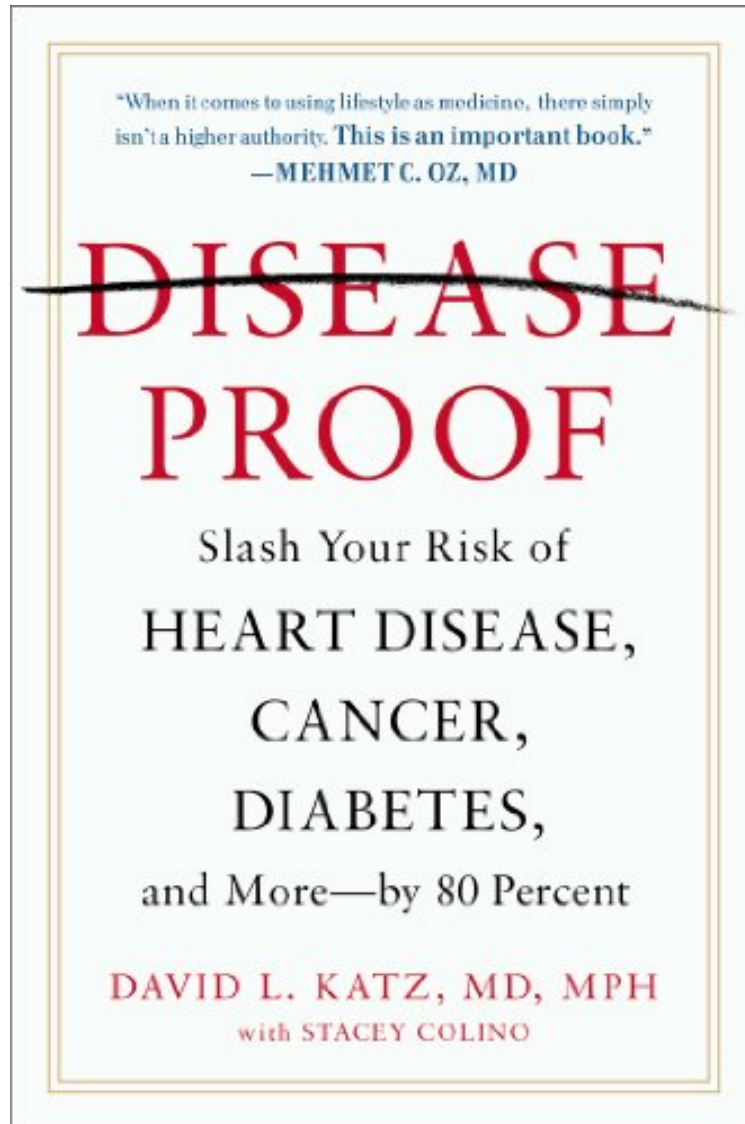


(Download) Disease-Proof: Slash Your Risk of Heart Disease, Cancer, Diabetes, and More--by 80 Percent

Disease-Proof: Slash Your Risk of Heart Disease, Cancer, Diabetes, and More--by 80 Percent

David L. Katz M.D.

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David L. Katz M.D. : Disease-Proof: Slash Your Risk of Heart Disease, Cancer, Diabetes, and More--by 80 Percent before purchasing it in order to gage whether or not it would be worth my time, and all praised Disease-Proof: Slash Your Risk of Heart Disease, Cancer, Diabetes, and More--by 80 Percent:

9 of 10 people found the following review helpful. Good Advice on Eating to Remain HealthyBy Army VetI ordered this book after hearing the author on an NPR talk show. It is a common sense approach to eating healthy foods in

healthy quantities. What I like is that it gently steers the reader away from fad diets, something I think we should all do. As the author points out, you can lose weight on the so-called "Twinkie Diet" but it's not healthy. Also, fad diets are like drugs...as long as you stick with them...and purchase the products they promote and sometimes sell...you can lose weight, but you may be hooked. Any book that teaches you how to eat sensibly and in sensible, healthy proportions is worth reading. This one falls into that category.² of 2 people found the following review helpful. Great Read!By PollyThis is a great book for anyone who is considering changing their eating and fitness habits but has no idea where to begin. It is also great for those who are already eating healthy to be more knowledgeable about what ingredients to look out for in processed foods and when eating out. I loved reading it and will recommend it to all my friends. This is one of those books that every person in this planet should read. It is the basics for knowing how to nurture your body and stay healthy.³ of 3 people found the following review helpful. Actionable informationBy Hockey fanExcellent information presented in a clear way. This book confirmed a lot of what I already knew, but it also provided explanations for a number of things I didn't know or didn't completely understand. The most important thing about the book is that it provides a number of actionable concepts that can and will help people lose weight and live better. In the current healthcare environment, we all have to start doing that.

If you want to build better health and a better future, this book makes an excellent tool kit.David A. Kessler, MD, author of *The End of Overeating* and former commissioner of the FDA It sometimes seems as if everyone around us is being diagnosed with a chronic illness and that we might soon join them. In *Disease-Proof*, leading specialist in preventive medicine Dr. David Katz draws upon the latest scientific evidence and decades of clinical experience to explain how we can slash our risk of every major chronic disease—heart disease, cancer, stroke, diabetes, dementia, and obesity—by an astounding 80%. Dr. Katz arms us with skillpower: a proven, user-friendly set of tools that helps us make simple behavioral changes that have a tremendous effect on our health and well-being. Inspiring, groundbreaking, and prescriptive, *Disease-Proof* proves making lasting lifestyle changes is easier than we think.

David Katz is among my most respected colleagues. When it comes to using lifestyle as medicine, there simply isn't a higher authority. In *Disease-Proof*, Dr. Katz advances a mission we share: empowering people to use what we know about the power of lifestyle to promote health. This is an important book.Mehmet Oz, MDBy offering insight into the hidden and not-so-hidden threats to our collective waistlines and our health and providing step-by-step advice to reverse the current obesity epidemic and the chronic diseases that go with it, *Disease-Proof* will empower readers to take control of their current and future health. Anyone who's interested in protecting themselves and their loved ones from these problems will want to read this book sooner not later."Dean Ornish, MD, author of *The Spectrum*Powerful.*Disease-Proof* provides much practical wisdom about learning and applying the skills of a healthy lifestyle.Ed Dodge, MD, MPH, *The Power of Lifestyle.com*At a time when 75 percent of our health care spending is for preventable, chronic diseases, and when we are facing an epidemic of legal drug dependency, *Disease-Proof* is a book we desperately need -- a reminder that, in more ways than we may realize, our health is in our hands. Dr. Katz's conclusion that we all have the ability to lead healthier lives is sensible, well-reasoned, empowering, and based on the latest scientific evidence and decades of clinical experience.-- Arianna Huffington, president and editor-in-chief of *The Huffington Post Media Group**Disease-Proof* helps level the playing field between those who may have vast wealth and resources they can employ in order to attain better quality food and expert trainers, and those who may not have the time or money to outsource their health.NaturallySavvy.comDr. Katz knows how challenging the pursuit of both health and a healthy weight can be. He also has a unique ability to convert his knowledge and insights into practical programs and tools a talent richly displayed in *Disease-Proof*. If you want to build better health and a better future, this book makes an excellent tool kit.David A. Kessler, MD, former Commissioner, FDA and author of *The End of Overeating*"Comprehensive, accessible, and indispensable, *Disease-Proof* makes a compelling case for how we can reclaim our medical destinies and prevent many of the chronic diseases that are currently afflicting adults and children alike. It's an urgently needed wake-up call for millions of Americans who believe their health is largely beyond their control."David Satcher, MD, PhD, former Surgeon General and Director of the Centers for Disease Control and Prevention, and founder of the Satcher Health Leadership Institute, Morehouse School of Medicine*Disease-Proof* is not only about knowing what to do to stay healthy; it's also about developing the skills to apply that knowledge. Katz and Colino make the skills look easy.I especially appreciate how they encourage readers to take responsibility for the health of others as well as themselves and work toward creating a healthy society for all.Marion Nestle, author of *What to Eat* and Professor of Nutrition, Food Studies, and Public Health at New York UniversityExtraordinarily valuable.BetterorDeader.comThe advice in *Disease-Proof*, if applied, will lead to a healthy, vibrant life. Everyone needs this information.Christiane Northrup, MD, author of *Women's Bodies, Women's Wisdom* and *The Wisdom of Menopause**Disease-Proof* uniquely addresses what individuals can do to promote their own health, and what we can and should do together to help us all get there from here. Just about everybody stands to benefit from reading this book.Joy Bauer, MS, RD, CDN, founder of Joy Bauer Nutrition Centers and nutrition expert on the Today ShowAbout the AuthorDavid L. Katz, M.D., M.P.H., F.A.C.P.M., F.A.C.P., is the founding director of Yale University's Yale-

Griffin Prevention Research Center and the Integrative Medicine Center at Griffin Hospital. He lives in Connecticut. Stacey Colino is an award-winning writer who lives in Maryland. Excerpt. Reprinted by permission. All rights reserved.

Introduction When it comes to health, have you ever noticed how the media have a tendency to focus on the latest scary risk factor, a gimmicky new solution, or the bright and shiny promise of a cure (when there never really is one)? That's because diet and health advice in magazines and on TV is, for the most part, designed to get us to read the issue every month or tune in to the program every day. The constantly changing news and advice can leave us feeling downright baffled, but it doesn't bother editors or TV producers in the least. I know this, because I have a bit of insider experience. In addition to my work as a preventive medicine specialist, I have worked as a columnist for national magazines and as a medical expert for national news shows. One evening several years ago, I was preparing a segment about a new diet study for a TV program the following morning. During a phone call with the writers and producers, we were zipping through the content in a very routine fashion until I shared what I thought the punch line should be. At that point, the senior producer, who had been listening silently, suddenly chimed in, "You can't say that! Why not?" I asked. "Because you were on the show last week and you said the same thing," she explained. "It will be boring if you repeat the same conclusion." Maybe, I replied, but it happens that fruits and vegetables are still good for people! This is hardly an uncommon situation; I've encountered it many times in my work. The point here is there's a constant tension in the media between what's new and what's true, what makes for sound science and what makes for provocative headlines or intriguing sound bites. Although I'm sympathetic to the media's challenge to keep their audience engaged, dressing up dull scientific findings to make them sexier, fresher, or more surprising sometimes changes them to the point where the truth can be very hard to recognize. This phenomenon reminds me of the riveting courtroom scene in the movie *A Few Good Men*, where Tom Cruise's character (a Navy lawyer) is grilling Jack Nicholson's character (a crusty Marine colonel) about whether he ordered a Code Red. At one point Cruise's character hollers that he wants the truth, to which Nicholson's character famously replies, "You can't handle the truth!" The notion that people can't handle the truth if it isn't wrapped in a pretty package is prevalent in the world of health and medicine, too. Can you handle it? This is an important question, because if the answer is yes, then you can take control of the master levers of your medical destiny. We can exert incredible power over both the number of years in our lives and the quality of those years. We can help ourselves sidestep illness and health risks and help our children do the same. We can even untwist the implications of our DNA in our favor. The master levers of your personal medical destiny are truly powerful and within your reach.

In the European Prospective Investigation into Cancer and Nutrition (EPIC) Potsdam study, published in 2009, researchers examined four factors: smoking, body weight, physical activity, and diet among 23,153 German participants, ages thirty-five to sixty-five, and tracked their health effects over the life span. Each healthy lifestyle factor—never smoking, having a body mass index (BMI) lower than 30, performing at least three and a half hours of physical activity per week, and eating a nutritious diet (a high intake of fruits, vegetables, whole-grain bread, and low red meat consumption)—was associated with a decrease in the risk of any chronic disease. Flipping the switch from bad to good on any one of these lifestyle factors was associated with a 50 percent reduced probability of chronic disease. But what was most eye-opening is that participants who had all four healthy factors at the start of the study had a nearly 80 percent reduced risk of developing any major chronic disease. The reduction in diabetes risk alone was 93 percent. There simply is, and in my opinion, there never will be a drug to rival that. And to use lifestyle as medicine . . . well, no prescription is required! It's important to remember that science is all about the slow accumulation of evidence and the gradual evolution of understanding, which sometimes involves confirming time-honored truths. (Yes, fruits and veggies really are good for us, just like they were last week and will be next week.) If you put too much stock in the latest media report about what is or isn't good for you or what truly increases or decreases your risk of developing a particular disease, you may end up with a terminal case of health information whiplash. At some point, you may throw up your hands in frustration and tune out the messages entirely, even when they're valid. Clearly, that's not the way it should be. Contrary to what common assumptions and the media sometimes lead us to believe, our genes do not determine our weight or future health. What they do is to tell us about our risks of developing certain diseases. It's about possibility; nothing is set in stone. Our DNA simply cannot forecast that we will get a particular disease, unless it's one that's caused specifically by a genetic mutation (such as Huntington's disease, cystic fibrosis, or sickle cell anemia). We are actually the ones driving the bus on our journeys toward wellness or illness, so don't blame your genes for the future of your health. Most diseases are not random occurrences but the consequences of the things people do every day. They are the intermediate step between lifestyle habits and infirmity or death. This means that the leading causes of death and disease are largely within our control because they result from what we do or don't do with our feet, our forks, and our fingers—namely, whether we are physically active, consume a healthy diet, or smoke on a daily basis. With few exceptions, that is the new rule that's been established by groundbreaking research and it is the central premise of this book. As you've just read, there is now abundant evidence that getting just four things right—not smoking, maintaining a healthy weight, being active, and eating well—could reduce the risk of all chronic diseases by 80 percent. That's right: 80 percent! (There are four things on the list, but by eating well and being physically active, you will set yourself up for a healthy weight so you really need to focus only on three things, with the final one being not smoking.) It's a realization that could, and in my opinion should, remake

the way we play the game of life, by inspiring us to make better lifestyle choices. If you do it right, you can write a new story for your future right down to the genetic level. To a preventive medicine specialist like me, this is of profound importance, because apathy and fatalism are among the biggest enemies of health and healing. Becoming a doctor was a natural choice for me. My father is a doctor, and I knew I wanted to do something that mattered, that felt challenging and rewarding. During my training, I spent a lot of time trying to figure out what kind of doctor I really wanted to be, and I couldn't help but notice that roughly eight out of ten hospitalized patients had serious illnesses, all of which could have been prevented by exercising, eating well, or not smoking. It seemed tragic to me that these people were suffering and shortening their lives when a more healthful lifestyle could essentially have immunized them against such misery. It was then that the path to my life's work became clear: I started investigating how a doctor becomes an expert in using lifestyle as medicine and how best to leverage nutrition, in particular, to help people avoid getting sick in the first place. The rest, as they say, is history. I have been an internist and a preventive medicine specialist ever since. I rely on both aspects of my training to take care of existing patients and to try to help as many people as possible avoid becoming my (or any other doctors) patients in the first place!

Rewrite Your Future

The fact is healthful behaviors create an opportunity to reshuffle the genetic deck in your favor. After all, genes don't affect your health because they're there; they represent a recipe for biological material including specific proteins that turn those genes on or off that needs to be made in order to set a disease course into motion. You can change the behavior of your genes, essentially dialing their expression up or down, by modifying your lifestyle. Just because you carry a gene that makes you vulnerable to colon cancer or lung cancer, for example, doesn't mean you'll inevitably develop the disease. If you exercise regularly, stick with a healthy diet, avoid smoking, and maintain a healthy weight, you stand a much better chance of never developing those illnesses, even if other members of your family do. There are only so many parts to the human body we can't expect to discover new bones or organs and the same is true of the skills that will save your life and promote better health and well-being. There is a skill set some people have that enables them, in spite of all the conflicting news and opposing societal forces, to stay lean and maintain good health. They weren't born with this skill; they learned it at some point in their lives, and you can learn it, too. Think of it as an essential tool kit you didn't even know you needed: Once you have it and you master the use of the different tools, you'll have the skills for life.

An 80 percent reduction in the incidence of all chronic disease would certainly count among the most stunning advances in the history of public health.

While it's unquestionably a compelling result, it's still just a statistic, and statistics are generally dull, dry, bland and anonymous. So how can we get passionate about the implications of this idea? Let's consider the personal context of how these risks are playing out in your own world. Have you or any loved ones suffered from a heart attack, a stroke, cancer, or diabetes? Visualize their faces, say their names, and recall what it felt like the day you heard the news that they had developed a life-threatening disease. Remember how upsetting that was? Now, imagine the faces of friends, colleagues, neighbors, and others as they picture the faces of their loved ones who received similar diagnoses. Think about how they must have been feeling. You probably won't like what you're seeing. But wait: Now imagine if eight out of ten of us who are reflecting on that personal anguish never got that dreadful news because it never happened. Mom did not get cancer. Your close friend or colleague did not have a heart attack. Grandpa did not have a stroke. You didn't develop diabetes. That's a far more upbeat and inspiring picture, isn't it? Even more inspiring: It's possible, if we all do our part individually, to reclaim control of our feet, forks, and fingers. The key is to transform what's now known about the potential to combat chronic disease into action, because knowledge isn't power unless it's put to good use.

Your Body's Second Chance

When I ask my patients why they've come to see me, the answer is always to get better if something is wrong, or to get advice about staying healthy if nothing's currently bothering them. My second question is Why do you care about being healthy? What is health for? Usually these questions are met with silence. No one really thinks about the fact that health is for something, but it is. It's for living the life you want and deserve, for feeling good and functioning at your best. It's not a trial, a penance, or a punishment. It's a reward and a return on your investment in yourself (a return that more than justifies the investment, by the way). That's true of the money we put aside to secure our futures or pay for our kids' educations, and it's certainly true of the effort devoted to improving our health. After all, your life will be better if you have good health. And if you pay it forward by sharing your health-promoting, disease-fighting strategies with loved ones, your life will be better still because the people you love will share good health with you. It requires effort and practice to make these skills automatic, especially given the world we live in. We didn't choose to be born into an environment that promotes obesity, but here we are, nevertheless. We did not choose to find ourselves in a world awash in highly palatable, energy-dense, convenient foods. And while we did not choose to be among the first generation of Homo sapiens that could count on technology to do everything for us, in areas ranging from work to recreational pursuits, once again, here we are. You don't need to be gluttonous to overeat or lazy to underexercise and gain weight in the modern world; you simply need to live in the modern world, which is why obesity and chronic disease are not exceptions they are now the norm. There's a place for both personal responsibility and public policy in fixing what ails our collective health. While you're waiting for the world to change, it is possible to steer the course of your own and your family's health in a better direction, and this book will show you how. Part call to action, part blueprint for healthy living, this book examines the specific factors that are contributing to the epidemics of obesity and chronic diseases in

our culture and, most important, provides the tools that will empower you to make health-promoting changes so that you can better manage your weight, bolster your natural immunity, nip life-altering illnesses before they even have a chance to bud, and possibly even undo previous damage from existing disease. For the first time ever, you will gain an entire tool kit that will enable you to seize control over your medical destiny for good. Its like riding a bicycle: once you know how, you never forget. In the chapters that follow, you will learn how to fortify your willpower and build the skills that will help you improve your eating habits at home and on the road, your food-shopping and cooking habits, and your level of physical activity. You'll learn how to retrain your taste buds to prefer healthier foods, discover physical activities you enjoy and fit them into your life, and embrace the gift of physical vitality. And you'll find out how to improve other aspects of your lifestyle including your sleep, stress, pain, and social connections so they can enhance your eating and exercise habits. Best of all, you'll be able to tailor a plan that's specific to your situation and needs. Lets get started!

One The Power to Nurture Nature

In our culture, we tend to refer to hospitals, clinics, physicians, nurses, and other clinicians collectively as a health care system. This may cause you to think that someone or something else perhaps a doctor, or a drug or other treatment has the ultimate control over your health. But that's just not the case. By and large, the system in place is a disease care system, not a health care system. Disease care is important when you are sick and in need of treatment. But only rarely are professional clinical services actually related to the promotion of health. The power resides almost entirely with you.

A recent report from the Centers for Disease Control and Prevention (CDC) suggested that we owe our increasing life spans largely to cutting-edge biomedical advances, rather than to our own personal choices. The National Center for Health Statistics at the CDC reported that overall life expectancy in the United States has increased to the unprecedented high of 77.9 years overall, with women, as ever, outliving men with an average life expectancy of 80.4, compared to 75.3 years for men. In 2012, The Lancet published a comprehensive report stating that life expectancy is increasing in most places around the globe, due to various advances in modern medicine and public health. The bad news: There is an increasing burden of chronic disease beginning at ever-younger ages in most developed and developing countries. The result is more years of illness, something that's especially prominent here in the United States.

One article in the report addresses a standard of measurement called HALE which means healthy life expectancy. In the United States in 2010, healthy life expectancy for men was 65.0 years (roughly 11 years less than actual life expectancy), and for women it was 67.4 years (roughly 13 years less than actual life expectancy). What is most disturbing about these numbers is the gap between actual and healthy life expectancy, a significant span of years spent living with the serious burdens of chronic disease and disability. This is a very dubious trade-off. Both the Lancet study and the CDC are sources of authoritative data indicating that rates of obesity, diabetes, and chronic disease are at an all-time high in the United States (and, increasingly, the world). The math here is not very complicated. If life expectancy and chronic disease rates are rising in tandem, it means we are living longer, but in a sicker state. In the United States, more than 75 percent of Medicare expenditures an annual total of many hundreds of billions of dollars is for the care of chronic diseases. But it doesn't have to be this way. Only we can build actual health at its origins. Each of us already holds the potential power to change the course of our health across our life span but we need the right skills to put that power to use. Yet many people continue to revisit the question of how much of our collective and personal health risks are due to nature (genetics) versus nurture (environment). This issue received renewed attention in the last decade as we entered the genomic age. With the mysteries of the human genome unraveled, it seemed likely we would soon be fixing the causes of diseases with genetic engineering. That simply hasn't happened. But a funny thing has happened on the way: Increasingly, research has revealed the extent to which environment, and our lifestyle habits in particular, can affect our risk of developing chronic, life-threatening diseases, even at their genetic origins. In other words, we've been looking down the wrong path and asking the wrong questions. The reality is, we actually don't need new scientific breakthroughs or Nobel Prizes to fix genetic causes of major diseases. We already have that power, and it's time for us to reclaim it, individually and as a society.

After all, the national obesity epidemic is bringing serious health consequences to us personally and to our loved ones, and creating skyrocketing costs in health care expenses and lost productivity to the nation (including high rates of absenteeism, inefficient work, and failure to advance in the workplace). Meanwhile, approximately 17 percent of the medical costs in the United States can be blamed on obesity, according to recent research that suggests the nation's (over)weight problem may be having nearly twice the impact on medical spending as previously believed. Excess weight is not the only problem; so are the chronic diseases some life-threatening (such as heart disease and diabetes), others life-compromising (such as osteoarthritis and chronic heartburn) that tend to come with it. According to the CDC, approximately 35 percent of adults in the United States are currently obese (defined as having a body mass index, or BMI, of 30 or higher), and a new report suggests that this figure will climb to 42 percent by 2030, which would cost the United States an additional \$549.5 billion in medical expenses over the next two decades. That's more than the annual U.S. military budget and more than fifteen years of funding for the National Institutes of Health! In other words, we stand to squander the equivalent of more than a decade and a half of funding for the world's premier biomedical research laboratory on the totally preventable costs of getting fatter. If current trends persist, the CDC is projecting that one in three adults (roughly one hundred million people) will have diabetes by the year 2050. Meanwhile, hospitalization rates for ischemic stroke (the most common

kind, caused by a decrease in blood supply to the brain) are already rising among five- to fourteen- year- olds, according to a recent CDC study, largely because of the prevalence of childhood obesity and the hypertension that often comes with it. Stroke and ischemic heart disease are not expected in such a young age group, but they are occurring with increasing and alarming frequency. Furthermore, the latest research suggests that the precursors for adult heart disease including atherosclerosis, hypertension, diabetes, cholesterol abnormalities, and metabolic syndrome actually begin in childhood, and that childhood obesity plays a considerable role. The unfortunate truth is that childhood obesity rates have been rising at a disturbing speed for decades, and although recent data suggest a possible plateau, obesity is seen in younger and younger children, and is increasingly severe. Officially, approximately 17 percent of children in the United States are considered obese (their BMI is at or above the 95th percentile for their age and gender), and an additional 10 to 15 percent are considered overweight (their BMI is at or above the 85th percentile for their age and gender). In some minority groups, this figure rises to 50 percent. Even these alarming statistics, however, may fail to reflect the true rate of obesity in children, because the very definitions of obesity and overweight in childhood have been devised to be more exclusive than inclusive, in part to minimize the number of children who are encumbered by this stigmatizing label. Casual observations of the world around us would suggest that the actual rate of overweight children is considerably higher. Less than a generation ago, type 2 diabetes was routinely referred to as adult- onset diabetes. In the past two decades, type 2 diabetes has been transformed from a condition occurring almost exclusively at or after middle age into a childhood epidemic affecting children as young as six, largely because of lifestyle factors. Besides the inherent health risks (including increased risk of heart attack, blindness, amputation, and kidney disease), children who have the condition are at greater risk for heart disease and other chronic diseases. Because children with type 2 diabetes will have it for more years during their lives than adults who develop it, there's more time for them to suffer from complications. As the American Academy of Pediatrics (AAP) noted recently, this may be the first generation of children destined to have a shorter life expectancy than their parents. That's a sobering reality, indeed. The scenario just described is a clear and omnipresent danger and its knocking at your door, stalking you and your children. That's why it's time to take it personally. For the past two decades, every analysis of the available research has reaffirmed the finding that feet, forks, and fingers are the indisputable master levers of medical destiny. While this research has also suggested that as the toll of tobacco use has been declining in recent years persistence of the habit has stalled, with approximately 20 percent of the population continuing to smoke the toll of eating badly and forgoing exercise has been rising, in some cases dramatically. We have two options: Either we prevent these forecasted trends from happening, or we succumb to them. It's really that simple. A third option for those who already have these diseases is to reverse them or better manage them with healthy lifestyle habits, which will improve long- term health. But knowledge is power only if you know what to do with it. Right now, there's a good chance you don't know how much power you have or how to use it. (This book will change that!) This has certainly been true of most of my patients over the years. Several years ago, a young man named Doug came to see me to find out if he was at risk of having a heart attack, and if so, what he could do about it. His motivation was both common and powerful: fear. His father, age fifty, had just had a heart attack fortunately, not fatal so Doug, who was twenty- seven, had started thinking seriously about his own health for the first time. He thought that the power to avoid what had happened to his dad resided with me, a fairly common assumption but he was wrong. The power to prevent a heart attack was his alone. When I asked about his lifestyle, I learned that Doug didn't smoke, nor did his father. But prior to the heart attack, his father had been sedentary, had eaten rather poorly, and was substantially overweight. Doug was overweight and fairly sedentary, too. He also ate as poorly as his father did a diet heavy on fast food and processed foods, light on foods that come directly from nature. This young man came to me afraid of dying and expected me to fix things. He thought I might check his blood pressure and cholesterol and perhaps order a cardiogram and a stress test. When I asked what he thought we might do if his blood pressure was elevated and whether he'd want me to prescribe a drug right away, he said he didn't want to take medication if he didn't have to. So we began discussing other options. He knew that exercise, weight loss, and less sodium in his diet were important measures for controlling blood pressure. He also knew that eating oats, vegetables, fruit, and fish would be good for his cholesterol levels; that fried foods were bad for it; and that exercise and weight loss would help, too. I ran some tests, and it turned out his blood pressure was normal but on the high side, and his blood lipid levels were also normal, if not quite ideal. Doug realized his father had probably been in a similar position at twenty- seven, but that all of these health risks tend to increase as a person gets older. He also realized that actually implementing the behaviors he knew would improve his blood pressure and cholesterol would help keep these measures in the normal range. To me, the obvious question was: What was Doug waiting for? Since he knew about many of the lifestyle factors that could do the same job as medicine, why wasn't he putting them to use? Maybe he needed me to confirm that he was right about what he should do. Maybe he needed some help figuring out how to take action. Maybe he needed me for motivation. In part, I think he came to see me because he had bought into the prevailing perspective that our high- tech, there's- a- pill- or- procedure- for- everything culture propagates: The power over health resides mostly with doctors and the health care system. But the power to avoid his father's fate did not reside mostly with me. It resided overwhelmingly with him. I'm pleased to report that after a series of appointments, Doug took that simple revelation and put it to good use. The last time I saw him, he

was leaner, fitter, healthier, and far less concerned about his future because he had taken his medical destiny into his own hands, where it belonged. A Convenient (and Important!) Medical Truth For many years, the nature/nurture debate has invited us to wonder if what mattered more was the hand we were dealt or how we played that hand. The startling truth is: You get to reshuffle the deck! The power of your lifestyle can reshape your destiny at the very level of your genes. Healthy eating and exercise habits can reduce your risk of developing a chronic disease, and sometimes it can reverse a disease you already have or prevent a recurrence. In 1993 a paper entitled Actual Causes of Death in the United States, by Drs. J. Michael McGinnis and William Foege was published in the prestigious Journal of the American Medical Association, or JAMA. There, McGinnis and Foege described the obvious revelation that we, in the medical profession, had all overlooked: that the diseases we had long listed as the leading causes of death heart disease, cancer, stroke, pulmonary illness, and diabetes are not truly causes. These diseases are the results or effects of how people live. When someone dies of, say, a heart attack, it is not very illuminating to blame the cause of death on disease of the cardiovascular system, is it? What we all really want to know is what caused the cardiovascular disease. The answer was readily available, but someone had to go looking for it, and that's what Drs. McGinnis and Foege did. They found that, overwhelmingly, premature death and chronic disease were attributable to just ten behaviors: tobacco use, dietary pattern, physical activity level, alcohol consumption, exposure to germs, exposure to toxins, use of firearms, sexual behavior, motor vehicle crashes, and use of illicit drugs. The list of ten was dominated by the top three: tobacco use, dietary pattern, and physical activity level, which accounted for nearly eight hundred thousand premature deaths in 1990 about 80 percent of the total! When scientists from the CDC reassessed this landscape a decade later, they found that relatively little had changed. Across the span of a decade, injudicious use of feet, forks, and fingers remained the primary causes of poor health. More recently, researchers from the CDC examined the links between three healthy lifestyle behaviors consuming a healthy diet, getting adequate physical activity, and not smoking and the risk of premature death among 8,375 adults in the United States. Over a period of five- plus years, the physically active folks had a 51 percent lower risk of dying, those who simply consumed a healthy diet had a 23 percent lower risk, and nonsmokers had a 56 percent lower chance of dying. Those who followed all three healthy behaviors had an 82 percent reduction in premature death from any disease. Meanwhile, a group of researchers from Norway and the United Kingdom found much the same thing in a study of more than 5,000 adults in the United Kingdom, reported in the Archives of Internal Medicine in April 2010. As it turns out, we are all making life- or- death decisions every single day in terms of what we choose to put into our bodies and how we choose to use them. Those decisions truly do reverberate all the way to our DNA. In 2008 there was an illuminating trial called the Gene Expression Modulation by Intervention with Nutrition and Lifestyle (GEMINAL) study, which was developed by my friend Dr. Dean Ornish and his colleagues at the University of California, San Francisco. It involved thirty men with early- stage prostate cancer who were eligible to be observed carefully for disease progression without undergoing surgery, radiation, or chemotherapy. A bit of background: Some prostate cancers progress and metastasize throughout the body; when this occurs, the disease is devastating and often lethal. But some tumors of the prostate are indolent; in essence, they just sit there, doing nothing. As many as 80 percent of men in the United States who die after age eighty have prostate cancer, but they die with it rather than from it. The GEMINAL study took advantage of this indolent variety of prostate cancer to assess the effects of a lifestyle intervention, without the confounding influences of medical or surgical cancer treatments. The lifestyle changes included a low- fat, plant- based, whole foods diet; stress management techniques; moderate exercise; and participation in a psychosocial support group. The study lasted three months, and many of the usual measures of overall health were tracked: weight, blood pressure, cholesterol levels, and so on. They all improved significantly, as one would expect. Levels of PSA (prostate- specific antigen), a tumor marker for prostate cancer, improved, but only trivially. What made this study groundbreaking is that it measured health markers beyond the list of usual suspects. Using advanced laboratory techniques, the investigators measured the effects of the intervention at the level of the genes and what they found was remarkable. By examining prostate biopsy specimens before and after the three- month intervention, they saw significant changes in gene activity. Roughly fifty genes associated with cancer suppression became more active in generating RNA (a nucleic acid that essentially acts as a messenger carrying instructions from DNA), and nearly five hundred genes associated with cancer progression became less active. The pattern of change observed in gene activity was consistently and decisively associated with lower risk of cancer development and progression. In other words, diet and lifestyle exerted a powerful effect within the double helix of DNA itself! Since this study showed a change in the behavior of genes in people who already had cancer a change in genes that would be expected to slow or prevent cancer growth this study suggests that lifestyle measures have the power actually to reverse cancer. If a cancer is essentially stopped in its tracks by a change in gene behavior and if that cancer never grows, spreads, or causes discernible harm it's really just as good as a cure. Of course, we will need longer-term studies to prove that this effect is possible, but the research is already suggesting it. While this study is unique, it's becoming less so all the time. Other investigators have produced similar results, showing changes in gene expression with lifestyle interventions. Such studies, which are proliferating quickly, suggest potential benefits across a wide array of conditions including breast, colon, and other cancers; heart disease; stroke; diabetes; and more. We've long known that if you're overweight, losing weight tends to be good for your health, and if you are

overweight and have insulin resistance, weight loss can improve insulin sensitivity and protect against diabetes. In fact, the Diabetes Prevention Program, a multicenter clinical research study, was designed to investigate whether lifestyle measures or treatment with the oral diabetes drug metformin could prevent type 2 diabetes in high-risk individuals. It found that following a balanced, sensible diet and getting moderate physical activity led to an average loss of 7 percent of body weight, which in turn reduced the risk of subsequent diabetes by a full 58 percent. By contrast, those taking only the drug reduced their risk by only 31 percent. That's right: A modest upgrade of lifestyle and moderate weight loss prevented nearly two out of three people who were at high risk from getting diabetes, nearly double the results of simply taking a drug. This is impressive, to be sure, but the latest genetic research tops it. More recently, a study called GENOBIN (Gene Expression in Obesity and Insulin Resistance) has shown that long-term weight loss also changes the genes that are involved in cell death. Down-regulating the activity of such genes essentially applies an anti-disease, antiaging salve directly to your DNA. It's like putting on a protective coat of armor from the inside out. Indeed, if you change your lifestyle, particularly your eating and exercise habits, you can change the expression of your genes even after you've been diagnosed with a disease, and/or modify your risk of experiencing a recurrence. While I don't measure gene expression in my practice nobody does in a clinical setting I have seen many patients take matters into their own hands after a grim diagnosis and improve their health greatly by adopting a healthy lifestyle. A former patient named Dale comes to mind. When Dale was in his mid-fifties, he worked too hard, slept too little, dealt poorly with stress, got little to no exercise, and, most important, consumed an unhealthy diet (lots of fried foods and red meat, and too few vegetables, whole grains, and fruit). After suffering a heart attack that landed him in the ER, then the critical care unit, Dale had to have his occluded arteries opened up with a cardiac catheterization. His cardiologist prescribed lots of medication and followed him closely, and then Dale decided to adopt a healthy lifestyle. By the time we met, Dale was in his early sixties and had already revamped his diet and become physically active. At our last visit for routine care, he was seventy-three and looked like Jack LaLanne at the peak of his vitality fit, strong, and chiseled. His blood pressure and cholesterol levels were perfect. The results of his stress test were optimal, and he was the very picture of health. The only medication he was taking was aspirin. He just didn't need anything else. I have seen similar reversals of fortune with patients who've been diagnosed with diabetes or cancer and changed their lifestyle habits a pattern that's supported by research. In a recent review of the medical literature on the link between physical activity and disease outcomes among cancer survivors, researchers at Bellarmine University in Louisville, Kentucky, found that regular exercise is associated with a decreased risk of breast cancer recurrence. Moreover, an analysis of observational studies by researchers from the National Cancer Survivorship Initiative in the United Kingdom suggests that a low-fat, high-fiber diet may protect against recurrence of breast, colorectal, and prostate cancer. The evidence is even stronger for physical activity with a dose-response relationship, meaning the more that cancer survivors exercise, the lower their risk of a recurrence. Putting Your Fingers to Better Use When it comes to smoking, there's also an opportunity to undo previous damage if you kick the habit. While smoking isn't as prevalent these days, about 20 percent of adults in the United States still do smoke, and here's something you should know: Smoking cigarettes damages just about every organ in the body and accounts for at least 30 percent of all deaths from cancer, according to the American Cancer Society. It also increases the risks of heart disease, stroke, aneurysms, osteoporosis, macular degeneration (an eye disease that causes blindness), and other chronic diseases. So if you smoke, quit. Really, it's nonnegotiable. Fortunately, there is a variety of aids that can make it a bit easier to kick the habit. These include group support programs, nicotine replacement therapy (gums, patches, nasal sprays, inhalers, and lozenges), medications (such as certain antidepressants), hypnosis, and acupuncture. Your best bet is to talk to your doctor about which one(s) might be suitable for you then look at the calendar and set a quit date! The sooner you quit, the better it will be for your health, but it's never too late. It also may take a few attempts before your effort sticks. In a recent study involving 113,752 women and 88,496 men between the ages of twenty-five and seventy-nine, researchers at the Center for Global Health Research, in Toronto, found that the risk of dying from any cause was three times higher among current smokers than among those who'd never smoked, and life expectancy was about a decade shorter among current smokers. Here's the real surprise: The research found that quitting smoking restores life expectancy more than you might think. Smokers who quit between the ages of twenty-five and thirty-four regained all ten years they would have lost if they'd continued smoking; those who quit between thirty-five and forty-four gained back nine of those lost years, and those who kicked the habit between forty-five and fifty-four gained back six years of lost life expectancy. So quitting at any age really can help you stave off premature death. Harnessing the Power of Epigenetics Each of us was born with particular genes; it's a fact of life. But our modern understanding of genetics and genomics has evolved to emphasize the role of epigenetics how genes are influenced by their environment. Quite simply, their environment is . . . you! As we've already seen, the way you live in terms of your eating, exercise, sleep, stress management, and other habits changes the environment of your genes, and that in turn changes what they do. Specific genes may make you more prone to inflammation (which can damage tissue throughout your body), aging (a gradual deterioration of function at the cellular and organ levels), degeneration (wear and tear to the lining of your arteries, or to your cartilage or joints), and oxidation (a process akin to rusting in the body). The expression of these genes is, in turn, influenced by the environment inside your body. Genes that may

cause you to make more or less insulin, cholesterol, or white blood cells are also all influenced by your lifestyle. If you develop wholesome habits, you can give the DNA you were born with a second chance a do-over, so to speak to move in a healthier direction. You can reshuffle the genetic deck in your favor with healthful behaviors enough to reduce the likelihood of a bad health outcome by 80 percent. Those are shockingly good odds! No medicine, supplement, or medical intervention can even come close to delivering results like that. Not even close. In the short term, using your fork to feed yourself more wholesome foods and your feet to put your body into motion (and keep it there) can lead to more immediate benefits, including better mood and mental clarity, improved sleep, more energy, less pain and stress, and a greater overall sense of well-being. In a recent review of the medical literature, researchers at the University of Auckland, in New Zealand, found that light- to moderate- intensity exercise even reduces cigarette cravings and withdrawal symptoms in people who are trying to kick the habit. How can you argue with this many feel-good perks? Even if you already have a chronic illness, your prognosis will almost certainly be better if you take good care of yourself. Its true of cancer, and its true of hypertension and diabetes, too. For some people, even optimal use of their feet and forks may not be quite enough to avoid hypertension or cholesterol abnormalities, for example; they may also require medication to treat their condition, but healthy lifestyle habits will allow the medication to work more effectively. The most important question for you to ponder now is: How effectively am I using the levers that control my medical future? If you're like most people, the answer is: not well. The answer may even be: not at all. That's not your fault. It's really the norm in our culture and our society. But it doesn't have to stay that way for you and your family. It's time to establish a new normal! The journey to get there begins with willpower. You need to care. If you don't care about creating better health, a better life, a better future for your children; more years in your life and more vibrancy in your years; or an 80 percent reduction in the likelihood of ever getting any serious chronic disease you should probably close this book now. Caring is not enough, though. People talk a lot about willpower; they don't talk nearly enough about skillpower. You might want to pilot a 747, but it's best not to try it if you don't have the expertise. You might want to see the world from the top of Mount Everest, but you can't even consider making the ascent without developing serious mountaineering skills. Getting to wellness is a lot less difficult, but it, too, requires skill-power, which will be explored in detail in the next chapter. The real epiphany about losing weight, upgrading your lifestyle, and finding good health is not one isolated ingredient someone can patent and sell to you. It's the big picture. The active ingredient in a healthy diet is not vitamin E or resveratrol; it's real, healthy food. The most effective tool in health-promoting exercise is not some fancy gadget but moving your body regularly. You can put together the ultimate tool kit for avoiding illness and embracing good health. Amassing the proper tools and mastering the ability to use them adeptly will give you what you need to reach the prize of better health, greater longevity, and more vitality that is the real-world revelation.