

Chapter 1

A Fallacy of Biblical Proportion

Juan, a 100-pound six-year-old Latino boy whose mother is a non-English-speaking farm worker from Salinas, California, comes to my clinic in 2003. He is wider than he is tall. I ask the mother in my broken Spanish, “I don’t care what your kid eats, tell me what he drinks.” No soda, but a gallon of orange juice per day. On calories alone, this accounts for 112 pounds per year of body fat. Of course, some of that is burned off, and it might influence total food intake. I explain to the mother, “*La fruta es buena, el jugo es malo* (the fruit is good, the juice is bad). Eat the fruit, don’t drink the juice.” She asks, “Then why does WIC [Women, Infants, and Children, a government entitlement program for the poor run by the U.S. Department of Agriculture] give it to us?”

One kid, one mother, one question, my life was changed—and the need for this book was born. Why *does* WIC give it to them? There is real science behind our worldwide obesity catastrophe. And science should drive policy, but as you will see, the politics get in the way. This is the most complex issue facing the human race this side of the Middle East conflict. And it has become incrementally more complicated over time, with multitudes of stakeholders with set agendas, and bigger than the individual parties involved. Devoid of simple solutions, it has destroyed families and claimed the lives of countless people.

You can't pick up a newspaper or log on to the Internet without seeing some new statistic on the obesity pandemic. It's all obesity, all the time. And how many of them have something good to report? You can bet that any tabloid headline is about one of two things—either the statistics are getting worse or another obesity drug was denied or withdrawn by the Food and Drug Administration. I'm sure you're sick of it. I know I am. And weight loss has turned into a blood sport—just tune in to *The Biggest Loser*.

In 2001, *Newsweek* reported that six million kids in America were seriously overweight. We have tripled that number in a decade, and the numbers are now surpassing twenty million. Yet for all the media attention, visibility, discussion, and weight loss programs, even Michelle Obama can't put the genie back in the bottle.

While we're getting fatter, we're also getting sicker. Our risk for illness is increasing faster than the increase in obesity. Indeed, the cluster of chronic metabolic diseases termed metabolic syndrome—which includes obesity, type 2 diabetes, hypertension (high blood pressure), lipid (blood fat) disorders, and cardiovascular (heart) disease—is snowballing by leaps and bounds. And then there are the other obesity-associated metabolic diseases, such as nonalcoholic fatty liver disease, kidney disease, and polycystic ovarian syndrome. Add to that the other comorbidities (related medical conditions) associated with obesity, such as orthopedic problems, sleep apnea, gallstones, and depression, and the medical devastation associated with the obesity pandemic is staggering. Every one of these diseases has become more prevalent over the past thirty years. What's more, all of them are now found in children as young as five years old. We even have an epidemic of obese six-month-olds!¹

The human damage in this scourge of metabolic syndrome is showing. In 2005 one study showed that despite the increased availability of medical care, our children will be the first generation of Americans who will die earlier than their forebears.² The study placed the blame squarely on the obesity epidemic. In the United States, quality-adjusted life years lost to obesity have more than doubled from 1993 to 2008. Emergency rooms are taking care of forty-year-old heart attack victims. Teens with type 2 diabetes used to be unheard of; now they are one third of all new diagnoses of diabetes. In the United States alone, 160,000 bariatric surger-

ies (to reduce the size of the stomach) are performed per year, at an average cost of \$30,000 per surgery. Over 40 percent of death certificates now list diabetes as the cause of death, up from 13 percent twenty years ago.

The loss in American productivity due to time off from work is staggering, the waste in medical expenditures (\$147 billion per year) is breaking the bank, and this amount is predicted to increase to \$192 billion by the end of the decade. Guess what? There's no money to pay for it all. The Affordable Care Act (ACA, or "Obamacare") is going to put thirty-two million sick people on the insurance rolls by 2019. The president says we'll make up for the costs in savings from preventative care. However, it is unlikely to improve our health in any significant way, as there are no provisions for the prevention of chronic disease, most notably those that attend obesity. How do you prevent all the ravages of chronic metabolic disease when we bust the scales and when the statistics show no sign of improvement? It's often been said that we wouldn't need health care reform if we had obesity reform.

It would be one thing if obesity were an isolated problem in America, but it's happening everywhere. The obesity pandemic has expanded the world's collective waistline. The World Health Organization (WHO) has shown that the percentage of obese humans globally has doubled in the past twenty-eight years. In fact, obesity's contribution to the burden of chronic disease has been equal to if not greater than that of smoking. Even people in developing countries are obese. After only one decade, there are now 30 percent more people who are obese than are undernourished worldwide. The WHO reported in 2008 that approximately 1.5 billion adults were overweight and at least 400 million were obese globally³; these numbers are projected to reach about 2.3 billion and 700 million, respectively, by 2015. In September 2011 the UN General Assembly declared that non-communicative diseases (diabetes, cancer, and heart disease) are now a greater threat to world health than are infectious diseases, including in the developing world (see chapter 22). Is the whole world now composed of gluttons and sloths? Over the next fifteen years, these diseases will cost low- and middle-income countries more than \$7 trillion.⁴ People are dying earlier, and national economies are losing billions of dollars in lost productivity while governments pay for the medical expenditures. Millions

of families end up in poverty, guaranteeing that the cycle will not be reversed.

For the 55 percent of adults who are overweight or obese, listen up. I'm talking to *you*, at a doctor-to-patient level, at a person-to-person level. Obesity is not an automatic death sentence. A full 20 percent of morbidly obese persons are metabolically healthy and have normal life spans.⁵ As for the other 80 percent, you don't have to be in poor health; everyone has it within his reach to improve his health and regain those years the actuaries say will be lost. But success in doing so depends on identifying the cause of the problem, assessing your metabolic risk, and changing your biochemistry. Okay, full disclosure: despite your best efforts, you may never lose your stubborn subcutaneous fat (the fat that pads your thighs and derrière). And if you do, you'll gain it back in short order—unless you become a gym rat, because vigorous exercise is the only rational way to prevent weight regain (see chapter 13). In fact, if you lose meaningful amounts of subcutaneous fat and keep it off for more than a year, I'll be shocked. Pleasantly so, but shocked nonetheless.

For the 45 percent of adults who are normal weight, pay attention. You either sneer at or pity the other 55 percent of your brethren who take up two seats on the bus. You look down on them as weak, overindulgent, and lazy. You resent them, and you show it financially and socially. You're indignant that they cost you money. And you think you're out of the woods and home free. You've been told that you'll live a long and happy life. Whatever you're doing, it must be right. For those of you who are "naturally" thin, you've been told that you have great genes and can consume all the soft drinks and Twinkies you want without gaining a pound or getting sick. Would that it were true. A few years ago, you were the majority of Americans. Now you're the minority. And you're losing your percentage year by year.

This means that many of you are flipping—that is, gaining weight and going over to the dark side. Indeed, current projections suggest that by 2030, the United States will be 65 percent overweight and 165 million American adults will be obese.⁶ The 2008 movie *Wall-E* is a prophecy: that's where we're all headed. We'll all be so fat, we'll have to ride around on little scooters, just like at Walmart. And as you get older, your risk for gaining weight keeps going up. Your genes won't change, but your biochemistry

will. So, if you're flipping (which more and more of you are), something must be sending you over to the "dark side." And if that's not your fate, it will be that of your children. Nobody knows this better than I, because I take care of those children every day.

Here's the kicker. Being thin is not a safeguard against metabolic disease or early death. Up to 40 percent of normal-weight individuals harbor insulin resistance—a sign of chronic metabolic disease—which will likely shorten their life expectancy. Of those, 20 percent demonstrate liver fat on an MRI of the abdomen (see chapter 8).⁷ Liver fat, irrespective of body fat, has been shown to be a major risk factor in the development of diabetes. You think you're safe? You are *so* screwed. And you don't even know it.

The overriding thesis of this book is that your fat is not your fate—provided you don't surrender. Because people don't die of obesity *per se*. They die of what happens to their organs. On the death certificate, the medical examiner doesn't write down "obesity"; instead it's "heart attack," "heart failure," "stroke," "diabetes," "cancer," "dementia," or "cirrhosis of the liver." These are diseases that "travel" with obesity. They are all chronic metabolic diseases. But normal-weight people die of these as well. *That's the point*. It's not the obesity. The obesity is not the *cause* of chronic metabolic disease. It's a *marker* of chronic metabolic disease, otherwise known as metabolic syndrome. And it's metabolic syndrome that will kill you. Understanding this distinction is crucial to improving your health, no matter your size. Obesity and metabolic syndrome overlap, but they are different. Obesity doesn't kill. Metabolic syndrome kills. Although they travel together, one doesn't cause the other. But then, what causes obesity? And what causes metabolic syndrome? And what can you do about each? Read on.

I wrote this book to help you and your kids get healthy and improve your quality of life, increase your productivity, and reduce the world's waste of medical resources. If you get thin in the process, great. But if that's what you expect, go find your own diet guru, and good luck with that. Want to get healthier? Want to get happier? Want to get smarter? It's your visceral (around your abdominal organs) fat and hepatic (liver) fat that's keeping you down. And getting rid of visceral fat is not as hard as you might think. This is the more metabolically active fat, and there's plenty you can do to shrink it.

A proverb says, “A journey of a thousand miles begins with a single step.” This book is a journey into the workings of the body. It is a journey into the biochemistry of our brains and our fat cells. It is a journey into evolution, the mismatch between our environment and our biochemistry. And it is a journey into the world of business and politics, too. This journey starts with a single but very large step, in which we abandon our current thinking of obesity by challenging the age-old dogma “*a calorie is a calorie*.”