



SuperFoods HealthStyle

Proven Strategies
for Lifelong Health

STEVEN G. PRATT, M.D.,
AND KATHY MATTHEWS

Authors of the Bestselling SuperFoodsRx[®]



SuperFoods

**Proven Strategies for
Lifelong Health**

HealthStyle

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An e-book excerpt from



In memory of Al Lowman

1948–2005

agent, friend, mentor

The doctor of the future will give no medicine, but will interest his patient in the care of the human frame, in diet and in the cause and prevention of disease.

—THOMAS EDISON

The medicine wheel—the traditional Lakota symbol for medicine, health, and balance—is essentially a circle with a cross in the middle. To the east is the spiritual realm, to the north is the mental realm, to the west the physical, and to the south the emotional. To be healthy you must be in balance in all four directions, essentially living in the center of the circle.

—DONALD WARNE, M.D., M.P.H.

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I know my close friend, confidant, and agent “Maestro” Al Lowman is enjoying every word of this book from heaven. It was Al who championed *HealthStyle*, as he felt strongly, as I do, that this was indeed a twenty-first-century concept.

—STEVEN G. PRATT, M.D.

SuperFoods HealthStyle has been another wonderful adventure for me and I’ve enjoyed the help and support of family, friends, and colleagues in completing the manuscript.

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—KATHY MATTHEWS

Introducing Chef Mark Cleveland

Eating well is an important part of HealthStyle, and we all need guidance and inspiration when it comes to putting healthy, delicious food on the table. We are fortunate to have Chef Mark Cleveland help us turn SuperFoods into super meals.

Mark learned to cook as a child from his wise Italian grandma, mastered the concepts of healthy California vegetarian cuisine while in college, and expanded his repertoire of ingredients, techniques, and flavors while living and working in Japan. Once back in California, Mark founded BIAN Personal Chef, a service that specialized in naturally nutritious meals with an international flair. Mark is now busy with his new Avanti Café in Costa Mesa, California. Mark's extensive experience teaching cooking techniques is obvious in the care he's taken in developing HealthStyle recipes.

Introduction

Welcome to HealthStyle

HealthStyle is a fresh new way of living. It embraces every aspect of life that promotes health and optimism. HealthStyle is not a diet or an exercise program or a few isolated principles that promise you'll feel better in a few days or weeks. You're reading this because you already know that's not possible.

You want to live fully, healthfully. HealthStyle recognizes that achieving optimal health in the twenty-first century is a synergy of information, motivation, good habits, and inspiration. Many people are aware that the current accepted course of much of traditional medicine—end-stage care of chronic, often fatal, ailments with drugs or surgery—may not be the solution for a long, healthy, fulfilling life. Disease and disability take years and years to develop. Once we experience symptoms, our lives are often changed forever, usually for the worse. What if you could stop that microscopic cancer cell that showed up in your kidney when you were twenty-five years old and prevent it from thriving? What if by eating a diet high in phytonutrients and fiber, exercising to regulate your metabolism, sleeping enough to maintain a strong immune system—what if all of these and other aspects of your HealthStyle resulted in that tiny cell being flushed harmlessly from your system? What if instead of getting a diagnosis of kidney cancer at age 55 after a

few years of mild nagging back pain, instead you sailed right on to 60 and 70 and 80, still playing tennis, still gardening, still enjoying the spring sun on your face?

This is what HealthStyle does for you. The information in this book, if you adopt it, is your ammunition against disease, frailty, and the host of indignities that come with poor health. HealthStyle will help you dodge those potential bullets. With luck, you'll never know how close they came. You'll simply feel good. Energetic. Optimistic. Some sections of this book are expressly designed to help you dodge some of the biggest bullets around. Can the section "How to Avoid Alzheimer's" or "How to Avoid Hypertension" guarantee freedom from these increasingly common chronic ailments? Of course not, but you'll increase your odds. And while the end result is not guaranteed, the process is: if you follow the suggestions in this book, you will feel better both physically and emotionally because you'll be doing the best you can to live well on this earth.

If you're reading this book you probably already make some effort to achieve health. Perhaps you have a pretty good diet. Maybe you exercise regularly. Or maybe you hope that your good diet will make you "immune" from an exercise requirement. Maybe you eat pretty well and exercise but get only about six hours of sleep a night and feel pretty good. But what you don't know is that you're really suffering from a chronic sleep debt that's not only impairing your performance, it could also be promoting hypertension and diabetes as well as impairing your immune system and even promoting obesity.

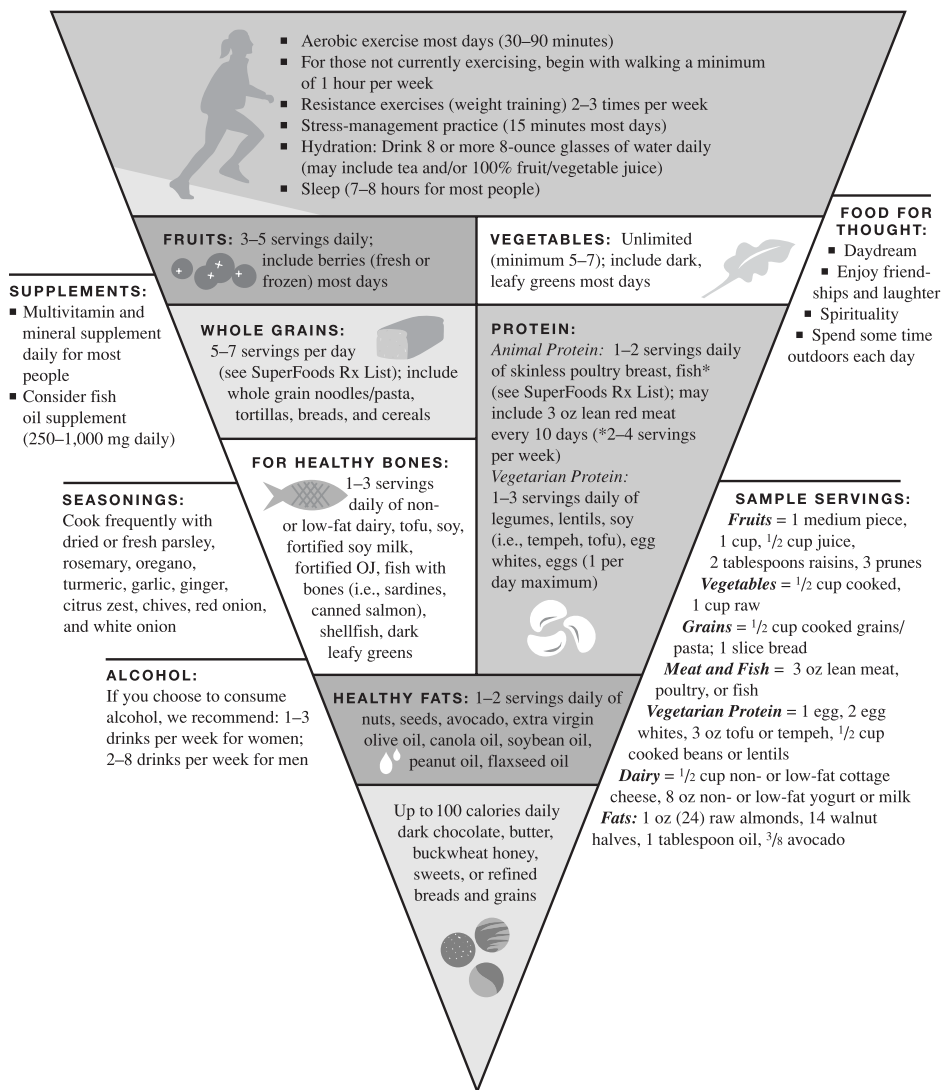
Health is a web. Each strand is doing a job; no part can be ignored.

Perhaps the big news of HealthStyle is the role that *certain simple habits* play in keeping us at our best. Sleep, attention to our spiritual side, social contacts—all of these affect health in profound and usually unrecognized ways. I find the research studies on these practices particularly exhilarating because they seem to confirm instinct. Doesn't it make sense that achieving what I call "personal peace" will actually promote health and perhaps even longevity?

My HealthStyle pyramid reflects every aspect of healthy living that I think needs attention. A quick glance at it will help you to get a great overview of how to live a long and healthful life.

SuperFoods Rx

HEALTHSTYLE PYRAMID



My first book, the bestselling *SuperFoods Rx*, presented a lively nutrition bible to a public eager for sound, medically based information on foods that promote health and prevent disease. The basic, powerful concept of *SuperFoods Rx* is that certain foods have significant health-promoting abilities. Most people find that when they learn about these abilities it changes their relationship to food: they want to include more SuperFoods in their diets and the inevitable result is a nutrient-dense, lower-calorie, health-promoting diet. The response to this simple idea has been overwhelming. Many people who have struggled with food issues for years have written to tell me that they're eating better and feeling better than ever. I believe this is the simple power of information reinforced by results. When people learn why eating more fiber, more spinach, more blueberries, and more wild salmon will make them feel better, they try to do so. And they feel better! So they keep doing it. And they feel even better.

HealthStyle takes the "best foods" concept one step further and creates a blueprint for optimal health based on the latest peer-reviewed research on the importance of exercise, sleep, and stress control in your life. "Peer-reviewed" is important. It means that every bit of information in this book has been published in respected journals. It's not just my theory or a suggestion that seems reasonable. It's actual, proven data. My own feeling is that research data is often mishandled by the media. There's too much focus on single studies that can have conflicting and sometimes alarming results. Many more headlines are written on the one study that confounds previous ones or even common sense. Sometimes animal studies yield results that may not be transferable to humans yet still make headlines and confuse consumers. Except where noted, I rely on studies conducted on humans. I'm convinced that most readers of this book will fall into that category.

Information is one thing; implementation is another, so *SuperFoods HealthStyle* presents information in a seasonal format that is useful to readers searching for practical ways to achieve a healthier lifestyle. How do you "get out and exercise" when it's sleeting? How do you motivate yourself to choose healthy foods when the holidays roll around and your office is a sea of cookies and fruitcake? How do you eat a diet rich in fruits and vegetables in

January when there seems to be little fresh produce available? We are seasonal creatures. We have physical and spiritual rhythms that change with the weather. Though we sometimes ignore it, we are intimately connected to nature. HealthStyle capitalizes on the seasons by making health recommendations that coincide with the times of year and taking advantage of our natural inclinations.

Nutrition is the cornerstone of HealthStyle. Healthy, whole foods are the foundation of health. And, of course, foods along with the weather change with the season. Our desires ebb and flow. The hearty casseroles that lure us in January hold no appeal in July when we yearn for some grilled fish or perhaps just a salad. The foods in HealthStyle, the SuperFood recommendations and recipes, are in tune with the seasons. You'll find the freshest and most delicious foods when you eat according to the season.

Each HealthStyle season features some of the original fourteen SuperFoods with updates on their health-promoting abilities as well as new tips and recipes to help you enjoy them more frequently. In addition, I've introduced a few additional SuperFoods as well as SuperSpices. These are foods and spices that have earned their place in the SuperFood pantheon thanks to recent research on their powerful effects on health.

So, again, welcome to HealthStyle. I hope that this book inspires you to live your best year ever. With many, many more to come.

Winter: Season of Resolution

Though the poets may claim that April is the cruelest month, HealthStylers would no doubt pick December. And January, February, and maybe some of March. Winter can be hard on our health. We tend to be less physically active because inclement or cold weather keeps us indoors. We are tempted with holiday foods that we wouldn't dream of eating other times of the year. The days are shorter: Less daylight makes outdoor exercise a challenge while it promotes more TV watching and thus more snacking. Reduced sunlight affects our moods, making some of us less optimistic and less committed to health goals. Some of us even suffer from SAD (seasonal affective disorder), which makes reduced sunlight an actual health risk.

Don't despair! Winter does have its special beneficial rhythms. We seek warmth in winter—of every kind. Winter draws us inward. We can seize opportunities to be more reflective. Long evenings encourage more family and social time—time to reconnect and cherish the important relationships in our lives. Exciting new evidence demonstrates that these important social contacts keep us healthy as well as happy. The winter holidays are a time of spiritual renewal and give us an opportunity to connect with an often neglected aspect of health—spirituality, or, as we discuss in HealthStyle, Per-

sonal Peace. Winter is a perfect time to take stock, make resolutions, and look to a healthier new year.

We're about to show you that you can come through winter in healthy style with new and reinforced good health habits. Winter is the time to focus on some new and delicious SuperFoods that will make achieving optimum nutritional health a pleasure. We've got some warming recipes that feature the winter SuperFoods along with some SuperSpices that have impressive health benefits. Just a sprinkle of cinnamon on your morning oatmeal could help control your blood sugar levels and have other positive effects on your health. Here's the really good news: Chocolate is a SuperFood. The beneficial polyphenols in chocolate make it a powerful health promoter. What could be a better winter treat—for your health and your spirit—than a mug of steaming cocoa twirled with a cinnamon stick? Who would have thought that this indulgence could have such positive effects?

Yes, winter can be a challenge for many of us, but it offers special opportunities, and if you adopt the recommendations of HealthStyle, you'll be able to savor the best of the season, improve your overall health profile, and be ready to greet spring in the best shape you've ever been in. You have three months: Make them count toward your better HealthStyle and your better future.

PERMANENT CHANGE

The goal of HealthStyle is literally to help you change your life. You've already taken the first step: You're reading this book. You might be mildly curious—perhaps you'd like to lose a few pounds or eat more healthfully—or you might be absolutely determined to improve your health because a condition or illness has made you realize that your HealthStyle is a life-and-death decision. It doesn't matter how you came to read this book; it should be comforting and encouraging to know that just by doing so, you're going in the right direction. Your goal is change. However, change isn't always so easy. Many of us have tried and failed before. This time will be different because, with the help of HealthStyle, you'll have different skills and constant motivation.

As the winter and the start of the new year are times of recommitment and resolution, it's useful to take a look at the process of personal change. If

you are aware of all of the elements of effective change, you'll be more successful in your year of HealthStyle.

In a book published more than a dozen years ago, *Changing for Good*, three psychologists studied thousands of people who were able to alter their lives positively and permanently. The authors learned that change isn't dependent on luck or willpower as many of us believe. It is a *process* that can be successful if certain guidelines are met. As a doctor who actively works to promote health with his patients, I've always known that positive change isn't just a matter of willpower. I've seen too many patients who were determined and committed but who failed to achieve change in the long run for many reasons. Making positive, permanent change is a skill. You can learn how to do it. It's a gradual process of learning to know yourself, learning to set goals, maintaining motivation, and learning what tools you need to reach your goals. I find it useful in winter, when we're starting a new year, to take a close look at the process of change. It will help us as we go forward trying to improve our overall health and well-being.

Life is change. Tomorrow will be different from today. You will be a different person—on molecular, physical, and emotional levels—a year from today. Will you be better or worse off? The choice is yours. HealthStyle will put the tools in your hands to improve; you need only decide, each day, to use them.

Some of the life-changing skills I'll describe may seem obvious to you. But each one needs attention if you want to give yourself the best chance for success. Take a minute now and think about each skill and how you can implement it in the season and year ahead.

■ One of the important skills of permanent change is the ability to **evaluate yourself** realistically. Take a hard look at the year ahead. What are your goals? How do you want your life to improve? What do you think will be better about your life if you adopt the HealthStyle lifestyle? Do you primarily want to look better by losing some weight? Do you want to extend your active, vital lifespan? Do you want to live to enjoy your grandchildren? Do you want to feel the inner peace that comes with living a healthy and directed life? You probably have enough basic information about health improve-

ment to know the weak links in your own HealthStyle. Maybe it's your diet. Maybe you've never exercised. Maybe the stress in your life is so out of control that you're losing sleep and feeling anxious all the time. Or perhaps you have a very specific issue—high cholesterol, a family history of heart disease, being overweight, a recent diagnosis of type II diabetes. Whatever your health issue, look it square in the face. One year from now, one year of HealthStyle, and you are going to be a different person.

■ Change doesn't happen by wishing it so. **You must make the decision to change.** It's not enough to think about how your life *could be better*. You have to determine that *you will make it better*. Too often we daydream about change. We often think about how nice it would be if we were healthier, if we ate better, if we exercised. We have a moment of resolve when stepping on the scale or sitting in the doctor's office. But we never actually *decide to take action*. You'll be surprised at how empowering it is actually to make a decision to veer from your routine. Winter is the perfect time for a personal revolution. Make a promise to yourself that by this time next year, you're going to be better. Commit to it by writing it down right here, right now: _____

You're going to feel better and maybe even look better. You've got nothing to lose and everything to gain.

■ Of course, you have to do more than read this book, you have to **take active steps** to incorporate suggested changes in your life. HealthStyle doesn't insist that you follow a single blueprint for success. You'll learn how to make decisions based on your lifestyle and tastes and on what changes will work for you. You'll be shown how to substitute good health habits for poor ones. This isn't as hard as it might seem, because there are literally hundreds of ideas in this book that will help you. As you go through the year of HealthStyle, you'll pick and choose the tips that work for you. Sometimes you'll have to push yourself a bit to make these changes work. But if you've made the decision to change and you refer back to your written commitment, you will surely keep on track and your HealthStyle year will be a success.

■ You must **keep motivated**. HealthStyle acknowledges: Its core is motivation. Anyone who makes a commitment to change knows that it's important to search for motivation everywhere. You'll find it in the headlines. Former President Bill Clinton's heart surgery was motivating for many peo-

ple who had been cavalier about their heart health. Many people were shocked that someone who seemed so vigorous, who had lost weight and seemed to be exercising—someone who certainly got good medical care—suddenly found that he needed major heart surgery to avoid a possibly fatal heart attack. Calls to cardiologists spiked in the weeks following Clinton's surgery.

Simple facts are extremely motivating. People tell me all the time that my first book, *SuperFoods Rx*, convinced them to change their diets because the data they read in the book spoke for itself. If there's powerful research evidence that, for example, blueberries have a positive effect on brain function, why wouldn't you eat them? The HealthStyle data on food, exercise, sleep, personal peace, and a host of health issues will convince and motivate you as well.

One interesting and exciting aspect of positive change is that motivation grows and strengthens as a result of the positive actions you're taking. Improvement is self-reinforcing. All my patients tell me this and I've found it to be so in my own life. When you eat well, you feel better and want to continue eating well. When you exercise, you have more energy and want to continue exercising and eating well. If there's any magic bullet to health improvement, that's it: *Act better to feel better to get better.*

■ **You need support from friends and family.** You need to make decisions about how to ask for help and who will help you. Perhaps you should tell your children that certain foods the family is eating will ultimately cause health problems, but sometimes it's hard to resist these foods, so you need their help. Maybe they can help prepare salads at dinnertime. Maybe they can help prepare some healthier recipes. If they feel like collaborators rather than victims of change, they're far more likely to be enthusiastic supporters. Don't forget co-workers. Ask their support in avoiding sugary treats on coffee breaks or at office parties. Suggest a quick, healthy lunch followed by a walk with an office mate instead of a fatty, high-calorie midday extravaganza. So many more people are health conscious these days, but may be shy about speaking up. If you suggest providing fruit instead of doughnuts at the next meeting, others will surely embrace your suggestion. When we put out healthy snacks at my office—grapes, carrots, bell peppers, nuts—they disappear as quickly as any junk food would.

■ **You need rewards.** Many people think of rewards in this context as a major gift to oneself, like a new coat or theater tickets or even a trip. This is fine if it works for you and your budget, but I prefer to think of rewards in smaller, everyday terms. Rewards are stepping-stones to a goal. They help you cross a river of temptation and conflicting demands. For example, buy that fancy green tea or a soothing CD if you reach your week's exercise goals. Treat yourself to some new exercise clothing or a reflexology session once you go a month without junk food. Call a friend you haven't spoken with in ages as a reward for skipping dessert at a buffet. You know yourself best and you know what your short-term HealthStyle goals are. Connect those goals with rewards. Think up creative rewards as you go along, and when something threatens to derail your efforts, search for the stepping-stone that will keep you on the right path. Write down these reward ideas. One of my patients told me that every Sunday evening she writes a note to herself about her week's reward if she sticks to her goals. One week it was splurging on a basket of exotic fruit. Another week she treated herself and a friend to a house tour in a nearby city.

Cold-Weather Cholesterol

Did you know that blood contains less water in winter, slightly concentrating cholesterol? This means your total cholesterol reading could be a bit higher in winter than in summer. A new study published in 2004 has found that cholesterol levels naturally fluctuate throughout the year. Researchers at the University of Massachusetts Medical Center in Worcester tracked 517 healthy people for a year and found that their cholesterol levels tended to rise in the winter and fall in the summer. The biggest changes occurred in those with elevated cholesterol and in women. Their levels fluctuated by as much as 18 points. The seasonal variation put 22 percent more patients over the official high-cholesterol mark of 240 mg/dl in winter than in summer. Cold-season readings could lead to a misdiagnosis of high cholesterol for up to three million Americans, the researchers estimate. Best bet: Get several checks, make sure that at least one is in the spring or fall, when levels are at a midpoint.

EXERCISE

Eating alone will not keep a man well; he must also take exercise. For food and exercise, while possessing opposite qualities, yet work together to produce health.

—Hippocrates, fifth century

It's a new year, time to look at the most important elements in your HealthStyle. We're tackling the most challenging habit first—exercise—because it's perhaps the single critical change you can make in daily life—along with eating Super-Foods—that will improve your health, your spirits, and your future.

You must exercise. It's that simple. You cannot fully realize the benefits of HealthStyle if exercise is not a part of your life. If you're thinking right now that this is where you tune out because you've never been able to exercise, let me tell you something that should be encouraging: I have a whole new approach to exercise that works even for confirmed couch potatoes. First I want you to understand how important exercise is to your future health. Once you understand how exercise amplifies all the good things you're doing for your health and how powerful a tool simple movement is in preventing disease, I'm sure you'll resolve to get active.

Here's a way to think about exercise that will motivate you: You are dangling by a line—a lifeline—over the abyss. That line is keeping you alive, keeping you a full participant in life, keeping you hanging on. You want this line to be as strong and reliable as possible. It's made up of four strands woven together. On your “healthline” the four strands are nutrition, exercise, adequate sleep, and personal peace. Together, they make up a powerful, reliable health insurance. The synergy of their separate powers can keep you alert, flexible, energetic, and optimistic for a long, long time—maybe, with a little luck, to near age 100. Neglect one of these strands and you're in jeopardy. Every fast-food binge, every sedentary month, every frantic year of uncontrolled stress, sleepless nights, and spiritual voids fray a few strands in the healthline. Of course, you may be lucky—you may never break a sweat in your life or you may eat fast food daily for a half century and never suffer any consequences. This scenario is highly unlikely but not impossible. Do you want to take the chance of hanging by a frayed rope? Do you want to trust to luck that either one or both of the other two strands will hold?

If you are reading this book you're probably looking to improve your health and if so, exercise must become part of your daily routine. Yes, I'm repeating myself, but exercise is that important. Now here's the good news: It's time to simplify our approach to exercise. Too many of my patients have been turned off by recommendations that are confusing or don't suit their lifestyle. I have a solution: the HealthStyle ERA Exercise Program, which will be described in detail later once I've demonstrated how important exercise is. It's a simple program and I've yet to meet someone who can't do it.

Perhaps you already exercise regularly. If so, that's great: Keep it up. Most people find that once they begin an exercise program, they see results and stick with it. So bear with me while I convince those who don't exercise, or who've tried and failed, to make physical activity part of their daily lives.

A Nation and a World at Rest

First, a little background. . . . We were born to move. That's literally true. We are here today because many generations ago our ancestors were running around procuring food. The equation was simple: Move or die. In fact, it's been estimated that Paleolithic man burned approximately 1,000 calories a day and consumed about 3,000 calories a day. Today, in affluent Western nations, we consume approximately 2,100 calories a day and burn *only about 300 calories in daily activity*. A little quick math will tell you that we burn less than a third as much as our ancestors did in daily calories. As recently as a century ago, 30 percent of all the energy used in the American workplace came from human muscle power. Today, the workplace is operating on brain power: Only a tiny percentage of us use our muscles for anything more demanding than moving a computer mouse. It's not only that we don't expend energy at work, we hardly spend energy at all. With our TV remotes and vacuum cleaners that push themselves, our power mowers and snowblowers, and our reliance on cars to get anywhere, we have come to a near total standstill as far as energy expenditure is concerned.

Statistics highlight the facts: Nearly 30 percent of American adults are

Sedentary individuals may lose 23 to 35 percent of muscle mass over the course of their adult lives. This loss causes a loss of strength and balance, and an overall physical decline.

entirely sedentary and another 46 percent don't get enough exercise. That means only about a quarter of Americans get sufficient exercise.

Do you think that while you might not be Olympic athlete material you certainly get lots of daily activity? Think again. When researchers from the CDC (Centers for Disease Control and Prevention) evaluated more than 1,500 people who claimed to be walkers, they found that only 5 percent of the surveyed group actually walked enough to realize any benefits.

Where does this leave us? With a genetic makeup that thrives on lots of daily activity and a relatively low caloric intake, we are living in a world that encourages the exact opposite. In other words, we now are watching a lethal mix of a genetic makeup suffering from the toxic circumstances of **increased** daily calorie intake and **decreased** daily activity. It's no wonder that chronic diseases are rampant in our culture.

Obviously we cannot change our genetic heritage. But we can change our behavior: Lower calories; increase exercise!

One in three Americans over age 50 is *completely* sedentary.

Benefits of Exercise

The benefits of exercise are truly extraordinary. Indeed, if some clever salesman could sell exercise as, say, "The E Technique," and convince people of all the benefits they'd gain from using this technique, he would be a billionaire! Here's how exercise can help you live better today and as the years go by:

- Exercise can make your heart stronger.
- Exercise burns calories and helps you maintain a healthy weight.
Exercise is essential for keeping off lost weight.

- Exercise decreases inflammatory markers (e.g., C-reactive protein).
- Exercise helps to control your blood sugar and thus helps to manage or prevent diabetes.
- Exercise can improve circulation, which has myriad beneficial health effects.
- Exercise can decrease blood pressure.
- Exercise increases your cognitive ability, including your ability to concentrate and remain alert.
- Exercise before or after a meal diminishes the postprandial rise in potentially harmful triglycerides (a type of fat).
- Exercise decreases your risk for metabolic syndrome.
- Exercise can decrease the levels of “bad” low density lipoprotein (LDL) cholesterol, and increase the levels of “good” high density (HDL) cholesterol.
- Exercise boosts the immune system.
- Exercise can reduce back pain.
- Exercise lowers your risk for upper respiratory infections.
- Exercise helps relieve arthritis.
- Exercise lowers your overall risk of dying prematurely.
- Exercise can make you stronger and more flexible.
- Exercise, particularly weight-bearing exercise, can make your bones stronger.
- Exercise increases your level of endorphins—brain chemicals that increase your sense of well-being. Thus exercise can improve mood and could even fight depression.
- Exercise reduces the frailty of old age.

In one study conducted in northern California, approximately 20 percent of the subjects reported that they had had *no vigorous activity for the past twenty years!* In this study, 13 percent of the colon cancer cases could be attributed to physical inactivity.

- Exercise is an essential activity to prevent cataracts and age-related macular degeneration.

There's no question that the positive benefits of physical activity are extraordinary. Here is a list of the diseases and conditions that exercise can help prevent and/or improve:

- Coronary artery disease
- Heart disease
- Stroke
- Colon cancer
- Endometrial cancer
- Breast cancer
- Prostate cancer
- Osteoporosis
- Obesity
- Type II diabetes
- Depression
- Dementia
- Cataracts and macular degeneration
- Chronic lung disease
- Arthritis
- Disability

This is an impressive list. Keep in mind that many of the physiological benefits will occur *immediately*. While preventing dementia or osteoporosis or coronary artery disease would probably rank as a top long-term goal, you don't have to wait till old age for the benefits of exercise to kick in. Exercise will give you an immediate boost in mood, mental acuity, and overall energy levels. This isn't surprising when you appreciate the dramatic effect that physical activity has on the human body. Yes, you're sweating a bit, probably breathing heavily, and perhaps you feel your muscles aching. However, here's what's happening on a cellular level when you're active: You're increasing the activity of free-radical scavenging enzymes, improving immune function, increasing circulating T- and B-lymphocytes, reducing body fat, increasing gastrointestinal motility, altering hormone levels,

improving insulin resistance, reducing triglyceride levels, and providing beneficial effects on the inflammatory response. Appreciating the intensely synergistic effects of physical activity makes it easier to see why its health benefits are so extraordinary.

Exercise Keeps You Young

Guess what? Much of the overall physical and mental decline we experience between the ages of thirty and seventy has *more to do with a sedentary lifestyle* than with the aging process. Exercise slows the deterioration of a host of bodily systems. It helps reverse impairments in sleep, sexual, and cognitive functions as well as loss of muscle mass and bone strength.

Exercise and the Brain

Most of us know that exercise affects our bodies. That's pretty obvious. We become stronger, sometimes slimmer and more flexible. I've found that many people are amazed to learn that exercise has a dramatic effect on the brain. Even those of us who think we can live with some extra body fat or less flexibility or even a higher disease risk will be motivated to exercise when we realize that doing so helps preserve our brains! I'm going to go into detail on this aspect of exercise because it affects everyone (with particular benefits for women, for men, for older folks, and for parents) and because it's a powerful incentive to get moving.

It's dismaying to learn that the human brain begins to lose tissue early in the third decade of life. *The average lifetime losses are estimated at roughly 15 percent of the cerebral cortex and 25 percent of the cerebral white matter.* This loss of tissue is closely related to declines in cognitive performance during the same time period.

Exercise to the rescue. In a meta-analysis of eighteen controlled studies conducted over the past forty years it was found that aerobic exercise improves cognitive ability in people over fifty-five. Interestingly, the people who showed the most dramatic improvement were previously sedentary. Moreover, relatively brief programs (one to three months long) provided as much benefit as moderate programs (four to six months long), though, as you

might guess, the longer time a subject exercised, the greater the overall improvements.

There are now other studies that show similar results. *Better cardiovascular fitness will produce a brain that is more plastic and adaptive to change.*

A study published in 2003 demonstrates that physical exercise actually stimulates physiological changes in the brain. In this study, researchers scanned the brains of fifty-five people ages 55 to 79 and tested their aerobic fitness. Then, using MRIs, researchers found that physically fit subjects had less age-related brain-tissue shrinkage than subjects who were less fit.

One study of normal people fifty-five years old and older showed that the areas of the brain most gravely affected by aging also showed the greatest benefits from aerobic fitness.

We now have confirmation that the role of cardiovascular fitness as a protector and enhancer of cognitive function in older adults has a solid biological basis. In a nutshell, the simplest and most inexpensive way to delay the effects of senescence on human brain tissue is to get up out of your chair and start moving.

Personally, I find the brain-boosting benefits of exercise powerfully motivating. Many of my patients, especially older folks, agree. It's frightening to think that you could face a future with diminished mental ability. Most of us could imagine a happy life despite many disabilities, but cognitive decline is not one of them.

One study found that physical inactivity was an even greater risk to health than tobacco smoking. In this study, conducted on a Chinese population, one-fifth of deaths of those over age 35 in Hong Kong in 1998 were due to physical inactivity.

Especially for Women

Women have special challenges when it comes to physical activity, but also particular benefits to gain when they are active. Women begin with a disadvantage in the fitness wars: Their reserves of muscle mass are considerably

lower than those of men. They are generally weaker than men, with more body fat and less muscle tissue. As they age, their loss of musculoskeletal capacity affects them sooner and more pervasively than men. They begin to feel the impact of reduced fitness at least ten years before men.

Sadly, the statistics tell us that women are even less active than men: Over 70 percent of adult women do not engage in any regular activity. And women stand to gain a great deal from better fitness—maybe even more than men. One study of 5,721 women found that fitness was twice as strong a factor in preventing death than in men. In another study, previously sedentary women who became active halved their mortality rates from all causes.

Most unfortunately, women who are sedentary often suffer from the results of decline *before they're even aware it's happening*. Half the women in the United States die of cardiovascular disease, and nearly two thirds of women who die suddenly from cardiovascular disease had no previous symptoms. Also, elderly women can begin to suffer frailty, loss of mobility, balance, and so forth, which might never had occurred had they been physically active. Studies have shown that women in their sixties and seventies, compared with those in their twenties, have lost 30 to 39 percent of their former strength. Again, women often find they're beginning to suffer the damaging results of a sedentary lifestyle before they even realize the extent of their decline.

Exercise has been *proven* to reduce a woman's risk for coronary artery disease, stroke, type II diabetes, breast and colon cancer, as well as osteoporosis.

There is very good news for women, however, on what they stand to gain from regular physical activity. For one thing, adding exercise to your life can lower your risk of cardiovascular disease—the number one killer of U.S. women. Additionally, there's evidence that improved fitness, regardless of any changes in weight, blood pressure, or lipid levels, improves your overall health picture. This is extremely good news for women because it puts the focus back on basics: Work on overall fitness with exercise and diet and

you'll make giant strides in improving your overall health status. Once you get moving, pay attention to your optimum weight, blood pressure, and cholesterol levels.

I've already mentioned that exercise can reduce a woman's risk for cardiovascular disease. An important meta-analysis concluded that physically active women had half the heart disease of those who were sedentary. Even more exciting for some women: *Vigorous* activity is not necessary for lowering your risk of cardiovascular disease. Women who walk one hour a week had half the coronary artery disease as those who were sedentary. As little as one hour a week of walking yields a lower risk for heart disease, and the walking need not be fast-paced to prove beneficial. The time spent walking was more important than the walking pace. Here's the little bonus I share with my women patients who are totally sedentary: One recent study of more than eighty thousand women showed that the greatest decrease in disease risk is a result of boosting activity from less than one hour a week to between roughly one and two hours a week. This is not at all difficult to achieve! In this study, walking conveyed approximately the same benefit as more vigorous activities among the middle-aged and older women.

Check out the fitness planner for women at [MealsMatter.org](http://www.mealsmatter.org/EatingForHealth/Tools/wfp.aspx). You can find it at <http://www.mealsmatter.org/EatingForHealth/Tools/wfp.aspx>.

In addition to a reduction in cardiovascular risk, women derive other important benefits from exercise. Women, particularly early postmenopausal women, must work to fight the bone loss that occurs as they transition to a postmenopausal state. Exercise—especially weight training—plays an important role in fighting bone loss and resulting osteoporosis.

There's also evidence that regular workouts help reduce the hot flashes and night sweats associated with menopause. A Swedish study followed 142 menopausal women who did not use hormones. Regular exercisers in this group reported half the number of moderate and severe hot flashes compared with those who did no regular exercise. Eight years after this initial study, additional research showed that only 5 percent of very active women experienced several hot flashes compared with 14 to 16 percent of women

Young women who exercise just a few hours a week in their teenage years can lower their likelihood of developing breast cancer by 30 to 35 percent. The operating theory is that exercise, even in relatively small doses, promotes a kind of biological shield against cancer.

who were sedentary. In this study, weight, smoking, or hormone therapy could not explain the difference.

Especially for Men

Many men have an all-or-nothing approach to exercise. The “no pain/no gain” concept really appeals to them (even though it’s now generally recognized as *ineffective*). They’re either weekend warriors, sweating it out for two hours on the squash court every Saturday, or total couch potatoes, enjoying their golf and tennis on the big screen. For those of you who go crazy on the weekends and are stiff, sore, and immobile for the rest of the week, it’s time to educate, moderate, and recalibrate your exercise habits with the new HealthStyle ERA Program (see page 32). For those of you who haven’t moved since your last phys ed class in high school, hear that sound in the distance? It’s the whistle of your new HealthStyle PE instructor getting you back in action.

The health benefits of physical activity are just too powerful to ignore. If you skipped earlier sections in this chapter outlining the specific benefits of exercise, go back and read them now. You need to believe that the effort of physical activity is worth it.

Men have some advantages over women when it comes to health. Yes, women do live longer but the gap is closing. In general, men are larger and tend to have more lean muscle mass. This means that their bodies burn calories more readily than women’s bodies. Indeed, preserving and increasing that lean muscle mass is one of the goals of exercise.

While men have the potential for dramatic health gains when they adopt an exercise program, they are often stymied by simple bad habits and the belief that they’ll never get back to the “fighting form” they enjoyed in their teens and twenties. I often see a certain look in a patient’s eyes when I recommend exercise. It says, “Don’t waste your breath, Doc. I’ll listen, if you in-

It's a very sad fact of life that most people who are not engaged in athletic or workout activity lose a very large proportion of their physical strength and physical work capacity *before they even notice that something is wrong*. Tragically, some people cross the threshold of disability and find themselves unable to participate actively in life, an end result that could have been very different with an easily achievable amount of physical activity earlier on.

sist, but there's no way I'm giving up the remote control. I'm not an athlete and I'm not joining a gym." Here's my favorite response to that look. One study tells the heartening story of middle-aged men who had had a thirty-year layoff from exercise. The study showed that in six months, the effects of those sedentary thirty years were actually *reversed* with a program of exercise training. These guys had really declined in thirty years, too. Their weight had increased by 25 percent, their body fat had doubled, and their aerobic capacity had decreased by 11 percent. Despite all that, in six months they were able to achieve the same degree of cardiovascular fitness they'd enjoyed as *twenty-year-olds*. The moral of the story is that when it comes to fitness, it's never too late. I've found that many male patients are inspired by this story.

Remember that big gains in fitness can be achieved without fanatical and intense activity. One study at the University of Colorado found that after a three-month exercise period that consisted primarily of walking, a study of groups of sedentary men with an average age of fifty-three had improved their endothelial function—a key contributor to vascular health—to a state comparable to that of men who had exercised for years.

It's well known that exercise has impressive beneficial effects on the heart and the circulation. It's not surprising that anything that improves the circulation could improve erectile function, and indeed it's true. One Harvard study that included some 31,000 men between the ages of fifty-five and ninety found that men who exercise only thirty minutes a day are 40 percent less likely to develop erectile dysfunction than sedentary men. Given that about 20 percent of men in their sixties and 30 percent of men in their seventies have erectile problems, a little exercise could go a long way to improving the lives of many men and their partners.

Arthritis and Exercise

If you have arthritis, you may be reluctant to begin an exercise program. More than thirty-two million Americans and more than half of people over age 65 have some degree of this painful disabling condition. It's estimated that by the year 2020, sixty million, or 18 percent of the population, will have to deal with the day-to-day impact of arthritis. While it's often difficult for arthritis sufferers to think about exercise, the fact is that research has shown that exercise can give symptomatic relief. Arthritis sufferers should keep the following in mind: Exercise must be pursued on a regular basis because once discontinued, muscle strength and symptom relief are quickly lost.

- Exercise programs should have an aerobic component that brings you to 50 or 60 percent of your maximum heart rate for twenty to thirty minutes, three to four times a week (see page 42).
- Resistance training—lifting weights—should be a part of your program. Beginners should start with four to six repetitions to avoid muscle fatigue, and two to three sessions a week is sufficient.
- Tai chi (see page 28) is also an excellent exercise for arthritis patients because it achieves strength, stretching, and aerobics all in one.

Especially for Older Adults

Old age isn't what it used to be. Today we see senior citizens on the tennis court, in marathons, and on the bike trail as well as on cruise ships and shuffleboard courts. We're lucky to live in a time when a vigorous old age seems not only desirable but possible. It's inspiring to see older folks who are as active and engaged in life as any twenty-something. And given that the over-eighty-five segment of the population is the largest growing of all, we can hope to see more and more of them and maybe eventually join them ourselves. If you're over sixty-five and sedentary, *exercise may be the single most important habit you can adopt to improve your overall health and well-being.* The evidence is overwhelming. One study revealed a 23 to 55 percent lower mortality rate in highly active men and women over age 65.

If you think that there's not much point in exercising if you're older because you're not really interested in being physically active, you're ignoring the fact that as we age, the benefits we get from exercise—and our own

goals—change. Younger folks usually worry more about fitness, appearance, and weight. Older folks get those benefits from exercise and more: As balance, mental health, and maintaining sexual activity become higher priorities, exercise becomes the best tool for achieving them.

Exciting news for older people is that they stand to gain the most from exercise. For example, a number of studies have demonstrated that older women and men show similar or greater strength gains compared with young individuals as a result of resistance training. In one study, older men responded to a twelve-week progressive resistance-training program by more than doubling knee extensor strength and more than tripling knee flexor strength. This refers to keeping the major strength and function muscles of your legs strong. In another study with elderly men working on their quadriceps with resistance training, the average increase in strength after eight weeks of resistance training was a very impressive 174 percent.

Exercise for the Sick and the Well

Exercise is for everyone, always. Remember, while traditional medicine rarely addresses this issue, exercise has been shown to alter the expression and consequences of a disease that is already present. What this means is even if you already have an ailment or chronic disease, or mobility restriction such as confinement to a wheelchair, exercise can probably help you. Get guidance from a medical professional, but don't miss out on the benefits of physical activity.

One of the great threats of old age is a condition known as sarcopenia. Sarcopenia refers to the loss of muscle mass and decline in muscle quality observed with increasing age. Sarcopenia is also linked to functional decline, osteoporosis, impaired thermoregulation (the ability to control body temperature), and glucose intolerance. Sadly, the effects of sarcopenia can compound: As their physical capacity declines, many older folks avoid physically stressful work and thus become increasingly sedentary and increasingly vulnerable to overall decline.

The best way to fight the ravages of sarcopenia is to exercise. Ample evidence demonstrates that decreasing physical activity levels are related to the development of disability in older adults.

An essential key to improvement in fitness in elderly people is resistance training. Only the loading of muscle and resistance training—weight-lifting exercises—have been shown to avert loss of muscle mass and strength in older folks. Studies have shown that even very fit older people—those who run or play tennis for example—do not have the muscle mass and strength of older people who engage in weight training. Weight training can build muscle and strength. In one study, a weight-training program of three to six months was able to increase muscle strength by an average of 40 to 150 percent. The National Institute on Aging says that even frail, inactive people in their nineties can more than double their strength in a short period with simple exercises.

There's another advantage to resistance training. Elderly people who have been sedentary may have impaired balance and weakened muscles: Aerobic activity could risk a fall. But once a regular program of simple resistance exercises has begun, both weakness and impaired balance will improve. Resistance training also maintains joint health and function because a joint, particularly knees, elbows, and shoulders, is only as strong as the muscles around it. The National Institute on Aging offers exercise videos for seniors. One shows how to use household items like chairs and towels to tone and strengthen muscles. It costs only \$7 and comes with a book of instructional information and charts to track your progress. Call 800-222-2225.

Good news for older folks: Even if you have periods of inactivity, you'll still benefit from the effort you put into strength training. In one study, people ages 65 to 81 trained over a two-year period. They exercised twice a week for one hour, performing two to three sets of both upper and lower body exercises at up to 80 percent of the heaviest weights they could once lift. They were still able to lift up to 24 percent above their baseline three years after discontinuing strength training. Control subjects who performed no strength training over the five years saw declines in strength across the board.

HealthStyle Exercise ERA for Older People

If you're a senior—age 65 and older—shift the order of the HealthStyle ERA Program (see page 32). Begin with **R** for Resistance Training. Go slowly and keep at it. Depending on your age and physical condition, you can incorporate the first part of the program—Exercise Opportunities—when you feel able.

Here are some tips for older folks—those age 65 and older—who are ready to add exercise to their lives:

- If you have a family history of heart disease or are under care for a medical condition, check with your health care professional before you begin to exercise. You might want to get a complete physical and perhaps take a stress test if your health care provider advises.
- Wear comfortable clothing and footwear that is appropriate for the activity.
- Seniors generally need to take more care with warm-ups and cool-downs: Don't neglect these exercises. Your muscles need to prepare for activity to avoid injury. If walking is your activity of choice, walk slowly for five or ten minutes before you up your pace, or slowly jog in place for five minutes before your workout to gradually increase your heart rate and core temperature. The idea is to get your muscles and tendons prepared for activity. Cool down after exercising with five minutes of slower-paced movement and some stretching. This prevents an abrupt drop in blood pressure and helps alleviate potential muscle stiffness.
- If you walk, choose a place that is safe, well-lit, and free of traffic, and make sure the walking surface is smooth and regular. Shopping malls can be great places to walk and some offer walking programs in the morning before they open for business.
- Take it easy. Start slowly and increase your activity intensity slowly. The most common cause of injury and exercise dropouts is going too fast. In general, don't increase your training load—the length or frequency of workouts, the intensity, or the distance—by more than 10 percent a week.
- If you're exercising for more than a half hour and/or you're exercising in warm, humid conditions, be sure to drink 4 to 8 ounces of water every

fifteen minutes. Your body can lose more than a quart of water in an hour. Seniors often find that their sense of thirst is not a reliable guide, and adequate hydration is important.

■ A good primer on weight-bearing exercises is *Growing Stronger: Strength Training for Older Adults*. Look for the interactive Growing Stronger Program as well as the book itself at www.nutrition.tufts.edu/growingstronger/. You can download the book for free or purchase a copy at the site. Two other useful resources include the American College of Sports Medicine at www.ACSM.org or 800-486-5643 and the National Strength and Conditioning Association at www.ACEFITNESS.org or 800-825-3636.

Tai chi is an excellent form of exercise for middle-aged people and seniors. Consisting of a series of gentle postures combined in slow, continuous movements, tai chi emphasizes deep, diaphragmatic breathing and relaxation. It's a low-intensity exercise that claims to develop balance and coordination, and helps maintain strength and emotional health. Tai chi promotes good health, memory, concentration, balance, and flexibility, and is also said to improve psychological conditions such as anxiety, depression, and the negative health developments normally associated with aging and a sedentary lifestyle. Tai chi has also been shown to improve balance and reduce falls in elderly people. It definitely conveys the benefits of an aerobic activity in a very appealing format. In one interesting study, folks who practiced tai chi for twelve weeks even enjoyed an impressive drop in blood pressure. One of the big pluses of tai chi is that it has a high adherence rate—few people drop out once they experience the pleasure and health benefits of this graceful exercise program. Check to see if there's a tai chi class at your local Y or adult education center; boys' and girls' clubs; health facility; college or university; city recreation department; or local martial-arts school.

It's especially encouraging for older people to know that even if they have periods of inactivity, they'll still benefit from any effort they put into strength training. (See "Resistance Training," page 38, for more information on this.)

Back pain keeping you from exercising? Cross that excuse off your list. Many people, including doctors, are fearful that exercise will cause excessive wear on spinal structures and thus encourage back pain. In fact, research has shown that exercise has no effect on the development of back pain and that trunk muscles in lower-back-pain patients are frequently weaker than in healthy individuals. Indeed, exercise can reverse back impairments and result in a more functional, pain-free back. If you suffer from back pain, ask your health care professional about stretching and strengthening exercises. Researchers at Harvard Medical School report the average reduction in back pain with this type of strengthening treatment is 35 percent. They note improvements in 80 percent of patients. Start slowly and keep at it; as muscles strengthen, your pain will likely decrease.

Especially for Parents

Mom and Dad, you are probably aware of the sad truth: Our kids are tater tots. Many of them have become still lifes. What most parents are unaware of is the fact that their kids are facing future health problems of major proportions if their sedentary lifestyles are not abandoned. As parents, we must make every effort to ensure that our children incorporate plenty of physical activity in their daily lives. The best way to do this is to set a good example. Be active yourself and encourage your kids to be active with you. Turn off the TV and go for a bike ride or a walk or a hike.

In 1999, 14 percent of American adolescents ages 12 to 19 were overweight. This is three times the number of overweight adolescents we saw two decades ago. The Centers for Disease Control and Prevention, the Atlanta-based arm of the federal government charged with the nation's public health, has published research showing that 60 percent of overweight five- to ten-year-old children already have at least one risk factor for chronic disease: elevated fats in the bloodstream, elevated blood pressure, or high insulin levels. Type II diabetes, formerly known as adult-onset diabetes, is now affecting children and adolescents. This is an absolute disaster, as the complications of this serious disease include cardiovascular disease, organ damage, vision problems, and amputations. As people develop diabetes at younger and younger ages, the complications will ultimately take a toll on younger and younger people.

The tough truth for parents today is that electronic media are more popular than time spent playing outdoors. There is some positive news: There are **video games** that promote movement. The EyeToy series by Sony has a motion-tracking camera and players move their bodies to make screen characters do the same. Similarly, players of the Spider-Man 2 Web Action Video Gaming System must move their bodies to move characters on-screen. Dance Dance Revolution is a floor pad with lighted arrows to show where to step to music. I know some adults who exercise to this. There are **TV shows** that seem to get the message, too: *Nick Jr.'s Lazy Town* and PBS's *Boohbah* both encourage kids to move.

Of course, an obvious problem with inactive children is obesity. An obese child may not be concerned about future health issues, but will certainly be concerned with the social issues that arise from being overweight. Social discrimination can cause low self-esteem and depression at a particularly critical time in a child's life.

Encouraging exercise, along with healthy eating habits, is a crucial step that all parents should take to preserve their children's future health. Here are some simple steps you can take to become a family on the move:

- Keep in mind that kids should be physically active about sixty minutes each day.
- Encourage your kids to participate in sports for fun. Eliminate the pressure; emphasize the joy.
- Be active yourself. Be a role model.
- Plan active family outings. Hiking, bike riding, and ball playing are great ways to spend time together.
- Limit TV and video/computer-game time. These two nonactivities are the biggest drains on kids' time and the biggest encouragements to a sedentary lifestyle. Forty-three percent of teens watch more than two hours of TV daily. Encourage alternative activities.
- Provide a safe environment for your children and their friends to play actively. Provide healthy snacks and drinks, sports equipment, and encouragement.

- Don't drive them everywhere. Whenever possible, safe, and practical, encourage your kids to walk or ride their bikes to friends' houses and/or school.

Promote safe places to exercise in your community, such as bike paths, running paths, walking trails. Find out if school facilities can be used by the community for activities like adult basketball, soccer, volleyball, and other exercise activities.

Use Your Head

I hope you're convinced that you need to exercise. Before you move a muscle, however, I want you to use your brain. It's your best asset when it comes to exercise, because success in changing your habits is all about motivation. You've probably heard that roughly 50 percent of people who begin an exercise program drop out in the first six months. This usually is not because their bodies stopped working (due to injury, for example), but rather because their motivation dried up. Don't let that happen to you. In one study, the single most important factor that kept people on track with their exercise was that they made it a priority. Interestingly, the people in this study did not focus on their physical appearance nearly as much as on their desire to be fit. I have found this to be true with my patients. The people who are most interested in achieving their best HealthStyle seem to be the ones who manage to

Exercise improves Fido, too! A very interesting recent study showed that older dogs were able to learn new tricks—with the help of improved diet and exercise. The forty-eight beagles in the study were divided into four groups that got either standard care; a diet supplemented with food-derived antioxidants and supplements; standard care plus exercise; or a special supplemented diet plus the extra play and exercise routine. The older dogs clearly benefited most from the supplemental diet and exercise program. All twelve of the older beagles who got the SuperDog diet and the SuperDog exercise routine could solve a difficult problem compared with eight to ten dogs that got only the enriched diet and two of eight dogs who got no special treatment.

stick with their resolutions; those who are focused largely on their appearance often get discouraged when and if they don't see immediate results and they quit.

Your New HealthStyle ERA

I wish I could tell you exactly what to do in terms of exercise. If there were one, single, ideal exercise program, believe me, I'd tell you. But people and lifestyles are too varied. Actually, that's the fun of it. You have to find activities that suit you—ones you actually enjoy. Pleasure is a great motivator. You have to exercise at a time of day that works for you. With a friend? Alone? With your dog? Doesn't matter. All that matters is that you do it. You don't even have to stick to a single program. Change with the seasons if you like. Who knows, maybe it was seasonal change that first inspired cross training! Don't feel that exercise is a grind. Sometimes it is, but most of the time it shouldn't be. Are you warmed up now? It's time to get down to it. . . .

At the beginning of this exercise discussion I told you that I had a new, simple, flexible approach to getting active. Here it is: the HealthStyle ERA. Extensive recent research has demonstrated that there are three important aspects to an optimal exercise program, and the HealthStyle ERA incorporates them all:

- Exercise Opportunities
- Resistance Training
- Aerobics

The HealthStyle ERA Program will make it easy for you to think about exercise because, after all, it begins in your brain. Many of us are confused into immobility. The ERA Program will set you free.

Before You Begin

Consider your overall health. Do you have any particular health problems? Do you have heart disease, severe arthritis, or other chronic health conditions? If so, talk to your health care professional before you begin to exercise. Maybe this is the perfect time to schedule a complete physical.

THE THREE-PRONGED EXERCISE ATTACK

If you're going to do the best for your body in terms of exercise, you've got to fulfill three goals: Increase your overall everyday movement (Exercise Opportunities), do weight training (Resistance Training), and adopt some level of aerobic activity (Aerobics). If just reading about this makes you want to nap, be reassured: Start with just the first goal, Exercise Opportunities. I've never met anyone who was unable to do take this first step. And very few fail to move on to the next one. . . .

Think Outside the Block

I've found that the most common single excuse that people use to avoid exercise is lack of time. Do you put off exercising because you don't have a "block" of time? Why bother to walk around the block if you only have ten minutes, right? Many people believe that exercise has to be done in one relatively long stretch of time. This misunderstanding is keeping too many of us stuck to the sofa. A guiding principle of Exercise Opportunities is that big blocks of time are not essential to achieve physical fitness. While sixty to ninety minutes of physical activity is optimal, thirty minutes a day is sufficient and beneficial. Best of all, thirty minutes of physical activity can be a fifteen-minute walk in the morning, ten minutes of vigorous housework, and five minutes of jogging in place while you watch the news. So don't let limited time stop you from gaining the powerful benefits of regular exercise.

Think you can't get real benefits from this kind of "scattershot" activity? In one report, the Cooper Institute recruited 235 relatively sedentary men and women for a study called "Project Active." Half of the group worked out in a gym three to five times a week. The others were in the "lifestyle" group: They incorporated physical activities such as walking and stair climbing into their everyday lives. After two years, by almost every measure, men and women in the lifestyle group enjoyed the same benefits as those in the gym group. People in the lifestyle group were even burning the same number of

Those who think they have not time for bodily exercise will sooner or later have to find time for illness.

—Edward Stanley, the Earl of Derby, 1873

extra calories from activity as the hard-core gym folk and they achieved the same improvements in fitness.

How Much Is Enough?

Sixty minutes of exercise daily? Thirty minutes of high-intensity activity daily? Twenty minutes of weight training and a half hour of aerobics? Most people quite reasonably ask, “How much exercise?” But frequently their real question is: “How little exercise can I get away with?” Many patients wonder if they can exercise a little but eat a lot better. Or maybe lose some weight and then stop exercising. Or maybe skip exercise entirely and improve their diet radically. Many people who do their best to exercise are completely discouraged when they learn that what they thought was a good exercise program doesn’t come near to a newly announced “goal.”

How much is enough? This is the simple question that has kept too many people from enjoying the benefits of physical exercise. The “experts” don’t help because, human nature being what it is, if there’s any level of confusion on what one should do, it’s too easy just to shrug your shoulders and settle onto the sofa with the remote. There has been some confusion about the recommendations for the optimum amount of physical activity. We’ve heard recent updates in these recommendations from the new Dietary Guidelines, the American Heart Association, and the American College of Sports Medicine as well as the National Academy of Sciences Institute of Medicine. Many people have found conflicting recommendations to be confusing and discouraging.

Here’s the answer: Aim for thirty minutes of at least moderate physical activity on most days. That’s a baseline goal. Everyone can achieve that. Once that becomes a regular habit, push the bar a little higher. Sixty to ninety minutes of activity on most days is optimum.

For every pound of muscle you build, your body burns an extra 35 to 50 calories a day.

Exercise Opportunities means seizing every single chance you get to move your body in the course of the day. It’s a state of mind. You probably know people who are exercise opportunists. They walk to the store or take a bike

ride on a sunny morning. Many people think of exercise as something that they must add to their day in a big block of time—the gym before work or the exercise class in the evening or the forty minutes on the treadmill at some odd hour of the day. All of these approaches are good—if *you can achieve them*. But there are many, many people who have never been able to work exercise into their day because they don't have time, they can't afford a gym, or they simply don't like to "exercise." If this describes you, Exercise Opportunities is the answer. Exercise Opportunities is a mind-set that works physical activity into every bit of your day—much like our ancestors did. You don't consciously "exercise"; rather, you make a concerted effort to move whenever possible. You'll be surprised how quickly the perpetual motion of Exercise Opportunities can add up to real gains in terms of all the benefits associated with physical activity. It burns calories so you can maintain a healthy weight (or simply lose weight) and it builds muscles.

There is no "someday" on your calendar. Schedule exercise on a real day! How about today?

There are countless ways to create Exercise Opportunities (EO) in your day. If you consider how modern technology has eliminated virtually all movement from your life, there are countless ways to work it back in. Consider the can opener. Do you have an electric can opener? Think of it as a symbol of physical decline! Every appliance that keeps you from moving your muscles is also keeping you from being healthy. Well, I know that's a bit exaggerated. But if you started using your muscles instead of electricity for more of your daily chores, you might well be healthier and stronger. Once you begin to adopt an EO mind-set, you'll see activity around every corner.

The first and most obvious activity is walking. Walk whenever you can. Walk to work if possible. Walk to the supermarket, to the post office; walk the kids to school. Take a walk with a friend, a spouse, a child, or a dog. Take every opportunity to get up and stretch your legs. Many of my patients have told me that this simple bit of advice has changed their lives. Instead of jumping into the car or onto public transportation without a thought, they now consider if they can turn their journey into a walk. Remember that life

is not always about speed—the errand that takes you an extra half hour may be the errand that’s saving your life!

Thinking about biking to work? In one study, those who did so experienced a 39 percent lower mortality rate than those who did not—even after adjustment for other factors.

Here are a few Exercise Opportunities suggestions. Some I use myself; others have been suggested by patients who delight in finding new ways to spend energy.

AT HOME

- Use the stairs. Some businesses are even posting signs near the elevators suggesting that workers use the stairs when possible. I always climb the stairs in my building and, in fact, in addition to jogging up three flights to get to my office regularly, I sometimes just run up and down a couple of times just to get my blood flowing.
- Do things standing up! If you’re talking on the phone, folding laundry, or even writing out a grocery list, stand up. If there’s a step nearby, do calf raises: Hold on to a banister to steady yourself, put the ball of your foot on the edge of the step, and press your heel downward, and lift yourself up. Repeat a few times for each leg.
- When you walk, walk faster. Pick up the pace and even a short walk can give you a bit of a workout.
- Do housework yourself, with gusto. Vacuum to music. Dust those high shelves.
- Walk the dog. Often. Take him out two or three times a day. Once he’s used to this routine, he’ll nudge you to keep to it.
- Turn everyday chores into brief exercise sessions: Waiting for the water to boil? The oven to heat up? Do side stretches and leg lifts. I do push-ups against the kitchen counter or steps.
- Don’t just watch TV: Use an exercise bike or do sit-ups or use weights while you watch. Keep a set of hand weights right next to the remote control.

- An hour of evening TV has about fifteen minutes of commercials. If you do some sit-ups or weight-training exercises during these ads, you'll be *halfway* to your basic goal of a half hour of daily exercise.
- Carry packages to the car instead of putting them in a shopping cart when possible and practical. Try lifting them (as much as you comfortably can) with your arms extended as you walk home or to the car.
- Park the car farther from the store than you'd like! This is an old one but it works.
- Do your own yard work. Shovel snow. Garden. Rake fallen leaves.

If you have ideas for more Exercise Opportunities, share them with us at www.SuperFoods.com. We'd love to hear from you.

AT WORK

Most of the time you're probably sitting at a desk, but EOs abound if you pay attention.

- Get off the bus or train early and walk the remaining distance.
- Instead of meeting a friend or colleague to have lunch or coffee, meet to take a walk.
- While sitting at your desk, put your arms straight out in front of you and grab your elbows with opposite hands. Stretch slowly to the right, then to the left.
- Do seated leg lifts. Sit at the edge of your seat and do five straight leg lifts and five bent leg lifts with each leg.

Don't let traffic slow you down. See it as an exercise opportunity. Pull in your tummy at a red light and hold it till the light turns green. Stretch your neck by dropping your head from one side to the other.

ON THE ROAD

Travel can be a special challenge, but it offers its own opportunities for exercise.

- Stay in a hotel with a fitness center. They're very easy to find these days. Make sure that the center is open at convenient hours.
- Travel with a jump rope and use it in your hotel room. This is especially useful if your hotel doesn't have a fitness center.
- Walk, walk, walk as you explore new places. You'll see much more than you would in a car or on a bus.

Resistance Training

Resistance training, or weight training, is your best friend when it comes to fitness and longevity. It preserves lean body mass. Remember sarcopenia—that loss of muscle that causes countless health problems as you age? Resistance training is going to help prevent it. If you're in your late thirties or early forties, you're probably already losing muscle mass at a rate of about a quarter pound a year. You need to hang on to that muscle or lean body mass. Lean body mass is metabolically active—it burns more calories than that other body mass, fat—and thus it helps you keep your weight down. Resistance training will also boost your bone density and balance—both particularly important as the years go by.

Head Games

Don't feel like exercising today? Take a minute and think about how you'll feel at 9:30 tonight. Pretty disappointed in yourself, no doubt. Turns out that anticipated regret can be a great motivator. In a recent study, folks who took the time to think about how bad they'd feel if they skipped their workout were more likely to do it. Take time each morning to think about how you'll feel at the end of the day if you don't follow through on your exercise plans.

There's another bonus to resistance training. Do you still fit into those five-year-old jeans? If not, like many people you're experiencing a gradual piling on of pounds that seems part and parcel of the aging process. There are many popular theories to account for this phenomenon, most of which

imply that there's no escape from middle-aged spread. Well, those supertight clothes are not inevitable. Your resting metabolic heart rate (RMR) accounts for about 60 percent of your daily metabolism or calorie burn. Starting at about age 35 or 40, muscle mass begins to decline and with this decline comes a decline in RMR. A lower RMR burns fewer calories. The end result is that what you ate at age 25 to maintain a healthy weight can, at age 45, make you fat. Fortunately, there's a simple solution to this: Lift weights! You're not looking to build giant muscles—all you're interested in is preserving the muscle mass of your youth, maintaining a higher RMR and thus burning more calories. Who knows, you might just be able to zip up those turn-of-the-century jeans!

There's plenty of excellent information out there on weight-training programs. If you're a beginner, check out a few of the sources I'm listing here. If you're experienced, good for you. You probably already know the benefits of weight training. If you're unsure how to proceed, invest in a couple of sessions with a personal trainer or join a group class to get you started.

- An excellent website that introduces a complete program of resistance training is the Center for Disease Control and Prevention site Growing Stronger: Strength Training for Older Adults. Although it's geared for older people, it's useful for anyone just beginning a strength-training program. http://www.cdc.gov/nccdphp/dnpa/physical/growing_stronger/
- At the American College of Sports Medicine you can download a brochure "Selecting and Effectively Using Free Weights" or get a free copy by sending a self-addressed, stamped, business-size envelope to: ACSM National Center, P.O. Box 1440, Indianapolis, IN 46206-1440.

Here's a simple, basic program for a beginner:

- If you're healthy, you can probably begin weight training today. If you're frail, arthritic, on medications for chronic ailments like osteoporosis or diabetes, check with a health care professional or exercise therapist before you begin.
- Get some weights.

- Find a comfortable place to use them. You'll need a chair, some steps, or a sturdy stool.
- Wear loose-fitting, comfortable clothes.
- Get started!

How often do you have to do these weight-training exercises? The American College of Sports Medicine would like to see you weight-train two or three times a week. If you can do three, great; if not, make twice weekly your regular goal. It's only going to take you a half hour to forty-five minutes—enough time to watch your favorite show and pause for a drink of water. Schedule one session for Sunday morning and you can talk back to the political shows while you train. Do it again one evening and you're all set.

How Much Weight?

In order for resistance training to be effective you have to keep increasing the weight as you go along. If you've been lifting two-pound weights for a year, it's not bad but it's not weight training. To determine how much weight to lift, start with a low amount. The ideal training regimen is four sets of eight to ten repetitions. If you find on the fourth set that it is easy to complete the repetitions, then you need to start adding weight. So if you can easily do four sets of eight reps using three-pound free weights, it's time for you to move up to five-pound weights.

Aerobic Exercise

This is the last part of the HealthStyle ERA Program. If you've managed to work on the other two parts, you know you're ready for aerobic exercise.

What is aerobic exercise? It's activity that involves the repetitive use of large muscles to temporarily increase your heart rate and your respiration rate. Aerobic exercise improves your cardiorespiratory endurance, working your heart and lungs to promote cardiovascular fitness. That's the key to aerobic exercise—cardiovascular fitness. It's the reason you do it and the reason it keeps you young and vigorous and energetic.

Cardiovascular fitness is seen by many as the single best measure of changes that occur in the body with aging. Your cardiovascular fitness nor-

mally declines by 8 to 10 percent per decade for both men and women after age 25. That means if you're fifty years old, you could already be 25 percent less fit than you were at twenty-five. That's the bad news. The good news is that it's not that difficult to regain youthful fitness if you're willing to devote a minimum thirty minutes most days of the week to this end. Indeed, while you may never be as fit as you were at twenty, studies have shown that even people in their eighties have not lost the ability to improve their aerobic fitness level.

Deciding to exercise is a Big Decision. It's easier for many of us to make Small Daily Decisions. Decide to exercise today!

Brisk walking, running, swimming, cycling, aerobic classes, stair climbing, aerobic exercise videos, cross-country skiing, hiking, soccer, rowing, jumping rope, singles tennis, and basketball are all examples of aerobic exercise.

If you already participate in one of these activities—excellent! You're looking to a healthier future. If, on the other hand, you're one of the millions of Americans who don't get enough exercise, it's time to change your ways.

And, yes, I know you don't have time. Few of us have time to exercise if we don't make it a priority. We all have too much to do. That's why you have to be both clever and determined when it comes to aerobic exercise. You have to find one activity you can count on—something you can do easily and frequently and that you enjoy. For many of my patients, that's walking. Almost everyone can walk—outside in good weather, at a mall in bad weather, with a friend or with music or a book on tape. (For more information on walking, see page 100.)

There are many excellent books on aerobic exercise that contain detailed information and inspiration. My goal here is just to get you started. I'm extremely happy when a patient goes from zero to even twenty-five in the fitness race. If HealthStyle has helped you get moving, I'd love to hear from you. Get in touch with me at www.SuperFoods.com.

Thirty minutes a day most days of the week is the ideal beginning goal for exercisers, but many sedentary people think even that sounds like a lot. If that describes you, here's what I suggest: ten minutes. Decide that you're going to do some aerobic activity for ten minutes most days this week. Maybe a brisk walk around the block. Maybe it's ten minutes of bike riding or a short spell on a rowing machine, stationary bike, or stair climber. Just do it. Look at your watch and go. If you want to continue for longer, great. If ten minutes is all you're ready for, great. Just do it almost every day this week and for the next couple of weeks.

Before too long you'll find that you're ready for more than ten minutes. But don't rush: It's better to get those ten brisk minutes in each day, building up a good physical and psychological foundation, than to do an hour one day and then give up because you're sore or you can't find that much time the next day. Slow but steady. That's what will get you to an active, healthy old age.

What's Aerobic?

How do you know you're exercising "aerobically"? Patients sometimes get confused about what level of activity is considered to be "aerobic." The best way to measure this is to check your heart rate, which I'll describe shortly. It's not essential to know your heart rate, and if that's going to discourage you or slow you down, forget about it and just focus on this: You're exercising aerobically if you're breathing rapidly but can still carry on a conversation, and you begin to perspire about five to fifteen minutes after beginning the activity, depending on the air temperature.

Here's how to gauge your activity level: Your heart responds to changes in your activity levels. When you work harder, it beats faster. Your target heart rate for aerobic exercise is 60 to 80 percent of your maximum heart rate. Most of the time when you begin working out your heart rate should be at 60 to 70 percent of your maximum, occasionally going up to 75 or 80 percent. Here's the standard formula for estimating your maximum heart rate:

Maximum Heart Rate: 220 minus your age in years

Target Heart Rate: 60 to 80 percent of maximum

Remember, aerobic exercise is going to amplify all the good things you do to keep yourself healthy. It will help keep your weight down, it will make you

AGE	TARGET HEART RATE (50–75%)	AVG. MAXIMUM HEART RATE (100%)
20 years	100–150 beats per minute	200
25 years	98–146 beats per minute	195
30 years	95–142 beats per minute	190
35 years	93–138 beats per minute	185
40 years	90–135 beats per minute	180
45 years	88–131 beats per minute	175
50 years	85–127 beats per minute	170
55 years	83–123 beats per minute	165
60 years	80–120 beats per minute	160
65 years	78–116 beats per minute	155
70 years	75–113 beats per minute	150

feel optimistic and in control of your life, it will make you strong and flexible and better able to participate in life, and it will reduce your chances of developing many chronic diseases. If you walk briskly just three hours a week—that’s a half hour on six days or even four half-hour sessions and four fifteen-minute sessions—you will:

- Reduce your risk of stroke by 30 percent
- Reduce your risk of type II diabetes by 30 percent
- Reduce your risk of heart disease by 40 percent
- Reduce your risk of osteoporosis
- Reduce your risk of some types of cancer
- Boost your immune system

Exercise and Temperance will preserve something of our youthful vigor even into old age.

–Cicero

Tips for Long-term Exercise Success

The HealthStyle ERA Program is the answer for busy people who need to get exercise into their lives. Many of my patients have adopted it. Trying an exercise program is easy; sticking with it is the challenge. I've kept ERA open-ended and flexible for that reason, because a rigid program, even if it's quickly adopted, may be quickly abandoned. ERA is more an Exercise HealthStyle: You live it day by day. It's like eating: You do it every single day; some days you do it better than others, but you never stop. Here are some tips to help keep you on track on your new ERA:

- If you've been sedentary for a long time, are overweight, or have chronic health problems, see your health care professional before you begin any exercise program.
- Make it fun. Whatever exercise you choose to do, make it a pleasure. Find an exercise buddy or work out while watching your favorite movies or while listening to books on tape.
- Wear comfortable clothes. It was recently discovered that people burned more calories on "casual" days at work. This is probably because they feel more comfortable in their clothes and are more eager to move about. Wear walking shoes when you can and you might well walk more.

■ *A New Winter SuperFood*

DARK CHOCOLATE

A source of:

- Polyphenols

FOR THOSE WHO ENJOY IT, TRY TO EAT: about 100 calories of dark chocolate daily, adjusting your calorie intake and exercise appropriately

We've saved the best news for when you need it the most. As you slog through the winter doldrums, here's the health update that could carry you through until spring: Dark chocolate is a SuperFood. For many of us, this is a dream come true. The interesting thing is that many people have told me

that once they think of chocolate as a food that's beneficial to health, even though they still love and enjoy it, because it's no longer "forbidden," they're somehow less tempted to gorge on it.

This news doesn't mean that you should toss out the oatmeal and fill your cabinets with chocolate. Pause for a moment and let the HealthStyle chocolate watchwords sink in:

- Keep your daily dark chocolate intake to about 100 calories per day.
- Eat only *dark chocolate*.

First, and most important, is the amount of chocolate: You can't eat as much as you want. It's high in calories and eating too much of it can sabotage your other HealthStyle achievements. If you eat excessive amounts of chocolate, *you can gain weight*. Depending on your weight and activity level, chocolate should be a small treat, a little healthy indulgence that will have to be accounted for in your overall calorie intake/activity equation.

When you do indulge in chocolate and you're looking for a health benefit, choose *dark chocolate*. Milk chocolate or white chocolate (the latter isn't even real chocolate) won't do. While both contain some of the beneficial polyphenols (though in lower amounts than dark chocolate), preliminary data suggest that the presence of milk in the chocolate somehow mitigates the effectiveness of the polyphenols.

Here, in a nutshell, is the good news: Dark chocolate seems to contribute to lowering blood pressure, increasing blood flow, and ultimately contributing to a healthy heart.

It's a myth that chocolate is loaded with caffeine. While there is some caffeine in chocolate, it's not much. In a typical chocolate bar, the caffeine content ranges from 1 to 11 mg. An 8-ounce cup of coffee has about 137 mg of caffeine.

What Makes Dark Chocolate a SuperFood?

Yes, there's the taste . . . the creamy melt-in-your-mouth deliciousness. But when it comes to health, it's none of the above. It's the polyphenols.

Whoever first thought to smash a yellow, hard-shelled cocoa pod, scoop

Polyphenols: The SuperNutrients

One of the most abundant phytonutrients in the human diet, their total daily dietary intake can easily exceed 1 gram per day, which is much higher than that of all other classes of phytonutrients and known dietary antioxidants.

To give it some perspective, this is about ten times higher than the majority of our vitamin C intake and about one hundred times higher than our dietary intake of vitamin E and carotenoids. Polyphenols act as antioxidants, anti-inflammatories, antimutagens, antimicrobials, antivirals, and antifungals. They help protect our DNA and inhibit the growth of unwanted blood vessels. They decrease LDL-C oxidation, elevate HDLs, promote blood vessel dilation, decrease blood pressure, have beneficial effects on capillary permeability and fragility, work in synergy with vitamins C and E, lower the risk for cardiovascular disease, and lower the risk for some cancers. They also seem to play a role in turning on “good” genes and turning off “bad” ones.

out the cocoa beans meshed in the pulpy inside, and turn them into one of nature’s most delicious and versatile foods? We can only be grateful. The cocoa beans that yield the chocolate we love come primarily from Africa, Asia, or Latin America. It takes approximately four hundred cocoa beans to make one pound of chocolate. The beans are processed into a sticky paste called chocolate liquor, which is then used to make chocolate products. The humble chocolate bar is the product of cocoa butter, chocolate liquor, and sometimes powdered cocoa, which is combined with sugar, emulsifiers, and sometimes milk. Chocolate is about 30 percent fat, 5 percent protein, 61 percent carbohydrate, and 3 percent moisture and minerals. The magic in the mix as far as health benefits are concerned is the polyphenols, specifically the flavonols.

Flavonols are plant compounds with potent antioxidant properties. Cocoa beans, along with red wine, tea, cranberries, and other fruits, contain large amounts of flavonols. Research is now suggesting that the flavonols in chocolate are responsible for the ability to maintain healthy blood pressure, promote blood flow, and promote heart health.

Chocolate doesn’t just have some flavonols; it has lots. Here’s a chart that gives a sense of comparison:

Flavonol Content of 100 Grams of Various Foods

apple	111 mg
cherry	96 mg
dark chocolate	510 mg
red wine	63 mg
black tea, brewed	65 mg

Chocolate and Blood Pressure

In the early 1990s, a physician and researcher at Brigham & Women's Hospital and Harvard Medical School, Dr. Norman K. Hollenberg, was interested to observe that the Kuna Indians, the indigenous residents of the San Blas Islands of Panama, rarely develop high blood pressure even as they aged. Studies indicated that neither their salt intake nor obesity was a factor in this seeming immunity. Moreover, when the islanders moved to the mainland, their incidence for hypertension soared to typical levels, so their protection from hypertension was probably not due to genetics. Hollenberg noticed one facet of Indian culture that might play a role: The San Blas Island Kuna routinely drank about five cups of locally grown, minimally processed, high-flavonol cocoa each day. He gave the study subjects cocoa with either high or low amounts of flavonols. Those who drank the high-flavonol cocoa had more nitric oxide activity than those drinking the low-flavonol cocoa. The connection between the ability of the nitric oxide to relax the blood vessels and improve circulation and thus prevent hypertension seemed obvious. Hollenberg is continuing his investigation. He recently completed a pilot study that found that subjects who drank a cup of high-flavonol cocoa had a resulting increased flow of blood to the brain that averaged 33 percent.

Another interesting study looked at the blood flow effects of high-flavonol cocoa compared with low-dose aspirin. The study compared how blood platelets reacted to a flavonol-rich cocoa drink versus a blood-thinning dose of 81-mg aspirin. It seems that the twenty- to forty-year-olds who participated in this study enjoyed similar blood-thinning results from both the cocoa and the low-dose aspirin. It must be noted that the effects of the flavonol-rich cocoa were more transitory than those of the aspirin.

Sip your way to winter health. . . . Need another reason to curl up by the fire with a mug of cocoa? In a recent study, researchers at Cornell University found that a mug of hot cocoa has nearly twice the antioxidants of a glass of red wine and up to three times those found in a cup of green tea. Make your cocoa with 1% low-fat milk, nonfat milk, or soymilk and sweeten it with minimal sugar. Avoid cocoa mixes, as they are high in sugar or artificial sweeteners and some contain trans fats. And Dutch-process cocoa is cocoa powder that has been treated with alkaline compounds to neutralize the natural acids. It's slightly milder than natural cocoa, but it has lower levels of flavonols so, for health purposes, stick with natural cocoa.

Chocolate and Atherosclerosis

Research suggests that atherosclerosis begins and progresses as a gradual inflammatory process. It normally involves years of chronic injury to the lining of the blood vessels. As the lining—or endothelial cells—is damaged, atherosclerotic plaques, or fatty deposits, are formed on the walls of the blood vessels. These plaques both impede the flow of blood and can rupture, leading to a blood clot, which could precipitate a heart attack or stroke.

Chocolate to the rescue. The polyphenols in chocolate act to relax the smooth muscle of the blood vessels. In addition, it seems that these polyphenols also inhibit the clotting of the blood. In a 2001 study, volunteer subjects were given a commercial chocolate bar (Dove Dark) containing 148 mg of flavonols. The end result was that the volunteers showed reduced levels of inflammation and beneficial delays in blood clotting at two and six hours after ingesting the chocolate.

What About the Fat?

Ordinarily, foods that are high in fat would never make it to SuperFood status. Chocolate is the rare exception for a variety of reasons. While chocolate is approximately 30 percent fat, the fat in it, known as cocoa butter, is approximately 35 percent oleic acid and 35 percent stearic acid. Oleic acid is a monounsaturated fat that has been shown to have a slight cholesterol-lowering effect. Stearic acid is a saturated fat, but it does not raise blood cholesterol levels. At least two studies have shown that chocolate consumption

does not raise blood cholesterol in humans. Indeed, in one three-week trial, forty-five healthy volunteers were given 75 grams daily of either white chocolate, dark chocolate, or dark chocolate enriched with polyphenols. As you might guess, since white chocolate has no chocolate liquor and isn't real chocolate, it had no effect, but the dark chocolate increased HDL ("good" cholesterol) by 11 percent and the enriched chocolate increased HDL by 14 percent. As higher HDLs are known to decrease the risk of cardiovascular disease, the argument for including chocolate in your diet is strong.

Consumer Alert

The amount of flavonols in chocolate can vary widely depending on how the cocoa beans are harvested and processed. Chocolate producers are trying to maximize the polyphenol content in their products. Watch for new, healthier types of chocolate to hit the marketplace in the near future. Look for those containing at least 70 percent cocoa solids.

Chocolate: Some Buyer's Tips

When buying chocolate select dark chocolate with a high level of cocoa solids. The higher the amount of cocoa solids, the more polyphenols the chocolate will contain. Manufacturers are getting wise to consumer interest and you'll soon notice more of this type of labeling on chocolate. Look for at least 70 percent cocoa solids. I had an independent analysis conducted to learn the total polyphenol content of various commercially available chocolates, and here are the results:

Total Polyphenol Content of a Single 40-Gram Serving of Chocolate	
Newman's Own Sweet Dark Dark Chocolate	955 mg/40 grams
Dove Silky Dark Chocolate	811 mg
Endangered Species Chocolate Company Wolf Bar (with cranberries and almonds)	811 mg
Cadbury Royal Dark Indulgent Dark Chocolate	765 mg
Hershey's Special Dark Mildly Sweet Chocolate	739 mg
Chocolat de Dina Extra Dark Chocolate with Green Tea	676 mg

Using Chocolate

The best way to get chocolate into your life—for your health—is to eat just a square or two daily. One hundred calories of one of the chocolate bars I've listed (eaten in divided doses) is a tasty health-promoting strategy.

Don't think that any chocolate dessert is now a health food. Fresh fruit

DRIED SUPERFRUITS

It's winter and the supply of ripe, fresh fruit in the supermarket may be discouraging, but don't give up. Dried fruit can be a good source of health-promoting nutrients, as their benefits remain and are actually concentrated if you measure them by volume. Indeed, dried fruits have a greater nutrient density, greater fiber content, increased shelf life, and significantly greater polyphenol content compared with fresh fruit (except for vitamin C; there's little of it in dried fruit).

It's getting easier to find variety in dried fruits beyond raisins, dates, and prunes in local markets. Blueberries, cranberries, cherries, currants, apricots, and figs are now more readily available. One thing to think about when you buy dried fruit is pesticides. Some fruit is heavily sprayed with chemicals to prevent pests and mold. Of course, when the fruit is dried, the chemicals are concentrated. Blueberries and cranberries are not a heavily treated crop, but strawberries and grapes (and thus raisins) are, and so I buy organic dried fruit when possible. Avoid dried fruit that has been sweetened with high-fructose corn syrup.

Top-ranked dried fruits are apricots and figs, which share the highest nutrient score. Dried plums are second, followed by raisins, dates, and dried cranberries. So don't miss out on the fiber, vitamins, minerals, phytonutrients, potassium, and complex carbs to be found all year round in dried fruits. Add dried fruits to oatmeal in the last five minutes of cooking, to quick breads, cookies, and other baked goods. Don't forget that raisins make great lunchbox snacks. A recent study suggests that, contrary to what most of us used to think, the phytonutrients in raisins actually decrease the risk for cavities.

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