holes in the common narratives because that’s in my nature. I’m inquisitive and contradictory by nature. If something’s right, it’s right. If it’s wrong, I want to challenge it.

We often rail against Big Pharma—and it’s mostly bad, especially when dealing with chronic issues. But sometimes, it’s incredibly helpful. That’s the nuance. No one should say there shouldn’t be doctors. Emergency rooms save lives. One of my best friends from college works in an ER in New York. I spent a night with her there, and honestly, I would’ve been diagnosed with PTSD after that experience.

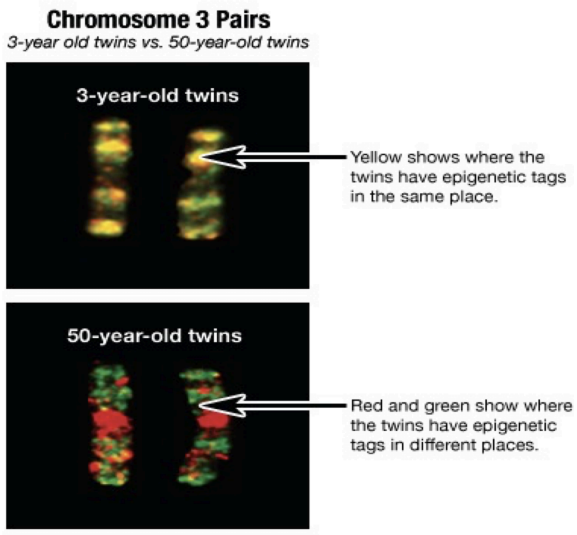
Gunshots, car accidents, impalements, kids—it was horrible. I don't know how my friend does it, truthfully. God bless her, and God bless all those people. If you're having a heart attack, go to the emergency room—they will save your life. After spending a night in the ER with her, seeing all those emergencies, she came to my clinic. She saw the chronic diseases, the cancer, and the autoimmune diseases, and said, "I don't know how you do this."

There are three main symptoms of a diseased terrain: low oxygen, fluid stagnation, and a loss of charge. Low oxygen keeps coming up as a common issue. Fluid stagnation and loss of charge—essentially, low energy—are also crucial factors. Think of it like your cell phone having a low battery.

Terrain health also depends on the acid-alkaline balance. Everyone talks about it like it's a chemistry thing, and we measure it with pH. But that balance has everything to do with cellular voltage, with electromagnetic charge—it's all about epigenetics.

When I first learned about epigenetics, patients were taking 200 different supplements to try to deal with all the various genomes. But I kept asking, "If we believe these genes can turn on and off, why do they turn on in the first place? And can we turn them off?" I'm sure you've had patients come in and say, "I have MTHFR." How do they tell you they're going to turn that gene off?

Not too long ago, a patient came in and said, "Doc, I redid all my genetic testing—I don't have MTHFR anymore." This is because MTHFR turns on as an adaptation when your system is in low energy. Once your system is re-energized, there's no need for that gene to remain on.



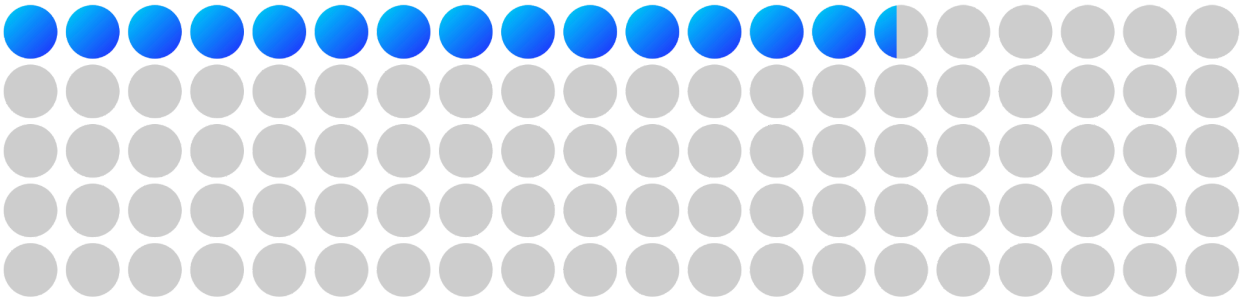
It all comes down to energy. If we—our families, children, friends, parents, and patients—aren't actively making energy, we will die before our time. We can no longer sit back and assume it will take care of itself. We need to take active strategies to build our energy reserves. It's not hard, but it does require leverage. It's a battle between two sides.

If we don't have enough energy, our healing capacity drops. Patients are then told their disease cannot be cured, that their autoimmune disease can't go away. But understand this: when your body runs out of energy, it can't be in crisis and healing at the same time. Your body will stay in crisis mode until there's enough energy for it to move forward. That's the difference between the two sides.

People come in and say, "I have this disease, that disease." The truth is, they have energetic debt. That's what we're going to address, what we're going to test—where their body isn't making enough energy, where they're spending too much, or where they're not using it efficiently. My consults are fast because I focus on first-order principles. I don't need to know every detail about what's happened to you; I need to know where you are energetically and how I can help fix that.

Can they spend more if they have "Elon Musk money"? Yes, they can buy fancy cars, take vacations, do all sorts of things. But if they don't have that kind of reserve, then everything they do just makes them sicker. At the end of the day, this is the only metric that matters: we're all burning out our batteries. It's like having a cell phone with too many apps open. Do you go through your battery faster? Yes. But if you keep charging it, it's not a problem.

When I ask people what they do for their health, they often say, "Well, sometimes I eat well. Sometimes I exercise a little." But that's not enough.



That was a good analogy, and it makes sense for each individual person. Every disease can be explained this way. Right now, we have scientific backing for at least 80% of the chronic diseases we see. But do you know how many medical procedures performed daily in hospitals are actually backed by science? How many of them have solid research that says, "This is a good thing to do"? The answer? 18%. Only 18% of all procedures done in hospitals have some form of scientific backing.

I often use this example when I speak at events. Think of your body like a business. Just like any business, you have money coming in and money going out. Hopefully, if your practice is doing well, you make more money than you spend. But if something happens and your practice isn't making enough, or maybe you're spending too much, what happens? You go into debt.

Your body is the same, but instead of money, it's energy. You need to make a certain amount of energy to do everything you need to do. If you don't make enough energy, you go into debt. When that happens, the "product" of your body—your health—suffers. So, what is the "product" of the human body? If you break down the human experience to its core, the main job is to constantly create new cells.

If you don't have enough energy, are those cells made correctly? No. They're made incorrectly, which leads to mutations. Do mutated cells work correctly? No. Do they generate as much energy? No. Now you're stuck in a negative loop.

About 90% of your immune system's activity isn't about fighting infections or viruses like COVID. It's focused on finding mutated cells and either fixing them or getting rid of them. That's why, when people ask how I'm so confident about helping autoimmune disease go away, I tell them my concept is completely flipped. It's not that your immune system is making a mistake by attacking healthy tissue, as we traditionally think about autoimmune disease. No. Your immune system is trying to heal you by repairing damaged cellular structures. It won't stop until the problem is fixed.

My job is to help the immune system solve the problem. The immune system needs to get stronger, not weaker. So, what happens when we give someone immunosuppressants? Does the autoimmune disease go away? No. It makes them feel better, but the disease doesn't disappear. Why? Because the problem isn't the immune system. When you get the flu, do you feel sick because of the flu itself, or because your immune system is fighting it off? You've likely had that infection for a while before you started feeling sick. When you do feel sick—fevers, chills, body aches—it's because your immune system is doing its job. That's the fight.

So, when we suppress the immune system, we're just stopping its ability to fix the problem. The business analogy works well here too. What do businesses do when they're in trouble? They pump cash into the business, clean up their books, and optimize their systems. That's it. All businesses operate off of first-order principles. It's the same with the body.

If you run your business the right way, it'll succeed if given enough time. If you go back to bad habits, it won't. It's the same with the body. You need more energy coming in than going out. Until you reach that point, healing will be resisted. This is the fundamental cause of disease.

From an energetic science perspective, cells are technically immortal. You've probably heard a lot about cellular structures and how people say, "All you have to do is fix the cell." The truth is, cells should be immortal. Dr. Alexis Carrel found that cells are immortal—it's the fluid they sit in that degrades.

When the fluid degraded, the cells would degenerate. But if they kept changing the fluid at regular intervals, they could keep those cells alive indefinitely. Dr. Alexis Carrel managed to keep cells from a chicken heart alive in a petri dish for 34 years—same cells, just by replacing the fluid to prevent stagnation. Remember what I mentioned earlier about terrain? It's all about fluid stagnation and charge.

So, what holds charge in the human body? Fluid. Now, while cells aren't truly immortal, the issue is that if we have mutated cell structures and we keep trying to help them without

addressing the root problem, we're just treading water. I don't want to deal with mutations for the rest of my life. I want to fix the mutation pathway and get ahead of it.

Your body will replace all of your cellular structures over time. For example, the rods and cones in your eyes are replaced every 48 hours at the cellular level. Why? Because they're exposed to sunlight, which causes them to turn over quickly. In an ideal world where we're only exposed to natural sunlight, that's the timeline. But how fast do you think they turn over when we spend hours staring at computer screens? Much faster.

We'll talk about light more, but artificial lighting is incredibly damaging to us. Your intestinal lining turns over every 72 hours. Your skin, the largest organ in your body, replaces every single cell in 45 days. And your liver regenerates every eight weeks—it's the fastest-regenerating organ in the body. So, when someone has elevated liver enzymes, it's a red flag. If the fastest-regenerating organ is slowing down, the rest of the system is likely going even slower.

Red blood cells take four months to regenerate, and white blood cells take 12 months. Your body is constantly replacing itself, and the quality of that replacement depends entirely on how much energy is in your system.

Estimates say the human body has about 37 trillion cells, and over a seven to ten-year period, you'll replace every single one of them at least once, many of them multiple times. Your body is in a constant state of renewal. However, as we age, the turnover process tends to speed up, especially when things aren't functioning optimally.

So, how do we sustain this process? It comes down to four pillars. These four pillars are the focus of sustained health and recovery from chronic disease. First, we need **high redox potential**. We'll define what that means shortly. Next, we need **low heteroplasmy**. How many of you are familiar with the term heteroplasmy? Then there's **autophagy**, which many of you probably already know, and finally, **apoptosis**. These are the four big pillars of health.

Let's break them down. **Redox potential** refers to the exchange of electrons within a cell. Think about what I said earlier about energetic debt—money coming in and going out. Electrons are like cash. The more electrons you have, the better off you are. Your body prefers to carry a negative charge. The more electrons you have, the more "cash" you have in your system, like having a savings account. The more cash you have, the more you can withstand unexpected expenses. It's like reaching Elon Musk-level wealth—you can afford to spend money on things you probably shouldn't because you have such a large reserve.

The term redox comes from a combination of **reduction** and **oxidation**. Here's where it gets tricky: reduction means gaining an electron, but we call it "reduction" because it reduces the positive charge, not because the cell gains something more. So, when

something is reduced, it gains an electron, which gives it a more negative charge. When something is oxidized, it loses an electron.

Another word for oxidation is **inflammation**—or **oxidative stress**. So, what is inflammation? Scientifically, it's an excess of protons compared to electrons. The more electrons you have, the better your body functions. Everything costs electrons.

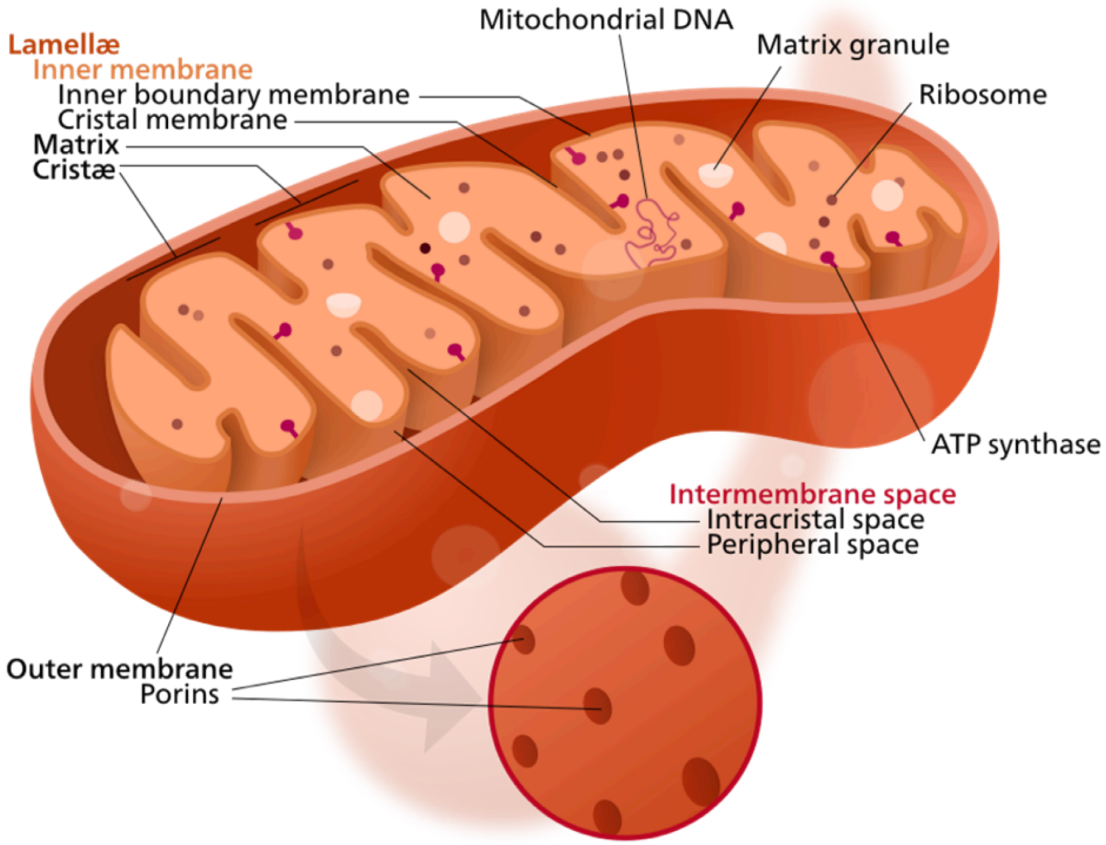
When we talk about **free radicals** and **reactive oxygen species**, we're talking about chemicals that don't have enough electrons. That's what free radicals are. To counter this, we give people antioxidants, which donate electrons to neutralize the free radicals. But here's the problem: when the antioxidant gives away its electron, it becomes oxidized itself. So while it's a lesser evil, the antioxidant still ends up slightly positive after helping. You were highly positive before—now you're just slightly positive. Oddly enough, while we don't want "negativity" in our lives, you actually want a **negative charge** in your body.

An antioxidant gives an electron over, but then it remains positively charged. Do you see the difference between just flooding the body with electrons? That solves the problem—we don't need a source to donate electrons because we should be getting plenty from our environment. The issue is, we're not getting them like we used to.

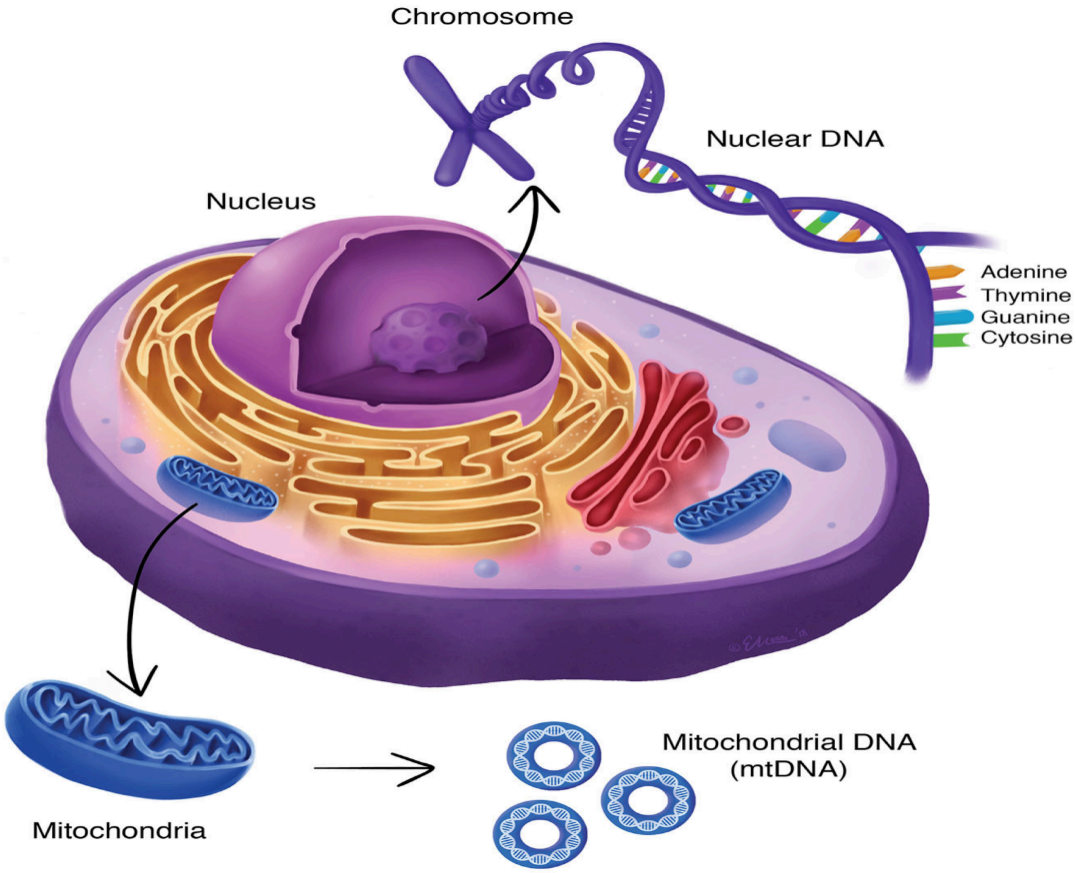
Now, let's talk about **heteroplasmy**, because this is one of the most important concepts. I'll make a bold statement: if you can address this for a person, the research—and I can tell you this anecdotally—shows that their chronic disease will go away. This is at the core of chronic disease, the concept of heteroplasmy.

So, what is heteroplasmy? It's the percentage of mutation found in mitochondrial DNA. Keep in mind, we didn't even know mitochondria had DNA until about 40 years ago, and most of the research has taken off in just the last 25 years. We've always focused on nuclear DNA, the DNA in the nucleus. You get 50% of that from your mom and 50% from your dad. Nuclear DNA determines your physical structure—what you look like, your hair color, your height, your skin tone. And in the Mendelian view, diseases are caused by damage to nuclear DNA. The belief has been that nuclear DNA drives all of our physical functions and health.

But that paradigm is incorrect. The science now shows that **mitochondrial DNA** is in control. Mitochondrial DNA directs the nuclear DNA, not the other way around. 99% of science still believes it's the opposite, but it's the damage to mitochondrial DNA that determines which diseases we get. By focusing on mitochondrial DNA and the percentage of heteroplasmy in specific places, we can predict when and what diseases will develop.



They've mapped this out incredibly specifically. For instance, someone might be born with 0% mutation in their mitochondrial DNA, but over time, they accumulate heteroplasmy. Eventually, their health starts to fail.



Let's be specific here. Do you know who Doug Wallace is? He's at Children's Hospital of Philadelphia, and he's at the forefront of this research. Wallace wrote the book on bioenergetics and disease related to mitochondrial DNA and heteroplasmy rates.

Wallace's lab discovered a mutation in the **tRNA leucine gene** and the **protein synthesis gene 3243**. When heteroplasmy reaches 30% in that spot, you get diabetes, both type 1 and type 2. At 50%, you develop neuromuscular disease. At 100%, you die.

Another mutation, in the **glutamine gene at 6346**, leads to Alzheimer's and Parkinson's when you hit 70% heteroplasmy. The **tRNA lysine gene** mutation predisposes someone to epilepsy once the mutation reaches a certain percentage. I'm telling you, they've mapped over 300 diseases to specific mutations. They've also mapped 80% of cancers. That's why Wallace's work is so critical.

For example, if a child is born with 30% heteroplasmy in one spot, they're born with type 1 diabetes. This is how it happens.

Another example: if there's a mutation in the **ATP6 gene at 8993**, and it reaches 70% mutation, you get retinitis pigmentosa. At 80%, your cerebellum atrophies. At 90%, you die.

Wallace's research has shown that if you **lower** heteroplasmy rates, the disease goes away. For example, if someone with 70% heteroplasmy for retinitis pigmentosa lowers that percentage, the disease disappears. This has been demonstrated time and time again in research. The key is knowing where to look and what to do.

Heteroplasmy is a normal process. We gain about 10% heteroplasmy every decade. This makes sense when you consider that life expectancy is around 76 to 78 years. If we gain 10% heteroplasmy every decade, then by seven or eight decades, we've reached 70 to 80%—the threshold where diseases start to appear.

Is this the theory of aging? No, this **is** aging. People who don't age or who live longer have less heteroplasmy. This has been shown across the board.

And here's another important point: you get **100% of your mitochondrial DNA from your mom**. None of it comes from your dad. All mitochondrial DNA is maternal. Nuclear DNA is 50/50, but mitochondrial DNA is all from mom. So, when I ask patients about their family history, I always ask about their mom, sisters, and aunts. I'm sure their dad is lovely, but from a mitochondrial perspective, I'm more interested in the maternal side.

Tell me about your mom. Why? Because all of these diseases come from the maternal side. It really matters. I've had so many women, especially those with autoimmune diseases, come in wanting to have children.

Let me tell you about a study by a gentleman named Tanaka from 1998. He conducted research on the Okinawan population and found that a single genetic mutation reduced mitochondrial dysfunction, which is why they have the highest rates of centenarians—people living to 100 years old or more. Okinawans are known for their longevity, and they have one of the longest life expectancies in the world.

I once got blocked on Twitter after engaging in a discussion with a guy who claimed it was solely their diet that allowed them to live so long. Of course, this guy had written a book about the Okinawan diet and was selling it. When I asked him if he had ever heard of Tanaka's 1998 study, which showed that it wasn't their diet but this genetic mutation that explained their longevity, he didn't have much to say. Tanaka's research showed that even when their diet was changed, they still lived long lives because of this genetic factor.

If you're not focusing on this, and we will get into how to address it, we will lose the battle against chronic disease. This is where it starts, and this is where it ends. If you fix this, you win. And I'm dead serious about that statement.

Now, the next two things we're going to talk about make up 90% of your immune system function. Your immune system isn't constantly fighting infections. In fact, it shouldn't be.

Autophagy is your immune system's ability to repair cells. When someone has low redox (which we discussed as being in energetic debt), high heteroplasmy rates in their mitochondrial DNA, and autophagy dysfunctions, they will develop autoimmune disease.

I laugh when doctors say they don't know what causes autoimmune disease. The cause is low redox, high heteroplasmy, and broken autophagy. What's the next question? The idea that we don't know what causes autoimmune disease is frustrating because we **do** know. The mainstream medical community doesn't understand it because they're looking in the wrong places, but the research is clear when you look at the right 1%.

Think of it like a car accident. The insurance adjuster comes out, looks at the damage, and says, "You're better off totaling this car." Autophagy works the same way. If the body can repair a damaged cell, it will. That's the role of autophagy. It's way less energetically expensive for your body to fix something than to replace it. But if the damage is too great, the cell has to undergo **apoptosis**, which is programmed cell death, allowing your body to replace bad cells with good ones—hopefully.

Now, lots of times, bad cells are just replaced with other bad cells, which makes sense when you look at it from this perspective. How many people here have heard of the **Hayflick limit**? The Hayflick limit refers to the number of times a cell can divide before it needs to go through apoptosis. It's like a cap on the number of times a cell can divide, and this ties into things like telomere science.

Each time a cell divides, it loses a bit of its telomere, which is like a cap on your DNA. As the telomeres get shorter, there's a correlation with aging. Once a cell has reached its Hayflick limit, it has to make a decision. It can either become **senescent**, which means it essentially "retires" and lives out its life without doing much of anything, or it can break the rules.

If the body still has major energetic demands, and a cell has gone through its Hayflick limits too quickly, the cell is put in a tough position. It says, "We have to survive, so we're going to break the rules." And what do we call that? **Cancer**.

Let's pick a round number. Say a cell's Hayflick limit is 20, meaning it can divide 20 times before it's out of turns. If those divisions happen over the course of 100 years, you'll live 100 years. But if your cells are dividing too rapidly, if things are happening too quickly, and you go through your Hayflick limits by the time you're 50, what happens then?

We last 50 years. It all comes down to Hayflick limits, and that's why telomere science is always part of the conversation. People say, "We'll do this to fix the telomeres." That's great, but it doesn't solve the core problem—time is still moving too fast. You can't skip steps.

We'll talk more about that later because it has its own dedicated module. But for now, how do we keep **redox** high? How do we keep **heteroplasmy** low? How do we ensure **autophagy** is working efficiently? And how do we keep **apoptosis** functioning as it should?

I'll tell you this: if someone develops a neurological disorder where their brain isn't functioning properly, they've skipped from autophagy straight into apoptosis. The brain hates replacing cells—it takes too long, and the cells are too complex. The brain prefers to repair what's already there. If it can't, it runs through its stem cells too fast, leading to neurodegenerative disorders.

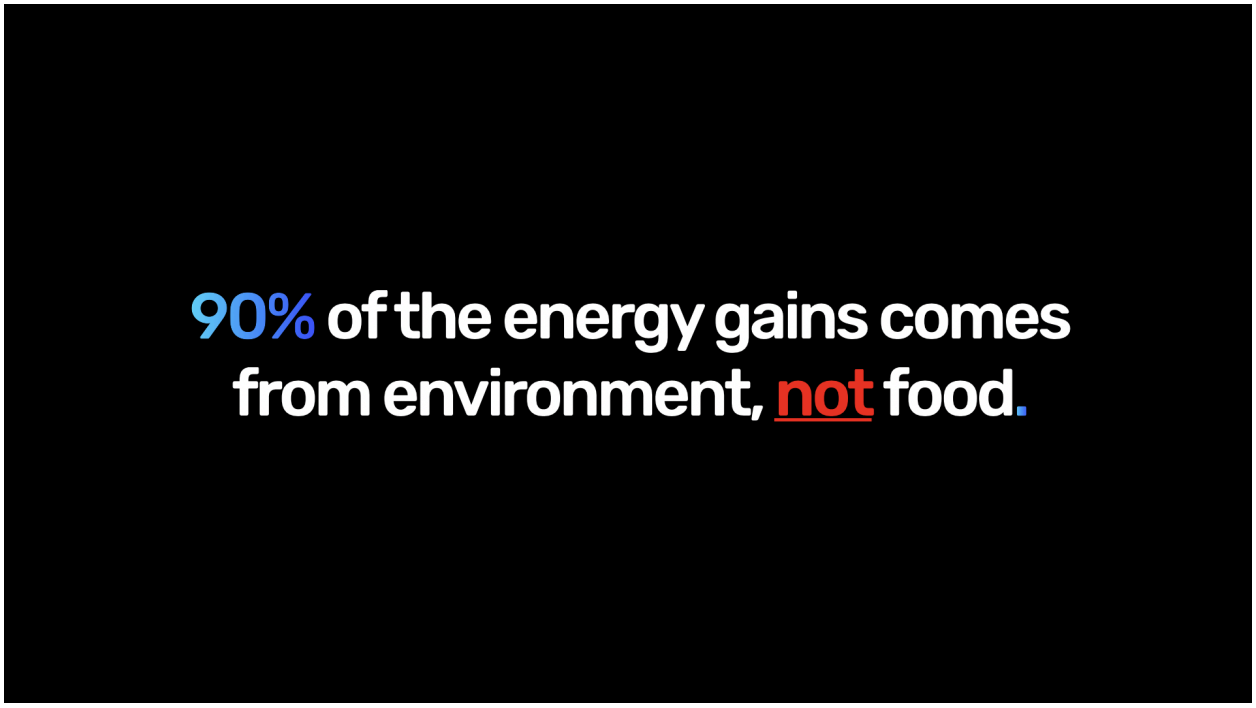
Autoimmune diseases and cancers are closely related. They have a direct lineage to each other, 100% of the time, metabolically speaking. If you Google it, you'll see it. Autoimmune patients have a much higher chance of developing cancer. There's a direct connection, always. But medically, we don't tend to think about it that way. Why? Because we assume the immune system is hyperactive, that it's attacking everything, and so it should be killing all the bad cells. But in reality, autoimmune patients have a **weakened** immune system—it's underactive. That's why when you suppress the immune system, it doesn't "go down" the way you might expect.

Focusing on **redox**, **heteroplasmy**, **autophagy**, and **apoptosis** makes chronic disease much easier to manage.

5

The New Rules of Healing

I keep talking about energy debt—people aren't making enough energy. So, where do we get all this energy from? There are six major inputs for energy outside of food. The reality is that 90% of the energy your body is supposed to produce is meant to come from the environment. In a bioenergetic model, most of the energy we create is meant to come from environmental connection, not food. Food accounts for only a small percentage—about 10%.



Mitochondria are designed to use electrons from the environment. At minimum, 66% of the electrons your mitochondria use are meant to come from the environment. These electrons, coming from sunlight, grounding, or other direct sources, are used at 100% efficiency. Every electron we get from sunlight or grounding is fully utilized. If we get 10, we use all 10.

By contrast, electrons from food are used at only 39% efficiency. So, when people ask how I manage this or how I achieve results so quickly, it's because I know where the leverage points are, and I focus on those. If I lean on food alone, I'm working with, at best, 40% efficiency—and that's if everything is perfect. But as we know, our food sources are already deficient in electrons. We're not getting the same amount of electrons from food that we

used to. Then you have to take that down by another 60% because we're only using 4 out of every 10 electrons we get from food.

Now, think about all the things you could do to improve your health—not necessarily what you are doing, but what you **could** do. People usually come up with things like drinking more water, getting better sleep, meditating more—all great suggestions. But nobody ever says, "Take more drugs."

Why is that? When I ask them to close their eyes and think of a place where they feel their best, almost everyone describes someplace in nature. "I'm hiking," "I'm at the beach," or "I'm in the mountains." No one says, "I'm in my cubicle under fluorescent lights." Maybe the YouTube generation would say they're watching YouTube, but I always tell them, "Get off YouTube!"

Most of the time, if you pay attention to TV commercials, you'll notice something interesting. Marketing companies understand this too—flowing water is a massive energy source for people, while flowing air, or wind, drains energy. Flowing water brings electrons; wind steals them. When they want to sell you something, they show a person under a waterfall with running water. But when they want to show something negative, it's the person in a winter coat with the wind blowing in their face. We instinctively know: that place with the running water feels good, and that place with the wind feels bad. It's intentional. They understand the science and manipulate it for their purpose.

So, where does the 90% of our energy come from? This brings us to what I call the **six levers**. When I teach this, we break it down into six key factors that contribute to energy generation in the body: **bioelectromagnetism**, **biofrequency**, **bioconduction**, **biophotonics**, **biooxygenation**, and **biohydration**.

Let's go through them. **Bioelectromagnetism** refers to the electromagnetic fields our bodies interact with. The earth emits a large electromagnetic field, which is similar to putting a cell phone on a charger—it helps charge us. We need to be in contact with this electromagnetic field to keep ourselves "charged." One of the tools we use for this is **PEMF** (Pulsed Electromagnetic Field).

Now, understand this: PEMF doesn't put electrons into your body. If someone isn't responding well to PEMF, it's because they're electron-deficient. But healthy electromagnetic fields help charge electrons, and the only thing in the human body that can accept a charge is electrons.

Charge is what powers electrons, generating voltage in the body. This is crucial, especially when it comes to conditions like cancer. Cancer is, at its core, a voltage issue. When cellular structures lose enough charge, they become cancerous.

Here's a question: you can get brain cancer, colon cancer, tongue cancer (which is becoming increasingly common), ovarian cancer, breast cancer, prostate cancer—you can get cancer just about anywhere. But do you get **heart cancer**?

Why don't people die from heart cancer? Why doesn't the heart develop cancer? It's because the heart carries so much voltage that it's nearly impossible for the charge to drop low enough for cancer to develop. The heart may fail because it runs out of energy to power everything, but it doesn't become cancerous.

Then, you have people coming in saying, "Doc, why did my health fall apart when I turned 40?" or "What happened that caused my health to decline at this point?" It has nothing to do with age or illness itself. It's all about one thing: **what percent heteroplasmy rate** were you at?

At a 29% heteroplasmy rate, you don't have diabetes. At 30%, you do. It's that linear.

There's nothing wrong with movement to get electrons flowing, but we need to build mitochondrial health where it will make the most impact in our lives. The point is, we're losing voltage from our main energy source, and we're using that energy for less and less time. It's like plugging your phone in at night when the battery is dead and waking up to find it's only charged to 20% instead of 100%.

If you had to power your whole house with just that 20%, would it work? No. That's how people are living their lives—off backup generators, instead of plugging into the big energy source that could fully power them. We can't live like that.

As technology advances, we get sicker. It's a trend we can see across the board. When voltage in our bodies drops, dysfunction begins. Think of voltage like a force field that keeps bad things—like toxins and infections—out. When our cells have high voltage, they can push away things that don't belong. Our immune system isn't constantly fighting; it's maintaining a barrier. But when we lose that voltage, our cells become vulnerable to toxins and harmful elements.

Voltage is what keeps those things out. In live blood samples, which I've taken from my clinic, we know that when a cell carries a charge of -25 millivolts, it's healthy. These cells are beautiful, round, and oxygenated. But when they drop below -20 millivolts, the cells start to stick together, lose their shape, and take on a filmy appearance. You start seeing fungal growth around the cells, and they become hypoxic—lacking oxygen.

To create new cells, we need to generate a -50 millivolt charge. That's the energy required for apoptosis, which is the process where our body replaces damaged or old cells with new ones.

Now, let's talk about **biofrequency**, one of my favorite topics. Biofrequency is directly tied to microcurrent therapy. Frequency is what allows our body and brain to generate the

direct current I just mentioned. The Earth itself has a resonant field, created by lightning strikes. On any given day, there are about 9 to 11 million lightning strikes hitting the Earth. This interaction between the Earth's metal core and the ionosphere creates a resonant field, known as the **Schumann resonance**, that syncs with our brainwaves.

The Schumann resonance was discovered in 1952 by a man named Schumann. It's often referred to as the "heartbeat of the Earth" and is essentially our body's WiFi connection to nature. If you think of your body as a cell phone, we need to connect to a network. We don't operate in isolation; we're always connected to something. Ideally, we should be connected to nature. But if the nearest connection is a 5G tower, that's what our body will sync with—and that's not optimal.

Schumann conducted experiments on this. He took healthy, 18-year-old college students and placed them underground in a shielded environment where they couldn't access the Schumann resonance. Within a week, every single one of them developed migraines, depression, and even suicidal thoughts. It only took a week of being disconnected for them to become seriously ill. But when they brought a generator into the space to recreate the Schumann resonance, all the students recovered and were able to stay underground without any problems. This proves that humans require this connection to nature for their well-being.

The more direct current our bodies generate, the faster our cells regenerate. This ties back to **Becker's research** on salamanders, which we discussed earlier.

Now, let's talk about **man-made EMF**. EMF is a tricky subject because natural EMF is healthy, but man-made EMF (which I'll refer to as MMEMF or non-natural EMF) is a different story.

The Schumann resonance is typically around 7.83 Hz, and that's where we want it to be. That's why, when we check brainwave activity, we want to see **alpha waves**—they indicate you're awake, aware, but calm. The Schumann resonance sits right in the middle of the alpha frequency. That's how we reach higher levels of consciousness and clarity.

But what happens when the Schumann resonance isn't sticking at 7.83 Hz and spikes to 40 Hz? Man-made EMFs can cause these spikes, which don't just affect the environment—they also affect our brains. This stress opens the calcium voltage-gated channels in our nervous system, driving **sympathetic dominance**—the state where our body is stuck in fight-or-flight mode.

Using your cell phone and putting it to your head to make a phone call immediately puts your nervous system into **sympathetic mode**, no matter how happy or positive the call is. It has nothing to do with the emotions or the outside world—it's purely about the electromagnetic frequency. That's why I laugh when people say, "Just heal the gut," while they're driving with their phone on their stomach or lying in bed with it resting on their

abdomen. Any barrier you've been trying to build in your gut gets disrupted. The phone will rip right through it by opening up those calcium channels, sending your body into **fight, flight, or freeze** mode.

People with less myelination are more susceptible to EMFs and tend to run less direct current. Who has less myelination? All those with **neurodegenerative disorders**, and here's another big group: **children**. Are we born fully myelinated? No. So, when we give kids tablets and screens, they're even more vulnerable to man-made EMFs because they haven't developed the protective myelin to deal with it.

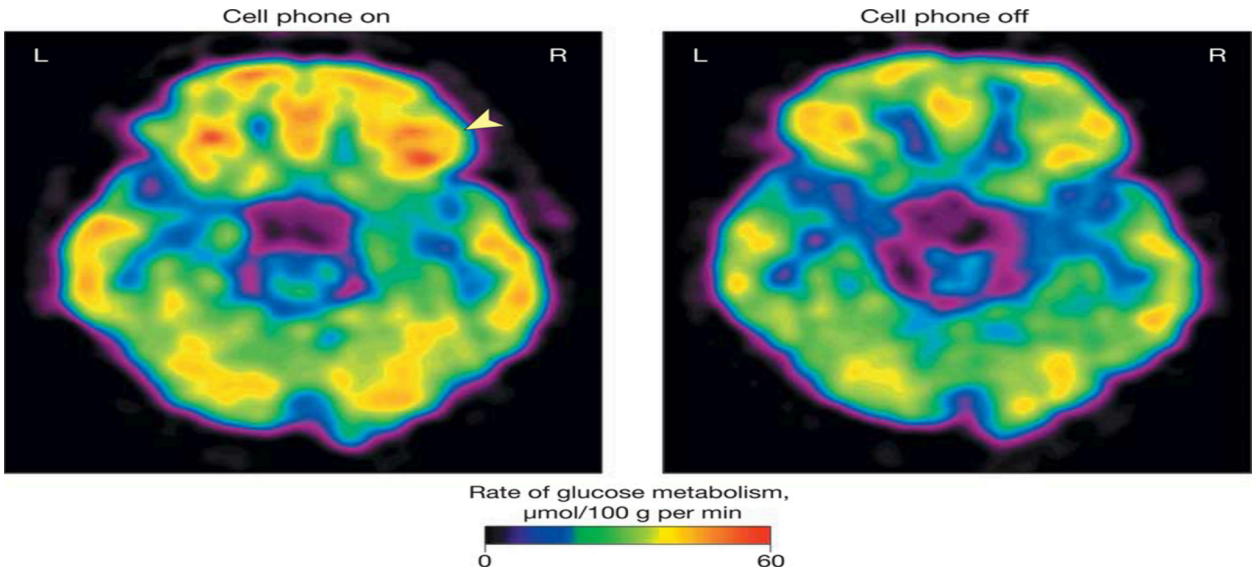
I had a heart attack when I volunteered at my son's school. Out of the three learning stations, two involved screens and machines emitting EMFs. Kids are much more susceptible to these artificial EMFs because they lack myelination.

Interestingly, **women** evolutionarily have less myelin than men. Myelin insulates the body's ability to conduct direct current. The more myelin you have, the more direct current your body can generate. This is why more women develop **autoimmune diseases** and cancers—they carry lower direct current than men because they have less myelin. While men tend to die from **heart disease**, women are more prone to these conditions.

And let's talk about **osteoporosis**. It's another condition that people treat like it's just "normal." Everyone says, "Oh yeah, I have osteoporosis," as if it's not a big deal. But do you know how significant that finding is? Osteoporosis is a major sign of low direct current. The worse the osteoporosis, the worse the disease. Bones don't just heal; they regenerate, and they do so on a daily basis. This process is entirely dependent on direct current.

If someone with osteoporosis has a fracture that isn't healing, what do they give them? A **bone stimulator**. What does that do? It increases electrical current—direct current—to speed up the building of the bone. We already use this principle, but we need to recognize its importance more broadly.

This is exactly why I said earlier that 80% of autoimmune diseases occur in females, and why more women die from cancer. It's because they carry less direct current, evolutionarily speaking, due to having less myelin. You can see the pattern clearly: **altered direct current** leads to slower cellular regeneration, which in turn leads to **higher heteroplasmy** and more mitochondrial and DNA damage.



This is all a battle over electrons. All of life is a battle over electrons—that's just how it is. You need to make sure you have more than everyone else. This ties into the idea of conduction we talked about earlier. Sometimes, when you work with patients, especially in certain capacities, you'll go home feeling completely drained. Why? Because they're trying to take your electrons. They don't mean to, and they probably don't even know they're doing it, but it happens. It's the same reason why, when you see someone you care about in pain, you want to go hug them.

What are you doing when you hug them? You're giving them your electrons.

My wife always jokes that I run at 200 miles per hour, constantly moving, constantly energized. She says the only time I calm down is when I sit on the couch with our kids. They don't just sit next to me—they sit on top of me. We're all squeezed together, with no space between us, and that's when everything calms down for me. It's balance, energetically. When we're physically close, I'm sharing my electrons with them.

Now, people don't consciously try to take your electrons, but you've probably experienced it at a party or gathering when you meet someone and, after a while, you feel like you need to move away. It's not because you dislike them, but because they're not energetically compatible with you. If you're going to work with patients like this, you need to ensure you have enough electrons for yourself; otherwise, it will take a toll on you.

By the end of a day like today, I'll be exhausted. I work hard all week—constantly moving, constantly studying. I could probably have a full-time job just keeping up with the science. Thankfully, my clinic runs efficiently, so I have the time to dedicate to this. But nothing wears me out as much as teaching. Why? Because I'm pushing my energy and electrons out to this entire room.

Right now, you've all just eaten, and I'm pushing my energy to keep you awake. I'll be fine for a while, but eventually, I'll crash because I'm giving away my electrons to everyone here. If you could see the energy field around me, you'd see it extending outwards—and yes, I'm doing it on purpose. So, you're welcome!

Now, let's talk about **bioconduction**. This is a critical part of how our body gains electrons and moves them through the process of **semiconduction**. We're meant to be grounded to the Earth. Humans are the only mammals with sweat glands on their feet and hands. Why? Because we're meant to be barefoot, connected to the ground, allowing electrons to flow into our bodies through those large pores. This provides enough energy to power the "Ferrari" in our heads—our brain.

How do we insulate things from electricity? Rubber. So, if we're walking around with rubber-soled shoes, are we insulating ourselves from the Earth's electrons? Absolutely. If we sleep on the second floor of a house, in a bed four feet off the ground, are we more disconnected from the Earth than if we were sleeping on the grass outside? A hundred percent.

These are basic, obvious things, but they're important. If you don't make this connection clear to people, they won't understand. I live in a neighborhood in Vegas, and it's hot—there's not a lot of water. I'm one of the last people with real grass. All my neighbors have switched to fake grass, and they keep asking me when I'm going to change mine. My answer? Never.

Think about a smartphone. The first thing that goes bad is always the battery. When you get a new phone, the battery lasts a long time. But after a while, even with the same usage, the battery starts dying quicker and quicker. If you were to open up the battery, you'd see crystalline structures inside. Crystals, though beautiful in nature, don't carry charge well. That's why the battery still shows 100% capacity but drains quickly—it can't hold a charge anymore.

The same thing happens with a car battery. If it dies and you open it up, you'll often see crystalline formations inside. Crystals are beautiful, but they don't belong in the human body.

This concept is very clear when it comes to electron deficiency syndromes. So, what does that mean clinically? Who's affected by it? Does it mean kidney stones? Absolutely. If someone has a history of kidney stones, it means they don't have enough electrons to break down the crystals. Their body's "battery" is running low.

What about uric acid and gout? Yes, it's just another form of crystalline structure. And bone spurs on the spine? Also yes. All of these are signs of crystalline formations in a body that is losing energy in specific areas. The key takeaway here is that **electrons drive the bus**.

Redox controls detox. It's not the other way around. I was originally taught that to help someone get better, you had to detox them first. And just like I mentioned earlier, there was this belief that "more is better." But in reality, more detox is not better.

When someone comes in and says, "Oh, I did this detox, and it was the best one ever—I almost died. I felt so sick, I could barely get up or function. It was amazing!" That's not a good thing. It means they did it out of order. They didn't have enough redox potential, enough electrons, to pay the "bill" of detoxifying their body. If you do things out of order, you won't feel better afterward. In fact, you might feel worse.

Some people do detoxes and come out the other side just fine because they had enough energy reserves to cover the detox process. But for those who feel sick during detox, it's because they didn't have the energy to support it. Often, people ask me, "Am I going to get really sick during this process?" My answer is, "No. If you do, we're doing things out of order."

We need to build you up first before we ask your body to do anything. It's like a relationship. If I want to go out with my friends, I need to spend quality time with my wife, go on date nights, and build up that "relationship currency" before I can spend it on a night out with the guys. It's the same with detox—you have to build someone up before you break them down. Not the other way around.

If detoxing were as simple as people think, and if autoimmune disease were caused purely by toxins, then why do we still have autoimmune disease? Detoxing would be an easy solution, but it's not the full answer.

Take **Silicon Valley**, for example. It was the hub of technology development in California, known for creating supercomputers. They used **silicon** because it was an incredible conductor—it moved electrons fast. That's why computers became more powerful and capable of handling more data. But Silicon Valley isn't what it used to be, because now they've switched to using **graphene**.

Graphene is an even better semiconductor than silicon. It's allowed for faster phones, bigger storage devices, and more powerful computers because it's a superior conductor. And now, as they look for the next level beyond graphene, do you know what they're using? **Synthetic melanin**.

Do we have melanin in our bodies? Of course we do. Melanin is the pigment in our skin. It's also the single greatest semiconductor in the human body. The more melanin, or pigmentation, you have, the better your body's ability to conduct electrons—and that generally correlates with better overall health.

Right now, we're spending a lot of time demonizing the sun, but I constantly talk to my patients about the importance of **responsible sun exposure**. You need to get darker. I expect you to get out in the sun. I know it's hot in Vegas, but it's essential. Interestingly, during the summer in Vegas, many people's vitamin D levels actually drop. Why? Because they say, "Doc, it's 118 degrees outside—I'm not going out there."

Yes, you are. Unless you don't want to get better. It's incredible to see the difference once I finally get someone to commit to this. One of my patients asked me about wearing

sunglasses and how their eyes couldn't handle the sun. It's just like running a marathon—you don't expect to do it on your first day. You train for it. So, start small—go outside for 10 minutes, then build up.

The darker your skin is, the more sun you'll need. The lighter your skin, the less sun you need. But no matter what, sun exposure is critical for health.

Silicon Valley made supercomputers using silicon because it was an excellent conductor. But now that graphene is here, Silicon Valley has shifted. And as they push beyond graphene, they're moving toward synthetic melanin, the most powerful semiconductor we know of.

Graphene is a much wider and more powerful semiconductor than silicon. That's why we now have faster phones, faster computers, and bigger storage devices—because graphene can conduct electrons more efficiently. But now, as technology moves to the next level, what are they using instead of graphene? **Synthetic melanin**.

Do we have melanin in our bodies? Absolutely. Melanin is the pigment in our skin, and it's the single greatest semiconductor in the human body. The more melanin, or pigmentation, you have, the better your body's ability to conduct electrons. Traditionally, that equates to better health across the board. Yet, despite this, we spend so much time demonizing the sun.

I talk to my patients all the time about **responsible sun exposure**. You need to get outside and get some color. I know it's hot in Vegas, but you still need to do it. Interestingly, during the summer in Vegas, people's vitamin D levels tend to drop. Why? Because they say, "Doc, it's 118 degrees outside—I'm not going out there." My response? **Yes, you are**, unless you don't want to get better.

It's amazing when I finally get someone to commit to it. One patient asked me about sunglasses and said their eyes couldn't handle the sun. I explained that it's just like training for a marathon. If you asked me to run 26 miles right now, I couldn't do it. But if I trained, I could work my way up to it. The same applies to sun exposure. You don't have to be outside for hours on the first day—start with 10 minutes.

The darker your skin, the more sun you'll need. The lighter your skin, the less sun you'll need. I always joke with my friend Murphy, who's from Ireland and is super pale. I tell him, "I love you, Murphy, but you're pale as a ghost." Why? Because Ireland, based on its geographic location, doesn't get much UV light. If Murphy had dark skin, he wouldn't absorb enough UV light to thrive there. Mitochondria and genetics adapt so that people with fairer skin can absorb more light in areas with lower UV exposure.

Now, let me tell you about a patient who called after being in a car accident. She developed a skin condition and started losing pigmentation. What's complicated about that? Here's the thing: we have three different types of melanin in our

system, and melanin is also present in our brain. The nervous system is loaded with melanin. So when she had the car accident, it traumatized her brain, and her body started pulling melanin from her skin to heal it.

Somewhere down the line, someone will likely figure out the exact reason why the brain pulls melanin from certain areas. But the point is, we're essentially fractals—everything in our body is connected and organized in ways we're still learning about.

Yet, despite all this, we keep telling people to stay out of the sun. We're telling people to protect their eyes by wearing sunglasses. I'll say this bluntly: sunglasses are one of the worst inventions in history. We're meant to get sun through our eyes. If you're wearing sunglasses, consider this your call to action to throw them away. If you don't get sunlight through your eyes but get it on your skin, your brain gets confused.

Think about it. If you go outside with sunglasses on, your brain is going to think it's dark. So your skin reacts like it's dark outside, and what happens? **You burn faster.** I can't tell you how many patients come back to me saying, "Doc, I stopped wearing sunglasses, and it's incredible how much more sun I can handle." That's because you're no longer confusing your system.

Even getting sun exposure with sunglasses on can be counterproductive. It's similar to eating foods at the wrong time or in the wrong place—it throws off your body's natural rhythm.

Light plays a twofold role. First, it's the most coherent form of getting electrons. In fact, we get more electrons from light than even from grounding. However, to be fair, we're meant to do both at the same time. If you're familiar with electronics, think of **anode and cathode rays**. When we're barefoot on the ground and the sun is hitting us, we form a perfect anode-cathode ray system—an ideal electrical circuit.

Just like any electronic device, light also plays a critical role in telling your body where you are in time and space.

I often go back and forth on what I think is the most detrimental to human health: EMFs or blue light. Right now, I'm leaning toward blue light, but they're both incredibly harmful. Statistically, **93% of the light** humans are exposed to is "alien" to us. The average person spends 93% of their time under artificial indoor lighting, which is not natural to our biology.

A few years ago, we banned incandescent light bulbs—a decision that, while made for energy and cost savings, is going to come at a huge cost to human health. Without incandescent bulbs, we've become even more exposed to **blue light toxicity**. Especially exposure to blue light at night, when it's supposed to be dark,

disrupts the body's healing processes. You could be doing everything else right, but if you're exposed to blue light at night, it'll stop your body from healing properly. For example, sleeping with the TV on could be one of the most damaging things you do for your health.

Blue light has the **same effect** on your body as caffeine. So when people come to me saying, "Doc, I've lost the ability to sleep—I physically can't sleep," I know it's because they're spending all their time under artificial, alien light.

Think about it: have you ever spent an entire day outside at the beach? By the time you leave, you feel incredibly sleepy. That's because the sunlight—especially **UV light**—makes you tired. Growing up on the East Coast, I used to go to the beach a lot. By the time I left, I was so tired that I couldn't even drive home. I'd fall asleep in the car, head nodding off as soon as we started moving.

If sunlight makes you sleepy, that's a good sign for your health. Interestingly, people who **can't** sleep usually need more sunlight during the day. It seems paradoxical, but it's true. If you ask someone who struggles with sleep how much sunlight they're getting, they'll often tell you it's very little. Blue light, like caffeine, **blocks adenosine**.

Most people will say, "I can't have coffee past two o'clock, or I'll be up all night," but they don't think twice about staring at their phone or having all the lights on in their house, which has the **exact same** effect on their body.

Here's how it works: when you drink coffee, caffeine blocks **adenosine**. Caffeine doesn't give you energy; it just prevents you from feeling tired by blocking adenosine, which is the chemical that makes you feel sleepy. Adenosine builds up in your system when you use **ATP** (the energy your body uses to function). When ATP is used up, it eventually breaks down into adenosine, signaling to your body that it's time to rest and recharge so you can make more ATP.

So, when people say, "I'm exhausted, but I drink coffee to get through the day," what they're doing is **blocking the signal** that they need to sleep, which increases heteroplasmy rates because their body is crying out for rest, but they're pushing it to keep going.

Blue light does the **same thing**. It blocks adenosine, which is why sunlight should make you sleepy, but blue light doesn't. Here's something important: blue light doesn't exist in nature without **red light**. The two always come together. But now that we've banned incandescent light bulbs, all the lighting we're exposed to is **blue** without the balancing effect of red. This is completely unnatural.

In nature, red light is always present alongside blue light. Look at the light spectrum: see how much red there is compared to blue? The red bar is always significantly larger because it's meant to balance the effects of blue light. Yet now,

we're constantly exposed to pure blue light, which is literally destroying our body's ability to create energy and heal.

Why is **red light therapy** so popular? Because it stimulates ATP production. But guess what? There's a free source of red light—it's called the sun.

There's a reason people who work night shifts have a **450% higher risk** of developing autoimmune diseases. Those numbers are irrefutable. Blue light exposure is linked to cancer, and there are countless studies confirming this now.

So, what about the sun? The sun is set up perfectly for us to use throughout the day. Let's talk about how this works, particularly in the morning. When I say "morning," I mean from sunrise to around 10 a.m., depending on where you are. During this time, all the light is in the **infrared spectrum**, meaning there's no UV exposure. You can be outside during this time without worrying about tanning or burning because you only get color change when you're exposed to UV light.

In fact, 43% of that morning sunlight is **red light**, which is why red light therapy beds have become so popular. But here's something interesting we've learned: the more infrared and red light you absorb in the morning, the **more UV your body can handle** later in the day. So, the more red light you get early on, the better your body can absorb UV during midday.

In Vegas right now, for example, the peak UV exposure is between 12:30 and 12:45 p.m. During this time, you're getting the most intense UV light, which helps build melanin and recharge your body's energy systems. By absorbing this light, your body can replenish **adenosine** stores, among other benefits.

But what happens later in the day, around 3 p.m.? The UV exposure decreases, and we return to infrared light. Why? Because infrared light at night helps heal any damage UV light may have caused during the day. It's almost as if nature intended it this way—prepping our body with infrared in the morning, absorbing UV at midday, and healing with infrared at night.

But what do most people do? They go on vacation and head to the pool **after** the red light in the morning is gone. They typically go outside around 10 or 11 a.m., right into the peak UV exposure, roasting themselves. Then, around 2 or 3 p.m., they head back inside, completely missing the healing benefits of the evening red light. This happens simply because no one tells them they need to be outside during both the morning and evening periods.

Now, there's **red light in the morning** and **red light in the evening**, but are they the same? No. While the frequencies are the same, the power and **Kelvin** of the light are vastly different, by thousands of degrees. In the morning, the red light is more powerful, waking you up and energizing your system. In the evening, the red light is less intense, calming you down and preparing your body for sleep.

We're really meant to wake up with the sun and go to sleep when the sun goes down. But modern life doesn't work that way anymore. Many of my patients tell me, "Doc, I never see the sun," and then they wonder why they can't sleep. It's all connected.

Here's a thought that might stretch your mind a bit: **oxygen** is the ultimate fuel we use to power the engines of our body—namely, our mitochondria. When we burn oxygen at the mitochondrial level, we make the most energy. If you need proof that oxygen is crucial, just ask someone to hold their breath for 50 minutes and see how they do! Oxygen is massively important. You can go 40 days without food, four days without water, but only about four minutes without oxygen.

What drives me crazy is how many patients come in with lab results showing **low oxygen levels** across the board, and when I ask them what their doctor said, they're often told, "Some people are just like that." No! If you're hypoxic, it's not something you just live with.

If someone has a **stroke** or **heart attack**, we're immediately worried about cutting off oxygen to the tissues because it can cause them to die instantly. But slowly suffocating? Apparently, that's fine in some people's minds. It's insane. I'm not talking about nitpicking over small lab values here—I'm talking about bolded, out-of-range markers, and yet people are being told it's normal.

One of the most common markers I see related to this is **anemia**. Patients will be told, "Some people just can't deliver oxygen well." But here's the reality: when mitochondrial energy production drops below 65%, 48 hours later, those cells will start to **look cancerous** under a microscope.

This isn't new information. **Otto Warburg** won the Nobel Prize for this in 1954. He discovered that all forms of cancer share two basic conditions: **acidosis** (a pH imbalance) and **voltage** problems. When the voltage drops below negative and reaches +20 millivolts, the cells start turning cancerous.

Let's talk about **hypoxia**, which means low oxygen levels in the body. What Warburg found was fascinating: it's not just that there isn't enough oxygen; the cells start using other fuel sources like sugar and fermentation, even when oxygen is present. If cancer was caused solely by a lack of oxygen, there wouldn't be any cancer, because all we'd need to do is give people oxygen and they'd get better. But it's not that simple. The issue is that the cells **stop utilizing oxygen**, even when it's available. This shift in how cells use energy is known as the **Warburg shift**.

The cells move from using oxygen to a fermentation process that relies on sugar, which is where the saying "cancer loves sugar" comes from. However, it's critical to understand that it's the **cellular condition** that causes the cells to lose their ability to use oxygen effectively.

When this happens, the cells start fermenting sugar, and ATP production drops dramatically—by more than 95%. For example, when cells use oxygen, they can produce 38 units of ATP. But when they rely on sugar or fermentation, they produce only **2 units of ATP** per cell. That's a massive difference. Think of it like **miles per gallon** in a car: if you have a high-efficiency fuel, you can go 38 miles on a single tank. But if you switch to cheap, inefficient fuel, you'll have to stop 19 times to cover the same distance.

This creates a significant limitation on our **energetic capacity**. We were discussing this over lunch: when organs become unhealthy, do they get bigger or smaller? They **get bigger**. It seems counterintuitive, right? I used to think that if I drank a lot in college, my liver would shrivel up. But that's not what happens—you get **hepatomegaly** (an enlarged liver), or **cardiomegaly** (an enlarged heart), or **splenomegaly** (an enlarged spleen). Everything gets bigger.

Why? Part of it is **inflammation**, but more importantly, it's because you need more cells to get the job done. This is a physics phenomenon called **Kleber's Law**, which states that when something needs to become more energy-efficient, it gets bigger.

So, let's say you have a healthy cell that can produce 38 units of energy. Now, imagine that same cell can only produce 2 units of energy. To get the same work done, you need 19 of these inefficient cells to match the energy output of one healthy cell.

It's like this: I have Kayla in my office, and she does an amazing job. If I had to hire 19 employees to do the same job Kayla does because they're not as efficient, would it work? Sure, but my **overhead** would be much higher. I'd need a bigger office, just like your body needs **larger organs** to make up for less energy production at the cellular level.

That's why everything enlarges: you're producing less energy, so you need more cells to do the same amount of work.

Now, here's something that may surprise you: what do you think **sleep apnea** is? Sleep apnea isn't a disease; it's an **adaptation**. It's your body trying to limit the amount of oxygen you're getting because too much oxygen is damaging you.

When I was a kid, I remember asking my teacher, "Why are elephants so big? How do they get that large just by eating grass?" No one could give me a satisfying answer. But as I got older and learned about **Kleber's Law**, I realized it's because elephants are incredibly energy-efficient. They can maintain their massive size with relatively low caloric intake because of how their systems use energy.

Now, contrast that with cancer cells, which can only produce 2 units of energy compared to a healthy cell's 38 units. While 2 units isn't great, it's still more than

zero, so your body says, “Hey, 2 is better than nothing,” and allows cancer cells to form.

This brings us to the importance of **DHA**. Most people know DHA as an omega-3 fatty acid found in fish oil. But DHA is a very special fatty acid because it’s **structural**, not used for fuel. It’s responsible for maintaining **cell voltage**. DHA is the only chemical in the human body that allows us to convert sunlight into **electrical energy** directly, which is why it’s never been replaced in our evolutionary history.

I’ve never seen a patient with **CRPS** (complex regional pain syndrome) who had normal DHA levels. It just doesn’t happen. And there’s clinical research to support this. These patients often can’t tolerate sunlight. They’ll say, “Doc, I can’t handle being in the sun.” That’s because they don’t have enough DHA to convert light into usable energy for their bodies.

Free energy inside the body isn’t good for us. If we don’t have enough **DHA** as a structural component, the body substitutes it with **omega-6** fats, which causes the direct current in our cells to drop. This shift leads us into the **Warburg effect** because we can’t use light to generate electricity in our bodies. The problem is, without DHA, we can’t convert sunlight into energy.

Interestingly, when I talk to patients about this, they often ask, “So, do you eat a lot of fish?” My answer? **No**. In fact, the sicker someone is, the less fish they typically eat. I’ve seen this pattern repeatedly.

Take, for example, patients who get **shingles** from sun exposure. Why does this happen? It’s because mitochondrial DNA gets damaged and spreads, leading to shingles outbreaks. On top of that, **manmade EMFs** rip through DHA levels incredibly fast. Where do we have the most DHA in our bodies? **Pound for pound, it’s the retina**, not the brain. That makes sense, right? Since DHA is responsible for turning light into electrical energy, the retina—where all the light enters—is packed with DHA.

Now, let’s talk about **water**. Water acts as the storage system for external energy. When we absorb energy from our environment, we store it in the water inside our bodies. We’ve learned from **Pollack’s research** that there’s a **fourth phase of water** that exists somewhere between the solid and liquid states. This phase is a flexible crystalline structure, which becomes highly organized and allows us to store energy. This water is **negatively charged** and is responsible for storing and delivering energy throughout the body.

Dr. Masaru Emoto demonstrated that water can form different patterns depending on emotional stimuli. For instance, if you took someone’s tears when they were crying from grief and looked at them under a microscope, the structure would appear chaotic and disorganized. But if those tears were shed from laughter, the

crystalline structure would be beautifully coherent. Emoto's studies showed how emotions can influence the structure of water in the body.

This **fourth-phase water** inside us is crucial for storing energy. Have you ever heard of the **jacuzzi effect**? You sit in a jacuzzi, feel great, but as soon as you step out, you feel terrible—it's cold, it's windy, and you lose that warm, relaxed feeling immediately. Without this structured water, we experience something similar. We don't store energy properly in our system, so we're constantly looking for energy from external sources because we don't have any reserves to draw from.

Did you know your **mitochondria** make water? They produce a substantial amount of **deuterium-depleted water**, known as **fourth-phase water**. On average, we're told women should drink about 2 to 2.5 liters of water a day, and men should drink around 3 to 3.5 liters. But guess what? Your body **produces 4.3 to 4.4 liters of water** every day. That's more water than we're even drinking!

Now, think about what happens when we expose ourselves to microwaves, 5G radiation, or other sources of EMF. It dehydrates us, much like putting a steak in the microwave. When you microwave a steak, does it come out juicy and delicious? No, it turns into a piece of shoe leather—dry, hard, and unappetizing. That's what EMF does to us. It depletes the metabolic water our mitochondria produce, leaving us dehydrated and drained.

Mitochondria produce energy by spinning—fast and hard, like a jet engine. That's how they generate energy. Healthy mitochondria spin rapidly, pumping out **ATP**. They're powered by electrons, which combine with hydrogen and, hopefully, oxygen

(as long as the person isn't hypoxic). The result? ATP, **carbon dioxide**, and **metabolic water**. That's the byproduct of a well-functioning mitochondria.

So, why does the mitochondria favor **hydrogen**? Hydrogen is a very basic element, and if you look at the **periodic table**, it's located in the far upper left-hand corner. That means it's the **lightest element** on the periodic table by weight, making it ideal for cellular energy production.

es, hydrogen can be made **positive** because it has one electron and one proton. So, when you remove that electron, you're left with just the proton, which helps that mitochondrial engine spin. It's a very light element.

Now, how many of you are familiar with **deuterium**? Some of you have asked me about it before. Deuterium is an **isotope of hydrogen**. There are three isotopes of hydrogen: **protium**, which is the lightest form; **deuterium**, which is often called heavy hydrogen; and **tritium**, the heaviest of the three.

Deuterium disrupts the mitochondria's ability to spin efficiently because it's so heavy. Think of it like this: if I'm bench-pressing a certain amount of weight and then you double that weight, will I be able to lift it as fast or as many times? No. The same principle applies with deuterium. Even though we're dealing with tiny elements, **double the weight** is still double the weight.

Redox and **cell voltage** are what keep deuterium out of your mitochondria. Remember that force field concept I talked about? When your cell voltage is strong and you have a high electron count, deuterium can float around in your system, but it won't be able to enter your mitochondria and disrupt them. It gets **quarantined**. But once deuterium gets inside, it breaks the mitochondria's ability to produce ATP, and it prevents **metabolic water** from holding a charge.

When that happens, your body can't store energy, and your **batteries die**.

Deuterium in its hydrogen form within proteins also causes **improper protein folding**. What diseases are linked to improper protein folding? All the major **neurodegenerative** diseases: Alzheimer's, **Creutzfeldt-Jakob**, prion diseases—we'll talk more about prions later—**tauopathies**, and **alpha-synucleinopathies**. All of these conditions are linked to misfolded proteins, and in each case, you'll find **high levels of deuterium** in their mitochondria.

Deuterium also causes the body to skip **autophagy**—the process where cells repair themselves—and jump straight to **apoptosis**, or programmed cell death. This is a big deal because your body will see the damage as unfixable, even if it's not that extensive, and move on to destroying the cells. This will cause you to **burn through** your stem cells.

Deuterium also increases **mast cell release of histamine**, which leads to conditions like **mast cell activation syndrome**. I'm not even sure if that syndrome officially exists, but I can tell you that patients with it have **high deuterium loads** and are **EMF toxic**.

Now, how do we target these issues? We use technology like **PEMF** (Pulsed Electromagnetic Field), **water exclusion machines**, **microcurrent therapy**, light therapy devices, oxygenation machines, and tools that enhance **semiconduction**. We have tech that works on each of the **six main energy inputs** the body needs. But it's not just about getting energy into the system; it's about **interconnection**. You need to move the energy through your body in a cohesive way.

So how do we get energy to flow? **Electrons** enter the body, and we need to **capture** and **store** them, especially in water. Then, we move them through the system. Where are these electrons stored? In **DHA** and **connective tissue**, which then charge the ligaments in your spine, and eventually, the dura mater (the membrane covering the brain). This is how electrons move through the body to reach the brain.

What's the first thing everyone does when they wake up in the morning? **Stretch**. Every mammal does it—your dogs, cats, everyone. Why? Because you've been **storing your electrons** in your connective tissue overnight. Since your mitochondria aren't firing during sleep—like how you wouldn't fix a car engine while it's running—those electrons are stored. When you stretch, you release those electrons from the connective tissue. That's why all mammals stretch.

Have you ever heard the story of **Archimedes**? He said, "Give me a lever and I can move the world." Well, these are the **leverage points** that allow us to move the world in terms of chronic disease—points that no one taught me about, and that many in functional medicine still don't focus on. These leverage points are like the managing partners of your body, and they follow a specific order.

The most important hormone in the body? **Melatonin**. Then comes **leptin**. Many of you are familiar with the leptin protocols. Carol has shared them with you. I developed those protocols, and Carol is always gracious in giving me credit for bringing this to light. I didn't create the science around leptin, but I brought it to the forefront.

Let's talk about **MSH**—**Melanocyte-Stimulating Hormone**—one of the most important hormones in the body. MSH is responsible for building **melanin**, the greatest semiconductor in the human body. Then we have **Vitamin D**, which is technically not a vitamin but a **hormone**. And finally, **UB rates**, which stands for **ubiquitin protease rates**—the body's ability to utilize proteins.

All of these hormones are closely interconnected and strongly linked to our connection with the environment. Now, while we use technology to mimic and

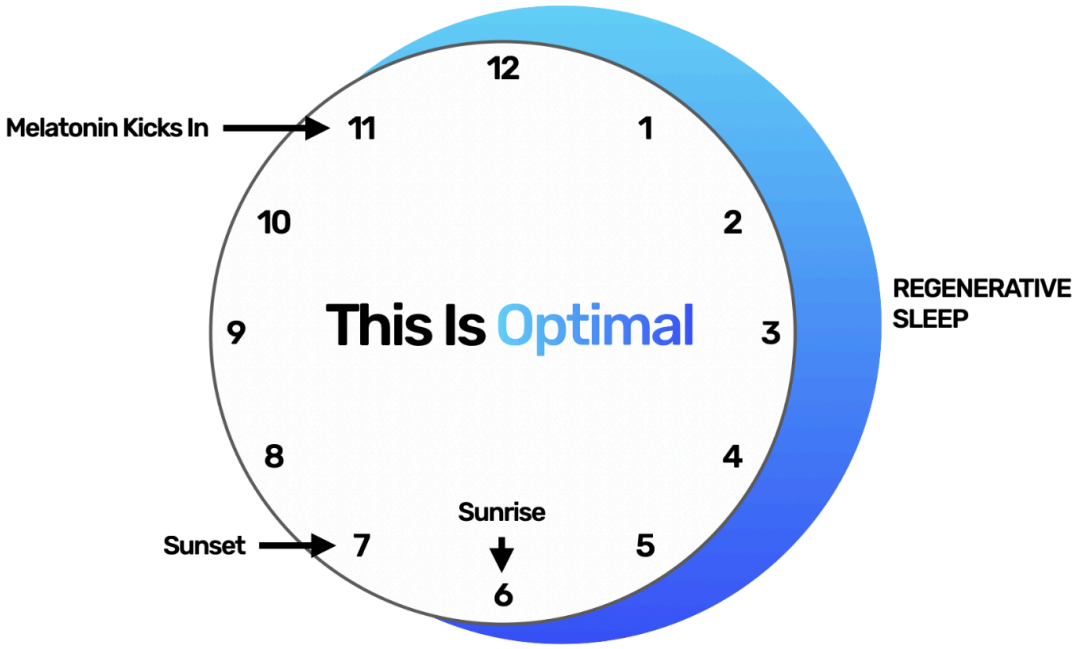
influence these processes, the key is to understand that focusing on these big lever points can make a huge difference. My patients often come in and ask, “Is this all you need me to do?” Yes, because this is the **20%** that gets us **80%** of the way there.

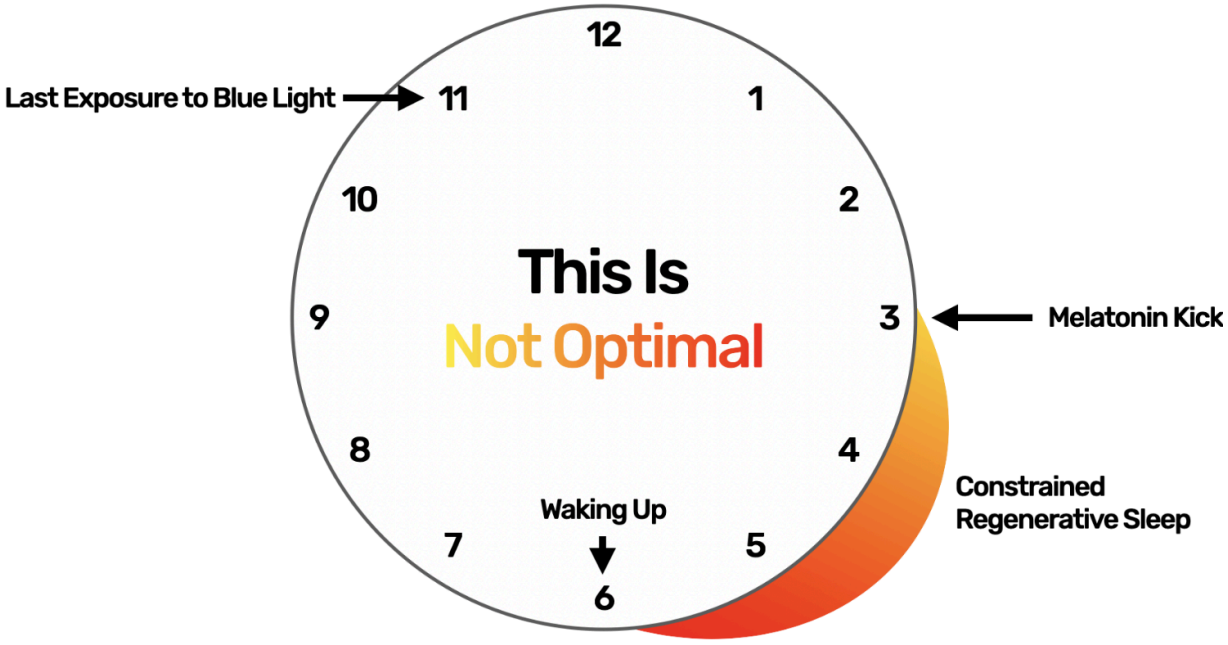
6

The Role of Darkness in Healing

Let's focus on **melatonin**, which is the key regulator in healing cells and removing damaged cells from the body. We typically say melatonin is produced after four hours of darkness by the **pineal gland**—and that's correct. This is the idea behind the recommendation for eight hours of sleep. In a perfect circadian rhythm, when the sun goes down, the four-hour clock for melatonin production starts. By the time we go to bed, we get that full eight hours of sleep, and what we really need is **eight hours of melatonin activity** to repair our cellular structures and maintain health.

That's where the "eight hours" comes from—it's not just a nice, round number or one-third of the day. It's about the **eight hours of melatonin activity** required for the body to heal. Most people may be sleeping and resting, but they're not **healing**. Without melatonin, sleep is **non-regenerative**. So when people ask, "What's the most important piece of advice you can give?" it's this: **Protect your sleep and your light exposure at all costs**.





If you look up any major disease, you'll see that **sleep dysfunction** is always a precursor, because melatonin levels are low in those conditions. Melatonin is also one of the most effective ways to reduce **heteroplasmy rates**.

Now, if you turn off all your lights except for red by 9 p.m., and you avoid television and computers, will your melatonin start producing four hours later? Yes, it will. The clock starts as soon as you remove the artificial light sources that disrupt melatonin production.

It only takes **nine seconds** of exposure to light for your brain to recognize it's daytime and shut off melatonin production. Think about that—just nine seconds. If we turned off all the lights in this room, your eyes are so sensitive that they can detect a **single photon** of light in the dark. That's how finely tuned our systems are to light.

The **pineal gland** also controls the flow of **cerebrospinal fluid (CSF)**, which is connected to brainwave activity. Many people have **calcified pineal glands**. For instance, studies show that nearly 100% of **MS** patients have calcified pineal glands, and by the age of 17, **40% of Americans** will have some level of calcification.

One major culprit? **Fluoride** and man-made **EMFs**. The pineal gland is mostly made up of **crystals**, and while crystals react well with **natural EMF**, they don't do well with man-made EMF.

Recent research has also shown something fascinating—our **mitochondria** actually produce **melatonin**. This is groundbreaking because it's something we've only discovered in the last few years. Up until now, we thought melatonin was only

produced by the pineal gland, but this new finding shows just how crucial mitochondria are to our overall health.

You can't measure melatonin levels the way you would with other hormones because it's made **inside the mitochondria**, within the mitochondrial matrix, and it's used in the exact same cell where it's produced. So, when you do melatonin testing, you won't detect it in the plasma because it never leaves the cell. It's created and used **intracellularly**.

For melatonin production and function, you need both **infrared** and **UV light** to make it and charge it. We used to think of melatonin as a hormone of **darkness**, but now we know it's actually a hormone of both **light** and dark. If you want to avoid disease, you need **bright days** and **dark nights**. This balance is essential.

Unfortunately, in today's society, that's rarely the case. So, do we supplement with melatonin? **Nope.** Why? Because if you supplement with melatonin, you have to be extremely aggressive about blocking light exposure. Otherwise, you risk damaging your **retina**, which can lead to other diseases.

Taking **exogenous melatonin** presents a few problems. First, it disrupts your body's **biofeedback loops**. Your body and brain can become confused if you take melatonin at the wrong time. For example, if you wake someone up at 2 a.m. and do a saliva test, you'll find melatonin in their system because the **pineal gland** produces melatonin during the night. But during the day, melatonin levels should be **zero**.

If you take melatonin supplements while you're exposed to light—whether it's sunlight or artificial indoor light—your brain will get confused and wonder, "Why is melatonin being released now?"

Melatonin plays a crucial role in regulating **autophagy** and **apoptosis**, which are essential for cellular repair and renewal. This is why controlling your light exposure is **paramount**. You need to emphasize this to your patients because it's often the precursor to the **vicious cycle of disease**.

Now, let's move on to the next big leverage point, after melatonin: **Leptin**.

Leptin is the hormone that controls all **energy transactions** in the body. It's essentially your **electron accountant**, responsible for telling the brain where you stand on an energy level. Let me explain how leptin works.

Leptin is often called the **satiety hormone**, but it's not just about telling you when you've had enough food. It's about signaling when your body has met all its **energetic needs**. When you eat, **60%** of your calories go straight to your **liver** for storage, like a paycheck going into your savings account. The other **40%** goes to

paying your “bills”—that is, keeping your body’s essential functions running. These are the immediate energy demands, like paying rent, mortgage, car insurance, etc.

Once your body has met all its energetic needs, **leptin** is released from your **adipose tissue** (fat cells) and travels up to your **hypothalamus** to signal your brain, “Hey, we’re good. We’ve made all the energy we need for now.”

So, why do so many people struggle with **overeating** and never feel full or satiated? It’s not that they need more food—they need more **energy**.

Now, this all ties together. All of these hormones play a role in regulating **circadian rhythm**. It starts with the **pineal gland**, which secretes **melatonin**. Melatonin needs to bind to the **hypothalamus** first before **leptin** can bind. Why? Because melatonin lowers your body temperature.

We need to be cooler at night. So when people tell you, "I get really hot at night, I sweat through the sheets, I’m burning up," do we need testing? **No**. You’ve already given me the answer because I understand the physiology. Your body temperature needs to drop at night. If it doesn’t, your immune system will stay active. That’s why you shouldn’t use an **infrared sauna** at night—it raises your body temperature, keeping your immune system engaged when it should be resting.

Once melatonin binds, leptin is released from your fat cells, signaling that you’ve made all the energy you need. Leptin then travels up to bind to the hypothalamus, which happens optimally between **midnight and 2 a.m.**. Remember, it takes four hours for melatonin to build up, so if you’re not in the dark by **8 p.m.**, you’ll miss the start of this process. If you put on blue light blockers at 9 or 10 p.m., you’ve already missed the critical beginning of this window.

And what if you work a **night shift** and work past midnight? You miss the whole window. That’s why disorders are so much more prevalent in people who work night shifts—they’re missing the optimal time for leptin to do its job.

Between **midnight and 2 a.m.**, melatonin signals the **pancreas**, which has melatonin receptors, to lower and sensitize **insulin**. In fact, **leptin governs insulin**. It drives me crazy when people say, “Oh, diabetes isn’t a blood sugar disease, it’s an insulin disease.” No, it’s a **leptin disease**.

There’s a ton of research showing that **blue light at night** causes people to gain weight. I have patients all the time saying, “Doc, I don’t know what’s going on. I’m eating perfectly, working out like crazy, but I can’t lose a pound.” That’s a classic case of **leptin resistance**.

Leptin resistance begins at the **hypothalamus**. Normally, 40% of the calories you consume go to meet your immediate energy needs—paying your "bills." But when leptin resistance kicks in, those calories get stored in your liver instead of being

used. It's like having no idea how much money is in your bank account—you're not going to be generous with your debit card if you don't know your balance. Similarly, if your brain has no idea how much energy you have, it tells your body to **store it**.

And what happens when you store all those calories in your liver? You develop **fatty liver**.

The more **visceral fat** you store, the more **leptin** you produce. This creates a **vicious cycle** because leptin is made in **adipose tissue**. So, the more fat you have, the more leptin your body produces, leading to more inflammation, more resistance, more fat, and the cycle continues.

More visceral fat also means higher levels of **deuterium** in your system. And that's the wrong way to go. The more this cycle perpetuates, the more inflammation, the more **chronic electron loss**, and ultimately, the more disease.

Now let's talk about **Wolff's Law**—the principle that bone under stress remodels and becomes stronger. That's why we tell everyone to do **weight-bearing exercises**. But here's a question: if Wolff's Law were 100% true, wouldn't morbidly obese people have the strongest bones in the world? They're under tremendous stress, right? Yet, they have the highest rates of **osteoporosis**. How does that work? It doesn't make sense, does it?

When someone is **leptin resistant**, leptin **nullifies Wolff's Law**. Wolff's Law only holds if leptin is functioning properly.

Leptin is more than just the "obesity hormone"—it's the **energy accountant** for your body. Leptin dysfunction disrupts hormone cascades and stalls healing. If you don't get leptin right, you won't get **estrogen**, **progesterone**, or **testosterone** right either. Think of those hormones as employees—hardworking and diligent, but if the **manager** (leptin) is incompetent, they're going to fail.

It's like those reality shows where businesses are failing. The employees are often great—loyal, hardworking, and committed. But the businesses are falling apart because the owner or manager is mismanaging everything. It's almost always the **manager's fault**, not the employees'.

This all ties together. Every one of these hormones plays a crucial role in the **circadian rhythm**. Let's start with the **pineal gland**, which secretes **melatonin**. Melatonin must bind at the **hypothalamus** first before **leptin** can bind. Why? Because melatonin lowers your body temperature, which is essential for nighttime regulation.

We need to be **cooler at night**. So when patients tell you, "I get really hot at night, I sweat through the sheets, I'm burning up," do you need to run tests? No, they've

already told you the answer. Their body temperature isn't dropping like it should. I understand the physiology and the science behind this.

Why does body temperature need to drop? Because if your temperature remains elevated, your **immune system** stays active. That's why you shouldn't do an **infrared sauna** right before bed. The immune system has to be turned off to allow proper rest and healing.

Once melatonin binds and **leptin** is released from your fat cells (signaling that you've made enough energy), leptin binds at the hypothalamus. This process happens optimally between **midnight and 2 a.m.**. So, what did I tell you about light and dark? It takes **four hours of darkness** for melatonin to start its cycle. If you don't get into a dark environment by 8 p.m., you'll miss the beginning of this critical window.

If you put on **blue light blockers** at 9 or 10 p.m., you've already missed the start of melatonin production. And if you work **night shifts** or stay awake past midnight, you'll miss the whole window. This is why disorders are far more prevalent among those who work night shifts.

From midnight to 2 a.m., when this process is working optimally, melatonin signals to your **pancreas** (which has melatonin receptors) to lower and **sensitize your insulin**. Leptin governs insulin.

It drives me crazy when people say, "Diabetes isn't a **blood sugar disease**, it's an insulin disease." No, it's a **leptin disease**. There's plenty of research showing that **blue light at night** causes people to gain weight. Patients come to me all the time, saying, "Doc, I'm doing everything right—eating perfectly, working out like crazy, but I can't lose a pound." That's a sure sign of **leptin resistance**.

Leptin resistance is the precursor to **diabetes**. It kicks in at the hypothalamus, and instead of 40% of your calories being used to "pay your bills" (i.e., support your energy needs), they get stored in your liver. Your body thinks, "We may need this later," and holds onto that energy.

If your brain doesn't know how much energy is in your system (because of leptin resistance), it tells your body to store everything. This leads to **fatty liver**. The more **visceral fat** you store, the more leptin you produce. This creates a **vicious cycle** because leptin is produced by **adipose tissue**. More fat means more leptin, which leads to more inflammation, more resistance, and the cycle continues.

Increased visceral fat also means higher **deuterium** levels in the system. As this process continues, inflammation rises, **chronic electron loss** increases, and disease sets in.

Now, let's talk about **Wolff's Law**, which states that bone, when placed under stress, will remodel itself and become stronger. This is why we recommend **weight-bearing exercises**. But if Wolff's Law were entirely accurate, morbidly obese people—who place a tremendous amount of stress on their bones—would have the strongest bones in the world, right? Yet, they have the highest rates of **osteoporosis**. Why? Because **leptin resistance** nullifies Wolff's Law. Wolff's Law only applies when leptin is functioning properly.

Leptin isn't just about obesity—it's the **manager** of your body's energy system. Without proper leptin function, you can't fix hormonal cascades that control healing. If leptin is out of whack, trying to balance **estrogen, progesterone**, or **testosterone** is like micromanaging employees while keeping a terrible manager in place. It won't solve the problem.

Sometimes, lab results look bad, but the patient feels fine. But with **MSH** (Melanocyte-Stimulating Hormone), you can't fake it. Most doctors don't even know it plays a role in disease—they only associate it with **tanning**. But melanin, and MSH by extension, plays a much larger role.

Let's break it down. **MSH** increases **melanocytes**, which enhances your body's ability to heal, detoxify, conduct energy—everything. It's also involved in **melatonin production**, forming a feedback loop: melatonin production boosts MSH, and MSH helps produce more melatonin to keep the cycle going.

MSH also reduces **food intake**. People who are overeating and can't feel full often have an MSH issue. In fact, MSH is altered in every **eating disorder**. It also acts as an **anti-inflammatory**, builds tolerance to your own proteins, and plays a critical role in **autoimmune disease**. It supports the vascular system, lowers blood glucose, stimulates thyroid hormone production, decreases heteroplasmy, and repairs DNA.

So no, MSH isn't just about getting a tan—it's a **healing hormone**.

When MSH is optimal, it decreases **T cells** and increases **T regulatory cells**, which is the opposite of what happens in autoimmune disease. It also boosts libido, decreases appetite, and stimulates **thyroid-releasing hormones**. Even if someone has had their thyroid removed, you can still get their thyroid pathways working by addressing MSH.

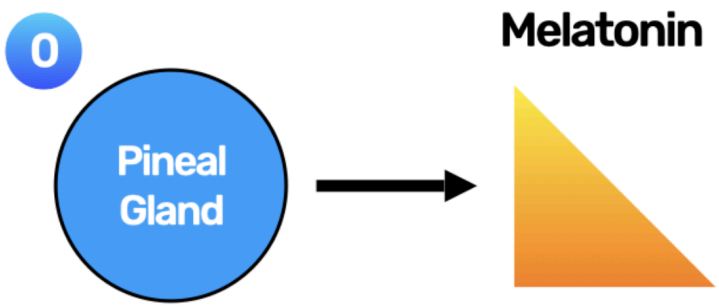
MSH increases **free T3** in obese patients, helping them lose weight, and it kills **staph, candida,** and **E. coli**. I had one patient who constantly got food poisoning. Her MSH was altered, making her more susceptible to E. coli.

MSH also plays a key role in **collagen production**, making it vital for those with **EDS** (Ehlers-Danlos Syndrome), including myself. It even protects the **kidneys** against disease.

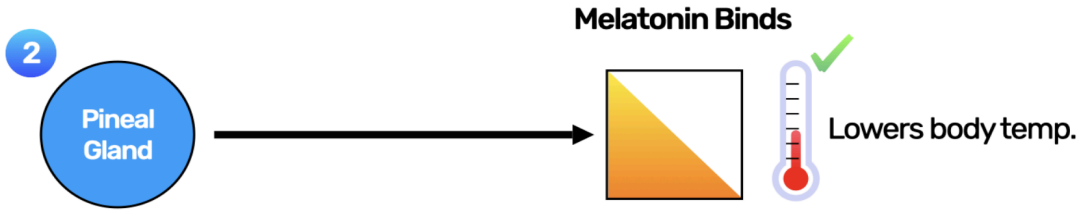
If someone tells you, “I can’t go outside in the sun,” their MSH is likely altered. It prolongs illness and is a **rate-limiting factor** in both healing and the progression of disease. MSH is what my friend calls the “**wheel of misfortune**”—if it drops below 15, a person can’t get **regenerative sleep**, and the lower it goes, the worse they feel. It’s also the **diagnostic marker** for chronic fatigue.

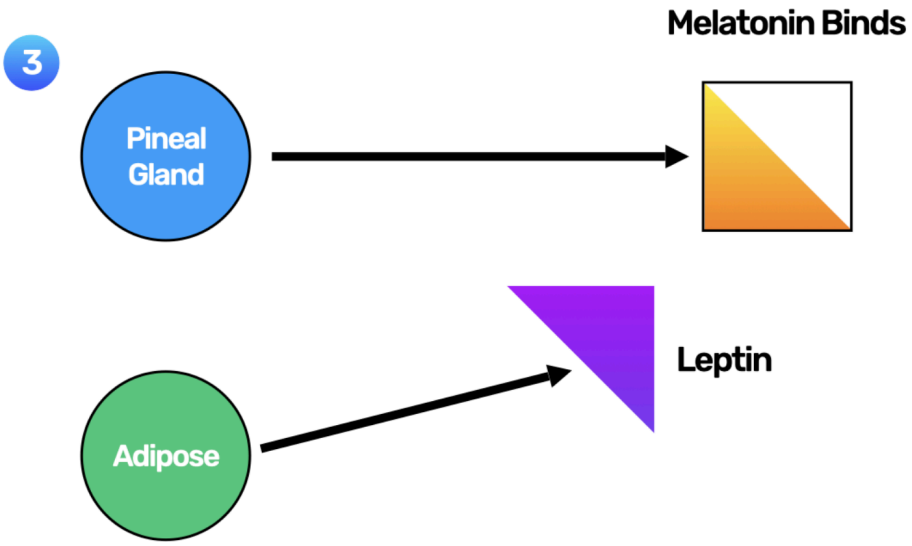
MSH is altered in **chronic pain**, autoimmune diseases, **sleep apnea**, traumatic brain injuries, chronic fatigue, Alzheimer’s, MS (60% of MS patients have undetectable levels of MSH), biotoxin illnesses like **mold** and **Lyme**, eating disorders, and many others.

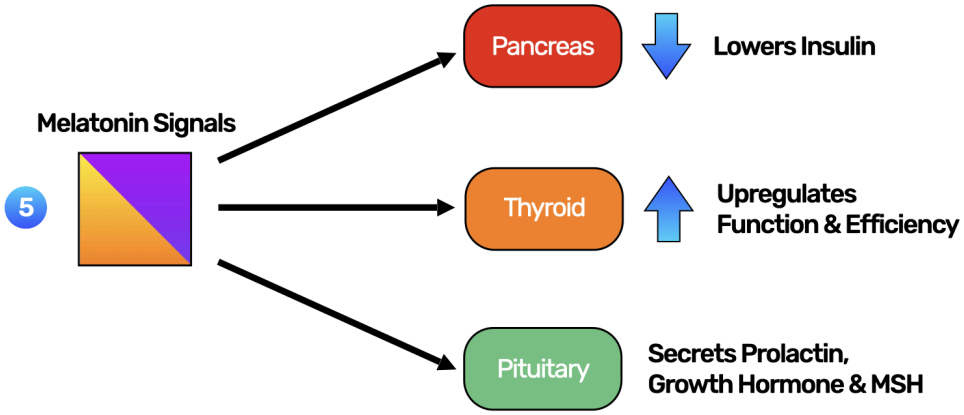
In cases like **kidney failure**, MSH may even be elevated because it’s trying to protect the kidneys. If MSH is low in someone with kidney disease, you’re **late to the game** and need to act fast.




1
Pineal Gland
Melatonin
Hypothalamus


2
Pineal Gland
Melatonin Binds
Lowers body temp.


3
Melatonin Binds
Pineal Gland
Leptin
Adipose



All of this ties together. These hormones—**Vitamin D, melatonin, leptin, MSH**—play critical roles in circadian rhythm. Let's start with the pineal gland, which secretes **melatonin**. For melatonin to do its job, it first needs to bind to the **hypothalamus**, and this lowers your body temperature. So, when people say, “I get really hot at night, I’m sweating through the sheets,” they’re giving you all the information you need. You don’t need testing because the **physiology** already tells the story.

Why does body temperature need to drop at night? If your body stays warm—say you do an **infrared sauna** session at night—your **immune system** stays active. You need your body temperature to drop to shut down immune activity before sleep. After melatonin binds, **leptin** is released from your fat cells, signaling that your energy needs are met. Leptin then binds to the hypothalamus, ideally between **midnight and 2 a.m.**

This is why I stress the importance of **light and dark**. It takes **four hours** for melatonin to kick in. If someone isn't in the dark by 8 p.m., they miss the beginning of this process. Putting on blue light blockers at 9 or 10 p.m. is too late—you've already missed the window. And if you work the **night shift**, you miss the entire optimal window for melatonin and leptin to work, which is why night shift workers are more prone to **chronic diseases**.

Between midnight and 2 a.m., when this system works best, the **pancreas** gets signaled. Did you know the pancreas has **melatonin receptors**? Melatonin actually sensitizes **insulin**, and **leptin** governs insulin's behavior.

There's a lot of talk nowadays about **diabetes** being an insulin disease, not a blood sugar disease. But that's only part of the picture. In reality, it's a **leptin disease**. Blue light exposure at night has been shown to make people gain weight. Many patients come to me and say, "Doc, I'm eating perfectly, I'm working out, but I just can't lose a pound." That's a classic sign of **leptin resistance**.

Leptin resistance starts in the hypothalamus. Normally, 40% of the calories you consume go toward immediate energy needs, like paying your bills. But when you're leptin-resistant, your body doesn't burn those calories—it stores them in your **liver**. If you don't know how much energy is in your system, you're not going to spend it freely, just like you wouldn't hand out your debit card if you had no idea how much money was in your bank account.

What happens when all these calories get stored in the liver? You get **fatty liver**. The more **visceral fat** you store, the more leptin your body makes, and this creates a vicious cycle. Leptin is produced in your **adipose tissue** (fat cells), so the more fat you have, the more leptin you produce, which leads to more **inflammation**, more **leptin resistance**, and more fat. It's a downward spiral.

The more visceral fat you have, the higher your **deuterium** levels. This leads to more inflammation, chronic **electron loss**, and more disease.

Now let's talk about **Wolff's Law**, which states that bones under stress will remodel themselves and become stronger. This is why we encourage **weight-bearing exercises**. But here's something to think about: if Wolff's Law were 100% true, wouldn't **morbidly obese** individuals have the strongest bones in the world due to the immense stress on their skeletal system? Instead, they have some of the highest rates of **osteoporosis**. How does that make sense? It doesn't—unless you

understand that **leptin resistance** nullifies Wolff's Law. Wolff's Law only holds true if your leptin function is healthy.

Leptin isn't just about obesity—it governs your **hormonal cascades** and impacts healing. It controls all your other hormonal resistances, including **estrogen, progesterone**, and **testosterone**. Think of those hormones as diligent employees. They're great at their jobs, but if their **manager** (leptin) isn't functioning well, they're going to fail.

This reminds me of reality shows where the business is failing, and the owner always blames the employees. Yet, it's always the **manager or owner** who's the real problem. The same applies to your hormones. If leptin isn't functioning correctly, the rest of your hormones will struggle, no matter how good they are at their jobs.

Now, I often see patients who are **fair-skinned** and don't look like they spend much time in the sun. I'll ask them, "Do you take a lot of **vitamin D** supplements?" and they say, "Yes, I need to get my levels up." That's why their **cholesterol** is high. Excessive use of vitamin D supplements can raise cholesterol levels.

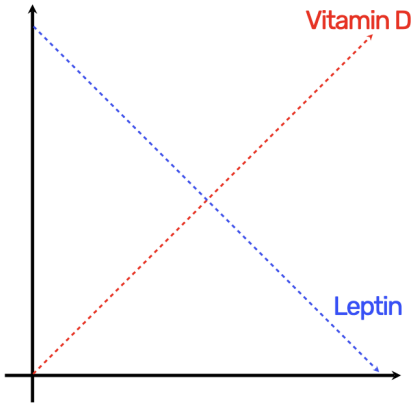
If your **vitamin D** is low, your body ramps up cholesterol production, thinking, "We're not getting much **UV light**, so we'd better make more cholesterol in case we can turn it into vitamin D when we do get light." Vitamin D alone regulates **3%** of the human genome—**919 genes** that we know of. If you Google vitamin D in relation to disease, you'll find that it's involved in virtually every condition. That's why all diseases can be considered **sunlight deficiency diseases**.

Vitamin D is the **sunlight hormone**. If it's low, you'll also have problems with **melatonin** production. Without enough UV light during the day, your body can't make melatonin in the mitochondria. And **leptin** is thrown off as well because leptin requires **UVC light**, which isn't visible but is part of the radiation spectrum.

Vitamin D

Vitamin D & Leptin

- **Inversely & Directly Related**
- **Getting Stuck Causes Obesity**
- **27% Up & 27% Down**



That's why I always teach these five hormones together—they are interconnected. Fixing these fundamental issues is **80% of the battle**.

Vitamin D and leptin are closely linked. Studies show that as **vitamin D** levels from **sunlight** increase, **leptin** levels decrease in an exact ratio. If vitamin D goes up **27%**, leptin goes down **27%**. If vitamin D goes up **50%**, leptin drops **50%**. This has a direct impact on **weight loss**.

There are strategies for people who live in low-light areas, but the benefits of sunlight-derived vitamin D far exceed those of supplements. You get **12 benefits** from sunlight-exposed vitamin D and only **3** from supplements—you're missing out on **75%** of the advantages. I always tell my patients, "You can't pay someone to do push-ups for you." Sure, you can check the box and say they're done, but you won't get the **muscles**.

And that's the same with vitamin D supplements. You can take them, but it's like **cheating**. It looks good on paper, but it won't give you the same function as getting it naturally from sunlight.

It might seem like it's spreading like an infection, but it's not—it's an **electromagnetic signaling pattern**.

Protein folding is a critical process in the human body. There's no lab marker you can use to directly track it, but it's intimately connected with the other **four Archimedes levers** we've discussed. When **hormone sensitivities** and **UB rates**

get too high, your body can start targeting healthy cells for **apoptosis** and **autophagy**.

Can this lead to autoimmune conditions? Absolutely. Have you heard of concepts like **molecular mimicry**? That's not the real issue—what's really happening is that your **UB rates** are out of control. When UB rates drop too low, unhealthy cells are missed, and the body says, "Well, you're not folding correctly, but you can stay." Misfolded proteins are what your immune system targets in **autoimmune diseases**.

If those misfolded proteins start proliferating, that's where **cancers** develop. Abnormal protein folding is the hallmark of all **neurodegenerative diseases**, as we discussed earlier. This is where all these hormones we've been talking about ultimately converge—back to **protein folding**.

So, when you see someone with **arrhythmias**, **hypertension**, **sleep apnea**, **diabetes**, or **adrenal fatigue**, this all comes back to these high-leverage points. For instance, **sleep apnea** always involves high levels of **deuterium**, which means a **deuterium depletion strategy** can be helpful.

Someone asked me about this during one of the breaks—what if the patient is diabetic, has adrenal fatigue, or struggles with excessive food allergies? What if they get something like the **paleo flu**, where people starting the paleo diet experience flu-like symptoms? This all ties back to protein folding and melatonin.

A key study published in 2022 showed that **melatonin** is the one hormone in our body that controls prions from turning abnormal and spreading. The study revealed that **cancer cells** resistant to drug therapy, chemo, or natural remedies had high levels of prions. The more prions present in the cancer cells, the more resistant they were to treatment, and the patients had a higher likelihood of not responding to therapy. What's the takeaway? More prions indicate **lower melatonin levels**.

Proteins need three things to function properly: **electrons**, **oxygen**, and **ATP**. This is the essence of what we've been talking about all day regarding **energetic debt**. Without these resources, proteins misfold, and the system breaks down. This is what drives **mutations**, **heteroplasmy rates** in the mitochondria, and **DNA mutations** in the nucleus.

If deuterium is the source of hydrogen that's being used, or if the body doesn't have enough electrons, oxygen, or ATP, once proteins misfold, they can't be fixed. Misfolded proteins will remain that way. Proteins are supposed to fold in a specific way, and if they don't, the body usually corrects it—if there's enough energy, enough melatonin, and low deuterium levels. If any of those resources are lacking, the misfold happens, and it's permanent. That's why it's so crucial to maintain these systems to give your body the best chance of avoiding misfolding in the first place.

These processes are completely dependent on **melatonin**, **leptin**, and **vitamin D**.

So yes, it's a fair analogy to say that **UB rates** determine how well your body distinguishes good cells from bad ones. While we may not have a direct lab marker to measure this, we can still influence these processes. They can be **signaled by frequency** and **light**, which activate certain protein peptides in the body.

If proteins don't fold correctly, survival becomes impossible. This is why **50% of our ATP budget** goes toward protein folding. Proteins are the direct target of autophagy and apoptosis, which are how our immune system keeps us healthy. And this process is deeply connected with the other **Archimedes levers** we've been discussing.

7

The Physics of Health

Physics governs the body. Chemistry is great and absolutely important, but physics accounts for **80-90%** of how things function. The good news is, we already have technology at our disposal—technology that doesn't cost a fortune—that can change the game for chronic disease patients. And when you explain this to them, they'll tell you, "My god, that makes sense."

These patients are **desperate for answers**, and they often say, "You're the only one who makes sense." But I'm not the only one. There are **plenty** of doctors out there doing this work. Someone recently asked me when I'm going to write a book, and my answer is: **I'm not**. My goal is to build an **army of doctors** who can duplicate this approach, because right now, I'm just some guy in Las Vegas who could be easily dismissed or sidelined.

But if these methods become the **standard of care**—if Hashimoto's, for example, becomes **100% curable** 100% of the time—then it doesn't matter if there's a book. When patients start sharing these results with each other, the medical establishment will have to deal with us. They'll have to deal with me regardless, but I want more people to join this movement.

Ultimately, this all started with my mom. She was patient zero for me—the reason I pushed so hard to understand this. I wonder every day if I would've tried this hard if it wasn't her hanging in the balance. But I knew, if she was going to have a chance, it was up to me. I didn't get that chance with my sister—I was only 10 years old. But when that chance came around again with my mom, I made damn sure I was ready.

Now, we're passing this knowledge along to everyone else, and I'm **thankful** to all of you for standing up for these patients, too.