

The Science (Made Simple)

The mechanism explained without jargon, and without anything to buy.

I want to tell you, before we go any further, what the first question was after the ambulance. Because that is where this chapter actually starts - not in a textbook, not in a laboratory, but in the quiet days a man spends in his own kitchen and his own office in the weeks after his body has stopped him cold.

The question was not, "What did I do wrong?" I knew what I had done wrong. I told you all about it in the last chapter. I had walked and walked and walked and never lifted a weight, and the cardio had eaten my muscle, and the muscle I hadn't protected was now gone, so it couldn't protect me. I knew. I had even known when I was doing it. The question I needed answered was something quieter and bigger - and, if I am honest, a little more humbling. It was this. What do I do about it?

Not how do I lose more weight? I did not need to lose more weight. I needed to know what was actually happening inside my body and how to work with it instead of against it. I needed to know which foods were doing what. I needed

to know what protein really was and how much of it I needed. I needed to know what the difference was between a calorie in a cookie and a calorie in a banana, because by then I had figured out there had to be one. In essence, I had learned that calories are not all the same inside my body. I needed to know why the scale was finally where I wanted it, and my blood pressure was still high. I needed an education.

And so, this chapter, more than any of the chapters that came before it, is a chapter of learning. I want to walk you through what I learned, in the order I learned it, with the same honesty I have tried to bring to everything else. I am going to put the bolded principles in their boxes, as I have throughout the book, so you can find them again if you need to. And I am going to try, as much as I can, to keep it simple, because if there is one thing I want you to take away from this chapter, it is that science is not as complicated as the world wants you to believe it is. It is not nothing. But it is not everything either. And once you understand a few key things, you can stop being a passenger in your own body and start being the driver.

Education is not optional. The body is going to do what it is going to do, whether you understand it or not. If you understand it, you can work with it. If you do not, you will spend years - the way I did - doing the wrong thing very

hard and wondering why it is not working.

From the Salesman to the Student

I want to tell you how I actually did the learning, because I think people imagine, when somebody says they did their research, that there were books stacked on a desk, a library card, and university lecture halls. That is not how I did it. I am a salesman. I did it the way a salesman does anything - by sitting down in my office in the morning, opening up the computer, and going looking.

I am an empirical-evidence guy, and I have been one my whole life. I want to find people like me. I want to see what they did. I want to see what worked and what did not. That is how I researched the Williamsburg trip, back at the beginning of all of this. That is how I researched when I needed to fix a problem at the granite-and-marble shop. And so when I had this new problem to solve - the body composition problem, the skinny-fat problem, the high-blood-pressure-at-the-right-weight problem - I sat down at my own kitchen table on a morning I cannot give you the exact date of, opened a browser, and started typing.

I will tell you something important about how I conducted my research. I do not do this in twenty-minute chunks.

Twenty minutes is not researching, twenty minutes is curiosity. When I sit down to actually learn a thing, I block out hours. The first session I ever did on the body-composition question went four hours straight. Four hours. And it was not all useful - a lot of what is on the internet is junk, half of what is left is selling you something, and a good piece of what remains is somebody's opinion dressed up as fact - but you cannot find the gold without spending the time. If you are not willing to give it the hours, do not bother with the twenty minutes either. You will just confuse yourself faster.

And the way I separated what was true from what was noise was simple. I looked for sources I had reason to trust. The Cleveland Clinic, for example, publishes a lot of publicly available research and other writing on nutrition and metabolism, and I went back to it again and again. There are many hospitals, universities, and institutions that work with weight loss and weight management every day. You can find them in your own area; here is a short list of some I came to rely on.

Rutgers New Jersey Medical School

University of Kansas - KU Weight Management Program

University of Pittsburgh Medical Center (UPMC)

The Miriam Hospital and Brown University Weight
Control and Diabetes Research Center

University of Minnesota

Tufts University

University of Colorado School of Medicine

Harvard Medical School

Columbia University

And one more that deserves its own paragraph, because it is special to me. The National Weight Control Registry. The NWCR is the largest ongoing scientific study tracking people who have successfully maintained significant weight loss over the long term, and I have been a participant for nearly 10 years. When I joined, I had to provide a history of my weight loss, photographs, and documentation from my primary care doctor to confirm that I had actually lost the weight I said I had. Every year since then, the NWCR has sent me an annual survey - about a hundred questions - and most of those questions are not about my weight but about how I think, how I feel, how I act around food. The researchers want to understand the emotional and psychological patterns of people who have kept the weight off. I have been part of their dataset for a decade. It is some of the most rigorous thinking on this

subject anywhere in the world, and I am proud to be in it.

My method, working with sources like these, was always the same. Dig in. Cross-check. Read one source, then read another on the same topic, then a third. When three or four sources from different institutions said the same thing, I trusted it. The reason I trusted these sources is that they are doctors, researchers, scientists who work with patients; they have to be careful with what they say, and they have no product to sell me. That last part matters. Anybody whose job is to sell you a supplement, or a program, or a book, is going to bend the science just enough to sell the thing. You learn to read for that. After a while, you can spot it in two paragraphs.

But the single biggest unlock for me, the one that pointed me in the direction the rest of this chapter goes, was not an article, a clinic, or a paper. It was a movie. It is called *Forks Over Knives*, and at its heart is the work of two doctors. Dr. T. Colin Campbell, a nutritional biochemist and Professor Emeritus at Cornell University, is best known for co-authoring *The China Study*, which examines the links between animal-product consumption and chronic illness. And Dr. Caldwell Esselstyn, a former top surgeon at the Cleveland Clinic, showed that advanced, treatment-resistant cardiovascular disease can be reversed with a strict plant-based diet - and that type II diabetes can

be put into remission with diet and exercise alone, without lifelong medication. That last point was personal for me. I had been told I was pre-diabetic. Reading Esselstyn's work and following the principles he laid out helped me understand what I could do about it. Pre-diabetes was one of the first of my conditions to disappear.

I will be honest with you about Forks Over Knives. The movie has a particular point of view; it is on the vegan side of the conversation, and I do not believe, and I will say this clearly, you do not have to be a vegan to be healthy. The kind of diet you choose - vegan, vegetarian, Mediterranean, pescatarian, whatever you want to call it - does not matter as much as a lot of people want you to think it does. What matters more is something else, and I will get to that later in the chapter. But the movie opened the door for me, and after that, I walked through it.

Research is hours, not minutes. Sit down with the time in front of you, follow the sources you have reason to trust, and watch for anybody trying to sell you something at the end of their argument. When you cannot give it the hours, do not bother with the minutes - you will only confuse yourself faster.

The Sugar in the Bowl and the Sugar in the Strawberry

The first subject I learned about, and the easiest place to start the cleanup, was sugar. You already know from the iced tea in Chapter 2 that sugar was the first thing I cut. What I want to do here is tell you the science under that decision, in plain English, which I had to put into for myself before I could explain it to anybody else.

I still eat sugar. I want to say that right up front, because there are people who will hear my story and assume I am one of those zero-sugar zealots. I am not. There is sugar in my diet every single day. Anybody who tells you there is no sugar in their diet is not reading the labels. Sugar is in spinach. Sugar is in strawberries. Sugar is in beets, carrots, bananas, and tomatoes. Nature put it there. The thing I do not eat - the thing I have not eaten on purpose for years - is added sugar. The kind that comes out of a bowl. The kind that a man in a factory puts into a thing he is selling you.

Here is the difference, and this is the principle the whole chapter rests on, so I want to lay it out carefully. The sugar in the bowl and the sugar in the strawberry are not the same kind of sugar. They look the same in the chemistry sense - they are both sugar molecules - but what surrounds them is completely different. Nature wrapped the sugar in the strawberry up in fiber, in water, in vitamins, in minerals, in the structure of the fruit itself. All of that wrapping slows the sugar down. By the time your body gets to the sugar in

the strawberry, it has had to work for it. The sugar is slowly integrated into your system, the way nature intended. The sugar in the bowl arrived with no wrapping at all. Man took out the slowdown. Man took out the fiber, the water, everything that mattered. What is left is a white powder that goes straight to your liver, your blood, and your insulin response, faster than any natural food on earth. It is, if you want to be honest about it, a poison, and it is addictive, and it is everywhere.

I want to do one piece of math with you because once you do it, you cannot unsee it. Four grams of sugar is one teaspoon. You will not see teaspoons on a food label - you will see grams, because America is the only country on earth that does not really know what a gram is. So, you have to translate. Pick up a can of any sweetened drink in your refrigerator and read the sugar grams. Divide by four. That is the number of teaspoons of sugar there. The first time I did that exercise with a regular can of soda, I put it down, and I did not pick it up again. Nine to ten teaspoons of sugar in one can. If I had put that much sugar in a coffee cup, you would have thought I had lost my mind. They put it in a can with bubbles, a label, and a logo, and we drink it all day, and we wonder why we are sick.

And here is the straight-up truth about processed sugar, in language a little more careful than mine because I am not

the one who said it. Processed sugar acts as a slow-acting metabolic toxin - it overloads the liver, triggers systemic inflammation, and disrupts hormone signaling. The medical world will debate whether to call it literally a poison, but leading researchers at institutions like the University of California, San Francisco (UCSF) have argued that the chronic biochemical damage caused by added sugar mirrors the toxic effects of alcohol. Unlike the natural sugars bound up in fiber in whole fruit, the refined sugars in processed food - sucrose, high-fructose corn syrup - are absorbed so rapidly that they inflict multi-system damage over years and decades.

Here are the numbers a label will not lay out for you. A standard 12-ounce can of regular soda contains, on average, 35 to 46 grams of sugar - about nine to eleven teaspoons. A typical bottle of fruit juice contains 20 to 30 grams of sugar per 8-ounce serving - roughly five to seven teaspoons. And because so many commercial bottles hold twelve or sixteen ounces, a single bottle of juice can easily pack 35 to 50-plus grams of sugar, which is nine to thirteen teaspoons. Orange juice, apple juice, grape juice - all in that range. Pomegranate juice deserves its own paragraph, because I had a moment with a bottle of pomegranate juice in my local market that I want to share with you.

PREVIEW ENDS HERE

This free preview covers the first 10 pages of the chapter. The rest is in the book. To order Volume II - From 310 to Thriving, email metabojoe@gmail.com.

metabojoe.com - The Metabolic Engineer by J.F. Kilty