

“*Good Energy: Measure and Boost Metabolic Health*”

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By Will Stone

WASHINGTON, D.C.—In medical school, Casey Means could tell that her own health was slipping.

The culprits? Crummy food, long days hunched over a desk and little sleep—rites of passage for many future physicians.

“I was getting sore from sitting so much,” she recalls.

Hoping to make a small dent, she asked Stanford to add a few standing desks in the back of its classrooms. The administration shot down the idea but told her it would reconsider if she returned with convincing data.

Means tracked down grant funding, trained up in qualitative research and conducted an analysis of her classmates’ sentiments on the matter. “The data was overwhelming,” she says, “Students actually felt that the amount of sitting was diminishing their well-being and their learning.”

Two years later, Means presented her findings to the powers that be, only to hear that standing desks were still off the table. It was a lesson for the surgeon to be on the blind spots in the medical system and how prevention of chronic health problems falls by the wayside.

“That was just one of those first moments of realizing this was going to be a really big ship to turn,” says Means, who has a medical practice in Portland, Ore., and is chief medical officer for the biotech company Levels.

In her new book, *Good Energy*, Means lays out her thesis for what is wrong in U.S. health care and how patients can take their health into their own hands. She and her coauthor, Calley Means, her brother, delineate how common diseases and symptoms that plague Americans are rooted in issues like poor nutrition, lack of movement and problems with sleep.

She links many of these chronic problems to troubles in our mitochondria, the powerhouses of our cells.

“The most foundational level of health is how our cells are powered,” says Means. “You could have a Ferrari and, if it has no gas, it will not run. So ‘good

energy’ is a term to help us understand what we’re striving for when we’re doing all these dietary and lifestyle investments.”

The book charts her path through the medical profession. She became disillusioned with medicine’s failure to adequately address the most pressing and pervasive causes of disease in our country. Ultimately she left surgery to practice functional medicine and eventually founded Levels, which uses continuous glucose monitors to help people track their metabolic health.

She lays out concrete ways to assess and improve your own well-being—including how to interpret different lab tests—and offers plenty of extra context on biomarkers of health for those who want to go deeper.

This conversation has been edited for length and clarity.

■ **We often hear about obesity being a public-health crisis in America. You frame it slightly differently, saying that most of us have some form of “metabolic dysfunction.” What do you mean by that?**

We’re actually referencing a paper that came out of *The Journal of the American College of Cardiology* in 2022 that showed, based on assessment of the lab results of 55,000 Americans, only 6.8 percent were metabolically healthy—93.2 percent had at least one biomarker indicating metabolic dysfunction. What the science is telling us is that most of the chronic symptoms and conditions that are affecting Americans across their lifespan are rooted in metabolic dysfunction, which is a core problem in how our bodies and our cells actually make energy to power themselves.

If we think of this as a visual, we’re talking about the trunk of the tree of American health care being metabolic dysfunction and all the branches being the different symptoms and diseases that we’re so familiar with, [including] type-2 diabetes, obesity, Alzheimer’s, dementia, cancer, chronic kidney disease . . .

■ **It seems like we’re hearing a lot about mitochondria these days, and their role in health, including in your book. Why is that central to this concept of good energy?**

Yes, it’s thrilling! Mitochondria are these miraculous parts of our cells that make energy. We have these 40-plus trillion cells in our bodies, and each of those cells is a little factory that is doing trillions of chemical reactions every second. Almost all of those chemical reactions need energy. A well-functioning mitochondria means a well-powered cell.

When we have mitochondrial *dysfunction* and we become underpowered, we end up getting dysfunction of our cells and [that] leads to dysfunctional organs and that is disease and symptoms. A big question people might have is: Why now all of a sudden are mitochondria under siege? And the reason is our environment has been changing at such a rapid pace over the last hundred years or so.

■ What are some of those changes?

Our food patterns, sleep, movement patterns, our emotional health and stress, our relationship with light, our relationship with temperature and our relationship with toxins.

When we think about food, 70 percent of our calories are ultraprocessed, industrially manufactured, nutrient-depleted food with lots of synthetic additives, which are essentially undernourishing our cells.

We are sleeping less. And it's not just quantity, the quality and consistency of our sleep is also problematic.

Americans are investing more than ever in exercise—we actually have doubled fitness center memberships since the year 2000—and yet obesity continues to climb.

A big part of this, I believe, is we have taken movement out of the fabric of everyday life and then basically told people that exercise can replace that. But biochemically that's not true. A bout of exercise is very important for the body, but moving throughout the day in a low-grade way actually sends a stimulus to our cells to constantly dispose of glucose and use it throughout the day, which can have a profound impact on our metabolic health. So, in a sense, our obsession with exercise while still being radically sedentary for most of the day is not really working for us.

■ The book starts with the story of your mother, who seems to have traveled a very common path in our health-care system. Why focus on her?

My mom represents a typical American patient who is both totally loyal and dependent to the health-care system, but ultimately let down by it, in the sense that she never fully healed and never was able to actually reverse any of the conditions. Instead of being healed, she was being managed.

■ What exactly do you mean by that?

My mother had me when she was about 40, and I was a very large baby. I was close to 12 pounds, which portends metabolic issues in both the child and the mother. No one really alerted her that it was a warning sign.

As she moved into her 50s and 60s, she racked up high cholesterol, high blood pressure, high blood sugar. Americans are facing these at astronomical rates. All three of these are rooted in these same things—insulin resistance and metabolic dysfunction. They're what I call the trifecta of bad energy in the book.

Then she's 72 and she has some pain in her belly. Turns out she has stage-4 widely metastatic pancreatic cancer. Thirteen days later, she died. When we look at cancer, which we're really starting to understand more as a very metabolically interlinked disease, it's no surprise that cancer rates are going up dramatically.

So, from the time when she had a large baby to when she started racking up metabolic syndrome criteria—high cholesterol, high blood pressure, high blood sugar—all the way to cancer, she was on a spectrum of essentially the same problem.

■ **What are some of the ways the health-care system fails to address metabolic health—and ultimately misses opportunities to prevent chronic disease?**

The stark economic reality of our current paradigm is that the health-care system makes more money when patients are sick, and it makes less money when patients are healthy. What that does, unfortunately, is create an invisible hand that guides every aspect of how we look at disease, how we look at the body, how we pursue research. Every single doctor I know is a very good person who went into health care to help people. But that simple financial reality creates an entire system designed to make us blind to root causes.

We've convinced people and doctors that innovation and specialization equate to progress when, in fact, the reality is that a connected and far simpler approach focused on the right issues that are leading to most diseases would be a lot cheaper and a lot easier. But it's not currently incentivized.

■ **It's easy to get pretty cynical when you discuss these incentives to keep us sick. What do you want people to take away from that? Are you worried this could lead to a wholesale rejection of medicine?**

Our health-care system has produced miracles. Where it shines is in the management of acute issues. Whenever I speak about metabolic health, we're talking about chronic symptoms and diseases. Obviously, for a severe infection, a pill, an antibiotic or a shot is a great approach. We've asked people to take that approach and apply it to lifestyle-based diseases, where the fix that's being recommended is not ameliorating the cause.

I actually have great optimism for the future. We know that, when people understand the severity of an issue, collective will can be monumental. We saw this during covid. People came together and rapidly changed the entire fabric of society to address this problem. I'm just trying to name the problem that we are dealing with and to help people understand where we need to focus the arrow.

■ **Your book is filled with lots of granular information on how to assess your own health and make changes. What are a few really simple steps people can do right away?**

Step one is to understand your basic metabolic biomarkers that you can get at your annual physical with your doctor: fasting glucose, triglycerides, HDL cholesterol, hemoglobin A1C, waist circumference and blood pressure.

Step two starts with food. In just six weeks of eating unprocessed, whole foods, we can transform our biomarkers. I would say ignore the dietary dog-

ma and just focus on the highest quality food you can get. You're going to be loading your body with nutrients, and the body knows exactly what to do with those nutrients.

Try that for six weeks and try walking at least 7,000 steps a day, ideally 10,000 or more steps a day, by just setting a timer on your phone for every 30 or 45 minutes and taking a walk around the block. Build it into the everyday fabric of your life. And then, after six weeks to two months, recheck your biomarkers.

■ **The core message of your book seems to be an appeal to common sense. It doesn't seem like you are taking just one side in the nutrition or exercise debates, beyond emphasizing more movement and eating quality whole food. Is that right?**

This is a controversial statement, but I feel comfortable saying it You don't need to trust any health influencers. You don't even need to trust your doctor. You actually can trust yourself.

People can distort that statement to say, 'Oh, does this mean we shouldn't go to the doctor?' No. What I'm saying is that, by understanding a few of our very basic biomarkers and slowing down enough to actually be able to interpret the symptoms, we can know if we are moving in the right direction or not. That is not something we've traditionally empowered people to do. And I think that we need to normalize that.