

Food & Fitness *after*

50

Eat Well, Move Well, Be Well

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*To those over 50 who want to eat well, move well, be well...
and feel younger than your age.*

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ABOUT THE AUTHORS

Christine (Chris) Rosenbloom, PhD, RDN, FAND, wanted to be a dietitian since she was 13 years old. Under her picture in her North Olmsted, OH, high school yearbook is the title Future Dietitian. After a college degree in nutrition at Kent State University and a dietetic internship at the University of Minnesota, she became a registered dietitian nutritionist and worked as a clinical dietitian in Atlanta area hospitals. She joined the faculty of nutrition at Georgia State University in 1980, where she taught nutrition for 30 years. Her doctoral studies focused on sociology with a concentration in gerontology.

Currently, Chris is a nutrition professor emerita and runs a small business providing nutrition consulting services to many food and nutrition-related groups. She has more than 40 years of experience in nutrition, with specialties in sports nutrition and gerontology. For more than 25 years, Chris has provided nutrition advice to athletes of all ages. And teaching health professionals and gerontology students about health and aging motivated her to pay attention to her own aging. She has always enjoyed working with active people, and her academic experience in gerontology led to the desire to combine the two—sports nutrition and aging—into a book about food and fitness for those over 50.

Chris and her husband, Rob, live on Lake Hartwell, GA, where they enjoy entertaining friends and family, spending time with their 37 nieces and nephews. Chris is a recreational athlete who enjoys swimming, cycling, kayaking, golfing, hiking, walking the dogs, and taking aerobics and yoga classes at the local YMCA.

Robert (Bob) Murray, PhD, FACSM, never intended to become an exercise physiologist. When faced with the decision of choosing a college major, Bob opted for his favorite class in high school—gym class. After receiving his master's degree in physical education, Bob was fortunate to land a job as an assistant professor of health and physical education, along with being a men's swimming and diving

coach, at Oswego State University on the shores of Lake Ontario in upstate New York. Three years later, Bob realized it was time for more education because his swimmers kept asking him questions about nutrition and training that he couldn't answer. In the mid-70s, one of the top exercise-physiology programs in the country was at Ohio State, so Bob continued his education there, graduating with a PhD in 1980.

Armed with his doctorate, Bob set out to continue his career as a college professor and was hired at Boise State University, where he spent the next five years working, living, and playing in the great city of Boise. In the spring of 1985, a single phone call changed Bob's life and career path. The Gatorade Company was looking for an exercise physiologist to start an internal research laboratory to help support the business. Then part of the Quaker Oats Company based in Chicago, the Gatorade business was founded on scientific research conducted at the University of Florida, and Gatorade executives wanted to continue that reliance on science. Bob served as director of the Gatorade Sports Science Institute (GSSI) from 1985 to 2008, leading a team of exercise and nutrition scientists, external advisors, and researchers to develop the wide-ranging scientific and education offerings of GSSI, a truly unique enterprise in a corporate setting. Research conducted by Bob and his team on the hydration needs of athletes and physiological and performance responses to fluid, carbohydrate, and electrolyte ingestion has contributed to the broader understanding of the importance of being well hydrated during exercise and of the role that carbohydrate and electrolytes play in helping athletes and nonathletes alike get the most out of their bodies during physical activity.

Bob is now managing principal of Sports Science Insights, LLC, a consulting group that assists companies and organizations in need of targeted expertise in exercise science and sports nutrition. Sports Science Insights's clients range from start-ups to Fortune 100 companies. Bob is a fellow of the American College of Sports Medicine and an honorary member of the Academy of Nutrition and Dietetics.

FOREWORD

YOU MIGHT THINK it's presumptuous for an old, beat-up football player and coach to write a foreword for a nutrition book. I have a confession to make: I'm as passionate about food as I am about fitness.

My passion for food and fitness began at a very young age. My father was four decades ahead of his time in nutrition and weight training. We had plenty of green vegetables, protein powder, and pure yogurt at our house in 1948. Proper food and physical training were a religion for us, and, subsequently, I have always assumed no one could teach me anything I didn't already know on the subject.

When my friend, Christine Rosenbloom, PhD, RDN, FAND, asked if I could write a foreword for her book, I wasn't sure I would learn anything new. I thought this book would be touting more of the stuff I have known for decades. But I am delighted to admit that I could not have been more wrong!

Rosenbloom and Murray have done a masterful job of pulling together reams of information for aging adults on this crucial subject, analyzing and personalizing it, and then relating the vital principles in a concise, fun to read style. In every chapter, they describe a real person in their 50s, 60s, 70s and beyond who embodies and humanizes their principles. There is a very good chance that you will find yourself in one of these "real life stories."

In the introduction, the authors list five C's as a foundation for the book's approach: Clarity of information, Confronting the myths, Confidence to make choices, Consistency in actions, and Concise recommendations, all utilized to reach a sixth C: Control over your health and well-being.

After reading this book, I suggest there is a hidden seventh C that captures the essence of their work for me, a lifelong nutrition enthusiast, and this is Consolidation. Throughout the book, the authors reinforce and synthesize complex information into clear and

actionable advice on eating and exercise. In your hands, you have a resource that is brief but thorough, scientific but fun, and organized without tedium. It literally consolidates all we need to know to eat well, keep moving, and have energy and good health in our second half of life.

Way to go Chris and Bob!

Bill Curry

Former NFL starting Center for the Super Bowl champion Green Bay Packers (Super Bowl I and II)

Retired College Football Coach (Georgia State University, University of Kentucky, University of Alabama, Georgia Institute of Technology)

ESPN College Football Analyst

Speaker, Author, Motivator

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Thank you to the many people who embraced the book's concept and helped us get started by providing questions and comments in focus groups, at community lectures, through many individual conversations, and through our webpage surveys. Sharing your personal stories of successes and challenges as you've aged helped shape the book and make it real.

Our gratitude goes out to the experts quoted in our "Conversation with an Expert" sections. These friends and colleagues, who are all over the age of 50, freely gave of their time to lend insight into how they eat well, move well, and be well by translating their research into actionable steps.

We also want to thank the Publications, Resources, and Products team at the Academy of Nutrition and Dietetics, who provided leadership and guidance through the entire process of writing the book.

We want to recognize the four talented experts in nutrition, exercise, and aging who shared their expertise and insights to strengthen the final work: Lisa Carlson, MS, RDN; Robin B. Dahm, BS, BA, RDN, LDN; Mary Ellen Posthauer, RDN, LD, CD, FAND; Marianne Smith Edge, MS, RDN, LD, FADA.

Lastly, we would not be here without our patient and supportive spouses, Rob Rosenbloom and Linda D'Ambrosio Murray, who have always been our biggest champions. We appreciate all of your support.

CHAPTER

1

HOW TO GET STARTED ON A FOOD AND FITNESS AFTER 50 JOURNEY

The Bottom Line

To eat healthy and be fit over age 50 doesn't require the latest diet book, a 3-hour daily grueling workout, or supplements that claim to burn fat and speed metabolism. With some tweaks to your usual diet and by making a commitment to a physical activity plan, you can be healthier at 65 than you were at 45. Consider the 100-year-old woman who broke the 80-years-and-over world record for the 100-yard dash at the 122nd Penn Relays in Philadelphia. She didn't start exercising until she was 67 years old, proving that it is never too late to get started. Here are a few things to keep in mind about health, fitness, and aging:

- The body experiences many changes with age, but it is hard to separate normal aging from disease and usual aging from the disuse of a sedentary lifestyle.
 - Monitoring body weight and tracking physical activity can provide motivation to eat better and get fit, but no one way works best for everyone.
 - Eating for optimal aging can include many different healthy eating patterns; one size does not fit all.
 - Physical activity may be the best thing you can do to “use it” instead of losing it. Along with preventing or slowing loss, you can actually improve muscle tone, bone density, metabolism, and even cognitive function with physical activity.
-

At age 30, Susan, who is 5 feet 4 inches, weighed 125 pounds and had a body mass index (BMI) of 21.45—a healthy weight with a low risk of cardiovascular disease and diabetes according to statistics. Fast forward 30 years and Susan weighs 185 pounds and has a BMI of 31.75, putting her in the obese category. She also has high blood pressure and elevated cholesterol. How did it happen? Weight creep. Susan never monitored her weight and gained a couple of pounds every year. At first, 2 pounds doesn't seem like a lot, but multiply 2 pounds by 30 years and you're saddled with a 60-pound weight gain.

Tony, a three-sport high school athlete and college soccer player thought his active youth and early adult years would confer lifelong benefits. Today, at age 58, he gets winded walking up a couple of flights of stairs. While his weight hasn't changed much, his body composition has. More fat and less muscle has left him with prediabetes, and if he doesn't make some lifestyle changes, things will get worse.

Introduction

Most adults over age 50 know they should eat better and exercise. In fact, retirees say that health, not wealth, is the number one ingredient for happiness as they age. Let's face it: food tastes good, and exercise requires effort. However, we will show that you can still enjoy favorite foods and include physical activity to move to a healthier place. How many adults can say they are in the best health in their 50s and beyond? Unfortunately, the numbers don't lie.

- Among older American adults, 30% are overweight or obese.
- Only one in five American adults meets the recommendations for daily physical activity.
- One-third of American adults have high blood pressure.
- One in four American adults over age 60 has diabetes.

Many adults over age 50 wonder how the weight-creep and fitness decline happened. Susan and Tony are all too typical of what can happen as we age if food and fitness do not get enough attention over time. Susan rarely weighed herself and thought that a couple of extra pounds each year were no big deal as she aged. Adults of any age can relate to this feeling. Aging does have an effect on metabolism and hormones, making it easier to put on a few extra pounds. A few extra pounds are no big deal, but an extra 60 are a big deal. If Susan had monitored her weight, she might have given her weight creep some attention. Susan must have noticed that her dress size was going up each year, but she didn't halt the progress. Our health system doesn't help much either. How often do you get weighed at the doctor's office? Yet weight and exercise habits are frequently not addressed. Or maybe a discharge summary prints out a body mass index (BMI) score without any explanation of what it means. Studies show that when doctors talk to patients about their weight or about exercise, it helps promote behavior change, yet not enough doctors have a meaningful discussion with patients about how to change behavior when it comes to eating and exercise.

Tony is typical of the many former athletes we have worked with who thought they would always be active after being a high school

or college athlete. Unless the person makes a conscious effort, fitness rapidly declines, muscle mass decreases, and body fat stores increase. While Tony's weight hasn't changed much, he has swapped lean muscle for fat, which is less dense but increases girth. As this book will point out, it doesn't take a superhuman effort to maintain fitness, and—more importantly for many—fitness can be regained at any age with a little commitment and effort. Throughout the book, you may see terms that may not be in your usual vocabulary, so flip to page 289 in the back of the book for some quick definitions.

Assess Yourself

In each chapter, you'll find a set of questions under the heading Assess Yourself that will help you evaluate your current habits. Take a few minutes to honestly answer the questions; don't worry, no one is grading your responses. As you read through the chapter, think about your answers to find out what you may be doing well and to learn what you could do to improve your food and fitness. Being honest with yourself is important because many people tend to overestimate their exercise effort and underestimate their food intake. For example, if an individual says that she plays tennis for an hour every day, how much of that time is spent in real activity? Is she playing doubles or rotating out for a set or two? Her hour of activity may be only 40 minutes long. Same with eating. You say you cook a healthy dinner every night, but in reality Friday night dinner is pizza night, and you usually order your pizza with sausage or pepperoni instead of healthier veggie options.

Let's assess your current habits by comparing them to your 25-year-old self. Think back and answer the questions in the Assess Yourself box on the next page and then read the review below.

ASSESS YOURSELF: IN REVIEW

How did you compare with your 25-year-old self? Are you happy and fit at your current weight, or would you like to gain or lose a few pounds? You'll learn more about healthy eating plans in Chapter 2, and if your goal is to lose or gain weight, Chapter 8 will provide more detailed advice. How about exercise habits? Are you meeting the minimum

Assess Yourself: The Basics

Compared with when I was 25, I weigh:

- more.
- less.
- the same.
- I don't know because I haven't weighed myself in a long time.

Compared with when I was 25, my eating habits have:

- improved.
- worsened.
- not changed.

When I was 25 it seemed that I could eat and drink whatever I wanted without gaining weight.

- True
- False

When I was 25 my job was:

- sedentary.
- mildly active.
- very active.

After age 25 my job(s) were mostly:

- sedentary.
- mildly active.
- very active.

At 25, my evenings were:

- sedentary.
- mildly active.
- very active.

Recently, my evenings have been mostly:

- sedentary.
- mildly active.
- very active.

I currently exercise less than when I was 25.

- True
- False

Exercise or physical activity was a normal part of my life when I was 25.

- True
- False

Exercise feels more challenging or difficult now than when I was 25.

- True
- False

I feel stiff and achy when I get out of a chair or off the couch compared with when I was 25.

- True
- False

Everyday conveniences (online banking, remote control for the television, cell phones, computers) have made me more sedentary than when I was 25.

- True
- False

I know my body composition (muscle versus fat) has changed since I was 25.

- Yes, for the better
- Yes, for the worse
- Unchanged
- Don't know

recommendations for exercise, including strength training? We will discuss exercise later in this chapter and in more detail in Section 2 (Move Well). You'll learn that increasing muscle mass can be the best way to boost metabolism (your body's rate of calorie burning) and

increase strength and balance, all of which have many benefits. And, would you like to reduce the aches and pains of aging? Increasing flexibility (Chapter 7) can go a long way toward feeling and moving better every day. Use this initial assessment as a call to action to get motivated and make some changes that are outlined in the chapters that follow. Even though it may not be realistic to look and feel the same as you did at age 25, it is entirely possible to be healthy and fit as you age.

Clarifying the Science on Normal Aging

Age-Related Changes in Various Body Systems

As we age, every system in our body changes. Even though dozens of journals are devoted to the study of aging, researchers still find it hard to separate aging from disease. For example, is your difficulty opening a jar of olives the result of reduced grip strength (an aging effect) or arthritis (a disease effect)? It may be a bit of both, and throughout this book, we will offer strategies to help you deal with similar challenges. While aging cannot be stopped, the harmful effects of loss of muscle mass, poor balance, declining aerobic fitness, and the accumulation of excess body fat can be halted and even reversed with smart eating habits and the right physical activity. The phrase “use it or lose it” becomes true for many changes that are attributed to normal aging.

Let’s take a brief look at the normal age changes in some of the body’s systems. While none of us would say age 30 is old, that is about the age when changes in most of our body systems begin to occur. These changes occur gradually, and the good news is that aging adults can do many things to maintain good function, even at advanced ages. Also, bear in mind that these changes are highly individualized. Your father may have developed cataracts at age 60, while your 86-year-old mom may never develop cataracts severe enough to impair vision and require surgery. Another point to keep in mind is that while most aging adults experience decreased function compared with their 25-year-old selves, the body has tremendous reserve capacity. Thus, while the body may not be able to function at 100%, it can still function quite well in spite of modest

declines. For example, you were born with two kidneys, but you can get by quite well with one—just ask a kidney donor!

Oxygen Uptake and Aerobic Capacity

Aging results in changes to aerobic fitness, which is measured by the ability to take in oxygen to power exercise. The best reflection of aerobic and cardiovascular fitness comes from a test called VO_2 max, shorthand for maximal oxygen consumption. Cycling or running to complete exhaustion is the typical way VO_2 max is measured. Around the age of 30, VO_2 max declines about 10% every decade in healthy adults, but older athletes see only about half that decline. Aging athletes who continue to perform endurance-type activities retain greater aerobic capacity than their couch-sitting friends of the same age. Aging will bring some decline to aerobic fitness, especially as you approach your 70s and 80s, but those who take up exercise in later life can expect to see their fitness level improve, even though they may never have the same fitness level as a 20-year-old athlete. Yet men and women over the age of 50 can and do partake in athletic competitions. Athletes competing in the National Senior Olympic Games experienced a 3.4% decrease in performance per year over 25 years of competition. This translates to a small decrease in performance from age 50 to 75, showing that regular participation in exercise can keep adults fit, and even competitive, into advanced age.

The decrease in VO_2 max is not fully understood, but experts believe the decrease comes from reduced training and a reduced maximal heart rate. Aging athletes may not have as much time to train at high levels as they did when they were younger; family and work responsibilities take time from training, and motivation may shift from setting personal best records to the health benefits of exercise. Yet the health benefits of exercise are a worthy goal for all adults over 50. We will show you how to improve your aerobic fitness in Chapter 5.

Body Composition

When we talk about body composition, we are referring to how much of your body is lean mass (muscle, organs, bone, skin) versus body fat. It is important to be mindful of the fact that body fat is essential for

both men and women, so having zero body fat is not a healthy goal. However, aging seems to conspire to alter body composition; hormonal changes for women around menopause, specifically declining estrogen levels, along with declines in growth hormone levels, contribute to changes in body composition. With aging comes a tendency to see redistributed body fat, as more fat accumulates inside the abdomen (the dreaded belly fat) and less accumulates in the arms and legs. More information on managing body weight is found in Chapter 8.

Lack of physical activity is a major contributor to changes in body composition, but even aging athletes are not immune to weight gain or body composition changes. Exercise is one way to temper age-related weight gain. While the absolute amount of exercise needed to prevent weight gain is not known, one researcher tried to quantify physical activity with long-term weight change in over 34,000 American women who were not on any special diet. The women started the study when they were in their mid-50s, and researchers followed these women for 13 years. Weight and physical activity levels were measured at the start of the study and every 3 years throughout. At the end of the study, all women gained an average of 5 to 6 pounds. However, those who averaged 60 minutes a day of moderate-intensity exercise during the years of the study gained the least amount of weight, and the two less active groups of women were significantly more likely to gain more than 5 pounds. While some weight gain might be inevitable and acceptable, it is possible to prevent large weight gain with regular, moderate-intensity exercise.

Cardiovascular System

Regular physical exercise is the main pillar of prevention for cardiovascular disease. Aerobic exercise seems to confer benefits on lipid profiles compared with findings in sedentary older adults. Older athletes tend to have lipid profiles that reduce their risk for heart disease. The heart-protective effects of exercise may be in part due to the increase in high-density lipoprotein cholesterol (HDL-C) and the lowered ratio of total cholesterol to HDL-C. However, it appears that regular continuous exercise is needed to maintain a favorable lipid profile. If you were an athlete in high school, don't expect the

benefits to cardiovascular health to still be there in your 60s if you haven't exercised in the intervening years.

Increases in body fat in the abdomen, insulin resistance, and high blood pressure are a cluster of conditions called metabolic syndrome, which increases risk for cardiovascular disease and type 2 diabetes. Exercise combined with healthy eating can help keep these conditions at bay.

Muscle Quantity and Quality

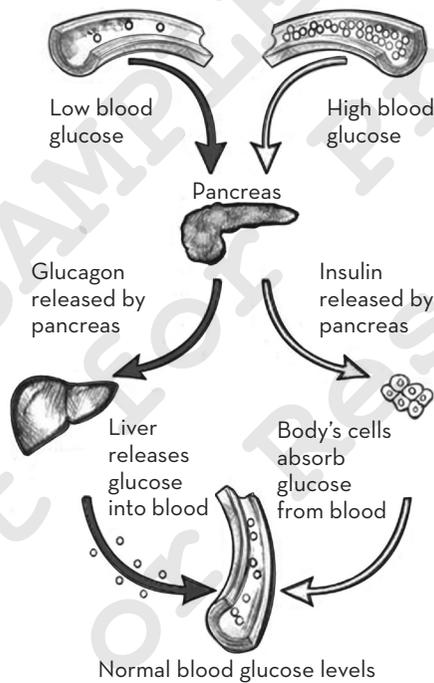
Age-related muscle loss usually begins at about age 40, when people lose about 10% to 15% in muscle mass and strength every 10 years. Progressive resistance strength training increases muscle mass and strength at every age. When it comes to muscle strength, it is never too late to begin a strength training program. A landmark study in the early 1990s showed that even among sedentary, older, nursing home residents (the oldest participant was 98 years old), muscle strength improved with regular resistance exercise. Enhanced muscle strength also improves walking gait and balance as people age. In reviewing many studies in older adults, one researcher found that strength training and increases in muscle mass in previously sedentary individuals resulted in a 1% increase in skeletal muscle size for each week of resistance training. While that may not turn an older adult into a superhero with rippling muscles, it can reverse decades of decline. Coupled with strength training is the need for more dietary protein as we age. Adults over age 50 need to eat more protein and should also distribute their intake evenly throughout the day. We'll discuss how much protein is needed and when to eat it for the best results in Chapter 6.

Blood Sugar Regulation

Aging brings about changes in how the body handles blood sugar (also called blood glucose), which comes from the digestion of carbohydrate in our diets. Fasting blood sugar levels tend to rise because our cells become more resistant to handling glucose as we age. It takes more insulin to move the glucose into cells. It is normal for blood sugar levels to rise and fall during a 24-hour period, depending on what and when we eat.

Two main hormones help keep blood sugar in a healthy range. One of those hormones is insulin, which is released by the pancreas after eating to help move blood sugar into muscles and other tissues for energy or storage. Between meals or overnight, when we are fasting, a hormone called glucagon is secreted to keep blood sugar levels in the normal range. Glucagon works by releasing sugar from storage in the liver. So, between the actions of these two hormones, blood sugar stays in a normal range, as illustrated below.

HOW THE PANCREAS RESPONDS TO LOW OR HIGH BLOOD GLUCOSE LEVELS



Reprinted from the National Institute of Diabetes and Digestive and Kidney Diseases, National Institutes of Health

Diabetes results when insulin is absent (type 1 diabetes) or cells become resistant to the action of insulin, and, therefore, insulin can't do its job as well as before (type 2 diabetes). Here is another instance where researchers believe that increased amounts of body fat cou-

pled with chronic physical inactivity, rather than aging, is likely the real cause of insulin resistance. By measuring insulin resistance in various groups (younger and older endurance athletes, younger and older adults who were sedentary but remained at healthy weights, and younger and older adults who were obese), researchers showed that, regardless of age, the active groups were better able to use insulin and maintain normal blood sugar levels than either healthy weight or obese individuals. So, while it might be concluded that a higher blood sugar is a normal effect of aging, in fact, it is more likely associated with obesity and physical inactivity.

Gastrointestinal Tract

It's common to hear older adults complain about gut issues, but overall, the gastrointestinal tract functions well in the vast majority of healthy adults over age 50. The gastrointestinal tract includes all parts of the long tube that stretches from mouth to anus. Aging brings about slower movement of food and waste through the gastrointestinal tract, leading to a common complaint of constipation, which can be made worse by dehydration. Between 25% and 40% of older adults complain about constipation, yet simple dietary interventions can improve bowel health in most people. Interventions will be discussed in Chapters 2 and 3.

Gastric reflux, sometimes called heartburn because the pain is felt in the middle of the chest, affects about 20% of the population, and adults over age 50 are no more likely than younger adults to experience it. To reduce reflux, try implementing lifestyle interventions before taking over-the-counter meds, such as eating smaller meals, not eating late at night, and reducing fatty foods, all of which can help reduce reflux in most people.

Bones

Many people may not realize that bone is living tissue that is constantly undergoing change. Bone provides the framework that supports muscles, protects organs, and allows movement. It also is a vast reservoir of minerals like calcium, magnesium, and phosphorus. Up

until about age 30, bone is constantly being remodeled; that is, new bone is made to replace older bone. But something happens around age 30 to slow that process, and it flips; less new bone is made, and more bone is lost—for both men and women. For women, the situation is even more pronounced: women have about 10% less bone mass overall compared to men, and women tend to get less bone-building nutrients in their diets, like calcium, protein, and magnesium. Then, around age 50, when menopause usually begins, the decrease in estrogen starts to further accelerate bone loss for women. However, both women and men can suffer from bone-thinning osteoporosis. Physical activity, coupled with increasing consumption of calcium, vitamin D, and protein, can help to minimize bone loss as we age. The impact of strength training on bone will be covered in Chapter 6.

Brain and Cognitive Function

Memory loss is a major concern for many aging adults. The minute their keys are misplaced or they leave an umbrella on the train, many people jump to the conclusion that they are one step away from dementia or Alzheimer's disease. If you have ever heard the words “senior moment” used when something is forgotten, you know what we mean. This is a term that we dislike. Both young and old forget from time to time. Aging does, however, bring about changes to the brain and how information is retrieved. Aging brains get smaller—especially the areas related to memory and learning complex tasks. Neurotransmitters, the chemical messengers that allow brain cells to talk to each other, may not work at maximum efficiency, and blood flow to the brain might change. However, like all other systems, the brain has reserve capacity. More importantly, the brain is “plastic,” meaning it can grow and repair itself when it is regularly challenged.

Vision and Hearing Changes

It is no surprise that hearing and vision changes with age. The most common normal age change in vision occurs around age 40. *Presbyopia* is the term for the inability to read at close range; this manifests as needing to hold a book at arm's length to focus on the words. The solution is simple: bifocals, trifocals, or special contact lenses. Why

is this important to food and fitness? Reading food labels is a useful tool in choosing healthy foods, so take reading glasses to the grocery store so you can investigate food labels and to restaurants so you can select healthier options. Sometimes vision is distorted, especially when a vision prescription changes, so be cautious when exercising, such as walking or jogging, over unfamiliar terrain. Your depth perception may be a bit off, which could lead to a fall.

Hearing losses occur later than vision changes; usually in the 60s. This condition, called *presbycusis*, is the gradual loss of hearing as we age. Some adults have hearing loss from exposure to loud noises from their occupation: musicians, lawn care workers, and some in the military experience hearing loss. There is concern that younger generations will have more severe hearing loss, and will have it earlier, due to the ubiquitous ear buds that are used to listen to music. Hearing loss can impair social relationships and make it hard to respond to warnings. Nobody wants to admit they have hearing loss, but it negatively affects quality of life, so talking to your doctor about solutions is a necessary, but perhaps unpleasant, fact of aging.

Hair, Skin, and Nail Changes

The integumentary system encompasses the hair, skin, and nails, all of which are designed to be physical barriers protecting the body from the outside world. This body system will most likely show the first visual signs of aging. The amount, color, and texture of hair, for example, changes as we age, but as with every body system, the changes are highly individualized. The growth and structure of nails also changes as we get older, although it is hard to determine how much change is true aging and how much is due to environmental exposure. Nails that are frequently soaked in water in occupations such as dishwashing, pet grooming, or hairdressing are more likely to be weak and soft. Women who use artificial nails or heavy coats of nail polish may find their nails more damaged as they age. The skin loses elasticity and resilience as we age, resulting in fine lines, wrinkles, and laxness. Skin layers become thin, especially on the hands. A lifetime of exposure to the sun's rays can also take a toll on the skin: rough texture,

leathery appearance, and age spots are more noticeable with chronic sun exposure. In the United States, millions are spent on skin, hair, and nail products that promise dramatic reversal of the visual effects of aging, but according to the American Dermatological Association, simple solutions like protecting the skin from the sun, using moisturizer, exercising, getting enough sleep, and eating healthy are more likely to be beneficial than “miracle” age-erasing creams and lotions.

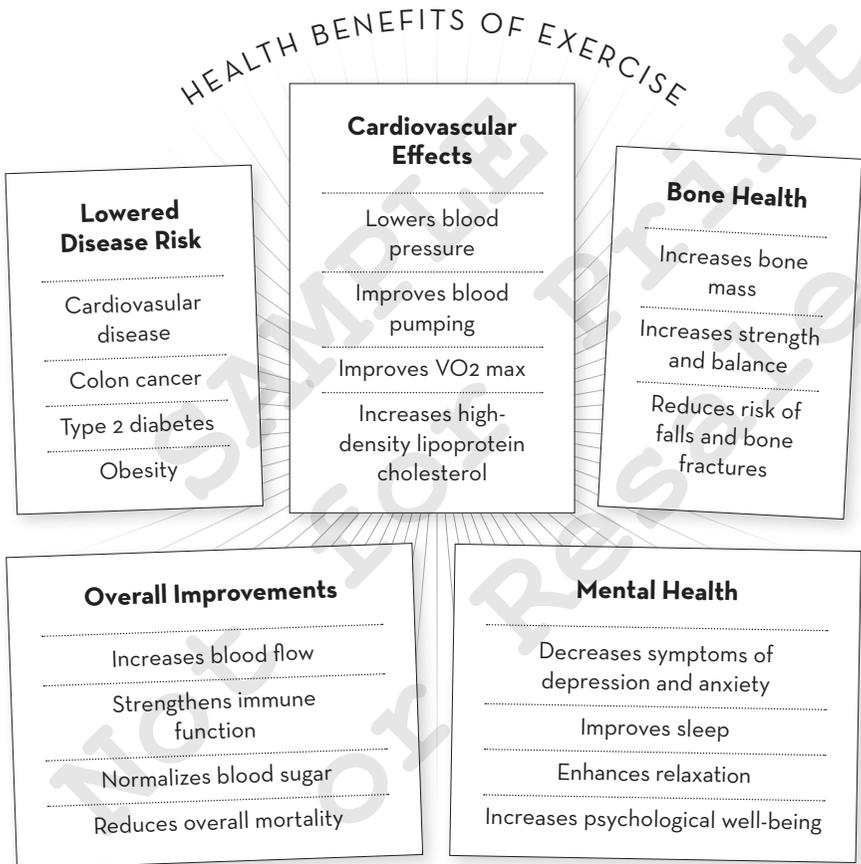
Benefits of Exercise and Healthy Eating in Adults

Exercise

We use the word exercise reluctantly because, for many people, exercise conjures up demotivating images of uncomfortable drudgery. Throughout this book, we’ll use different synonyms for exercise, such as physical activity, working out, and training, in the hope that readers will relate to at least one of those terms in a positive way. Regardless of what we call it, the benefits of exercise are well known, and most people say they feel better when they are physically active on a regular basis. As you begin to evaluate your current exercise habits, consider these guidelines for physical activity from the US Office of Disease Prevention and Health Promotion:

- Set a goal for yourself of 2 hours and 30 minutes (150 minutes) of moderate-intensity aerobic activity every week (or 75 minutes of vigorous-intensity aerobic activity) and engage in muscle-strengthening exercise that works all major muscle groups on two or more days a week.
- For even greater benefits, strive to engage in 5 hours (300 minutes) of moderate-intensity activity or 2 hours and 30 minutes (150 minutes) of vigorous activity (or a combination of these activities) every week.
- The guidelines point out that when older adults cannot meet these recommendations, they should be as physically active as their abilities and conditions will allow. Exercises that maintain or improve balance are especially important to reduce the risk of falling.

We'll be referring to these guidelines throughout the book and discussing them in more detail in Section 2 (Move Well) because they represent a minimum goal that people of all ages should strive to achieve. Remember, only one in five adults meets these minimum physical activity guidelines. Consider the many benefits of regular exercise:



In addition to the individual physical and psychological benefits, exercise has significant societal benefits. Healthy, active older adults typically have reduced health care costs and enhanced productivi-

ty, thereby promoting a positive and active image of aging adults for younger generations to emulate.

Healthy Eating

Hunger and thirst are basic physical needs. But, who hasn't eaten when he or she wasn't hungry and drank when not thirsty, even knowing that these behaviors can be counterproductive for health goals and weight control. We want you to enjoy the foods you like but learn to evaluate food choices and portion sizes to help you become healthier.

Everyone wants to know which are the best foods to eat and information on superfoods that can cure all ills. Sorry to disappoint so soon in the book, but there is no one food that will meet all your nutritional needs, support healthy aging, prevent disease, and make skin glow. Individual nutrients are important for good health, but people rarely eat single nutrients; they eat foods that contain a variety of nutrients in a total package that may have synergistic (com-

Dietary Approaches to Stop Hypertension (DASH) Plan

DASH is based on an eating pattern developed to lower blood pressure. The plan is rich in fruits, vegetables, low-fat dairy foods, pulses (beans and peas), seafood, poultry, whole grains, and nuts. These foods contain the minerals potassium, calcium, and magnesium, which seem to help lower blood pressure.

Flexitarian Eating Plan

A flexitarian eat plan is a plant-based eating pattern that is mostly vegetarian but allows for the flexibility of eating animal protein on occasion.

Mediterranean Diet

The Mediterranean diet eating pattern is based on the diets of people who live in countries surrounding the Mediterranean Sea. The plan is rich in olive oil, nuts, pulses (beans and peas), vegetables, fruit, fish, poultry, and whole grains.

Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) Diet

As the name implies, this eating pattern combines the DASH and Mediterranean diets. The eating pattern focuses on leafy green vegetables, nuts, berries, whole grains, fish, poultry, and olive oil.

plementary) effects when consumed together. While there are no true superfoods, there are super diets. We want to focus on healthy eating patterns as the best approach to optimal aging. The other reason we like the concept of healthy eating patterns is that people don't eat one diet to strengthen bones, another for heart health, and a different one for weight loss. We encourage an eating plan to support all health goals. Several healthy eating plans will be introduced in Chapter 2 that can be customized to work for anyone. The plans, along with brief definitions, are described on the previous page.

Confronting Myths About Aging

Some people think aging is out of their control; the truth is that adults over age 50 can do many things to stay healthy as they age, and they can essentially turn back the clock in terms of how their bodies function. Instead of throwing up our hands and using fall-back excuses, let's take a look at common beliefs about aging and set the record straight.

MYTH: Genetics is more important than lifestyle when it comes to controlling disease.

REALITY: There's no doubt genetics plays a role in many things in our lives. Eye color, hair texture, dimples, or a cleft chin are all due to genes; diet and physical activity won't do anything to change them. For many, the genes we inherited for conditions such as obesity or heart disease can interact with our lifestyle choices and behaviors to produce excess body fat or blocked arteries. In other words, genetics *and* lifestyle are important determinants of our health. So, while we may have inherited a stocky body type or a higher risk for heart disease, obesity or coronary bypass surgery isn't the inevitable result. A recent study on genetic risk, adherence to a healthy lifestyle, and coronary disease found a 46% lower risk of disease in those who had healthy lifestyles, despite the fact that they were at a high genetic risk for heart disease. Lifestyle factors, such as diet, exercise, and maintaining a healthy weight, are also tied to the most common cancers. In fact, the American Institute

for Cancer Research estimates that about one-third of cancer cases are preventable through changes in lifestyle.

MYTH: It takes too much time to get fit or eat right.

REALITY: We all have the same 1,440 minutes in a day, but how we choose to use them is under our control. We find time to binge-watch our favorite television shows, click away at internet stories, or surf Facebook for hours at a time. Yet, we can also use some of those minutes to plan our meals for the week so that we have a fridge and pantry stocked with healthy foods or so that we can schedule time for being more active. Give some serious thought to where activity can fit into your day, every day. Sign up for group exercise classes (do you get free or reduced gym membership fees with your supplemental Medicare insurance?), get a dog, or visit the local animal shelter and walk a dog every day.

MYTH: It is too hard to cook for one or two people.

REALITY: It might be different from cooking for a family, but cooking for yourself or for you and someone else is not difficult. You can scale back recipes, or you can continue to cook for a crowd but freeze portions so you can cook once and eat multiple times.

MYTH: It takes a gym membership to get fit.

REALITY: You can get fit without signing up for expensive gym memberships, hiring personal trainers, or buying exercise equipment. Chapters 5, 6, and 7 are devoted to simple ways to get and stay fit without joining a gym.

MYTH: It is only a matter of time before all older people get dementia.

REALITY: While we hear about the seemingly growing numbers of older adults with Alzheimer's disease, it is important to remember that this is a disease, not a normal part of aging. Researchers are finding that modifying our behavior can help preserve brain function. Emerging research suggests that the following can help keep our brains sharp:

- Regular social interactions
- Consistent physical activity
- Maintaining a sense of purpose
- Remaining conscientious
- Keeping a healthy cardiovascular system, including controlling blood pressure
- Eating fruits and vegetables
- Engaging in learning activities that involve memory, reasoning, and processing speed

Commonly Asked Questions About Aging

Is it necessary to watch my diet if I am taking a statin or blood pressure or diabetes medications to control my disease?

Medications are not a replacement for lifestyle interventions. The small-type, printed inserts that come with prescription meds indicate that the drugs work best when paired with a healthy diet. For those who take statins to lower cholesterol, it is wise to regularly choose heart-healthy foods. There is no question that a grilled salmon salad beats a bacon cheeseburger for heart health, even if you do take a statin. Blood pressure drugs work best in concert with lower-sodium diets, and blood-sugar-lowering drugs work best with a diet higher in fiber and lower in simple sugars. An added benefit of healthy food choices is that many times drugs can be eliminated or the dosage reduced—changes that are good for your health and your wallet.

Is it more expensive to eat healthy foods?

Eating right doesn't have to be expensive. There are many ways to eat better without breaking the bank. The easiest way to save money on groceries is to plan ahead; plan meals, know what foods or ingredients are needed to prepare these meals, make a list, and go shopping. The people who say it takes too much time to plan are the same folks who run to the grocery store two or three times a week or stop at the drive-through window. Sticking to a plan also helps curb

unnecessary impulse buying. Consider trying private-label brands and switching to the ones that are acceptable substitutes. Buy in season when you can; for example, strawberries are less expensive in the summer and often cost more in the winter. Consider joining a community-supported agriculture (CSA) plan from a local farmer. You will not only get fresh produce but also learn how to efficiently use your new veggies so as not to waste the produce. Roasted turnips or kale smoothies might just surprise you!

Having the Confidence to Make Food and Fitness Work for You

As we move through the next several chapters, we will help you find food and fitness plans that work for your lifestyle. We understand that one size does not fit all. Some people love to work out in a home gym, some can't wait until their next group exercise class at the gym, and others are happy to walk in their neighborhood. Our goal is to help you recognize that improving your health need not be daunting. Everyone can take small steps each day toward better health. And doing so doesn't have to be difficult or self-defeating. There's no need to feel guilty when you don't reach a daily fitness goal or after you eat a meal that is higher in calories. We want to encourage you to continue to set realistic goals, but not to beat yourself up if you don't achieve them. We want you to enjoy your favorite foods and balance what you eat throughout the day to fuel your physical activity and give you the energy you need to accomplish your goals.

Remember Susan and Tony from the opening paragraphs of this chapter? Susan experienced weight creep by not monitoring her weight as the years went by. It behooves all of us, at any age, to monitor our health, including our weight. Prevention is a better strategy than treatment. But it isn't too late for Susan; after self-reflection, Susan joined a local YMCA and, together with her husband, made a commitment to work out an hour each day. Added to that commitment was the decision to subscribe to a healthy home meal-delivery kit. Susan and her husband prepare meals together, eat a healthier diet, and enjoy the time spent together. Susan knows she may

never be the same weight she was at 25, but she also knows she can be healthy and fit as she ages.

Tony realized that he still has the will and discipline he had when he was a young athlete and decided to channel that desire into improving his health. His doctor explained that prediabetes is a warning and that changing his lifestyle could prevent him from developing full-blown diabetes. Tony started increasing his fitness by doing little things, such as walking every morning before work, walking the dog after work, climbing the three flights of stairs to his office instead of taking the elevator, and packing a healthy lunch instead of eating out every day. He purchased a home blood glucose test kit and found that his blood sugar level was decreasing as he increased his activity and improved his diet. Motivated by his small steps, Tony joined a group to start training for a 5K road race.

We hope that, like Susan and Tony, you will find a few things you are willing to focus on to be healthier and more fit. It doesn't take much to get on the path to better health, and the following chapters will lay out strategies, tips, and ideas to help you on your journey. Many healthy adults have successfully adopted the lifestyle changes discussed in this book as they've aged and are still following them. You can do it, too!

Conversation with an Expert

Julie Miller Jones, PhD, LN, CNS, professor emerita at St Catherine University in St Paul, MN, has seen a lot of changes in the nutrition world in her 70 years. She knows nutrition and exercise have played a big part in her professional success and her active lifestyle. "I am one of the few who eat according to the *2015–2020 Dietary Guidelines for Americans*," she says. It is estimated that only 3% to 8% of Americans follow the dietary advice found in the guidelines. Julie eats not only for good nutrition but also for taste, explaining: "I have been a James Beard Award [cookbook] judge, so cooking and taste is paramount. I think great taste makes adhering to the *Dietary Guidelines* easier."

Julie works tirelessly to set the record straight on grains in an effort to help people understand that they're not evil:

My husband and I are big proponents of eating whole grains and fibers and miss them if we are on the road and cannot get them. At home during the week, my breakfast usually consists of oatmeal with some oat bran and other multigrain cereal that I make on Monday to enjoy for the rest of the week. When traveling and dining out, I love it when the bread choice has whole grains. With all the focus on gut health and the microbiome, we also now think about the importance of fiber and its role in health and a healthy gut.

Julie and her husband are adventurous cooks:

I use cooking magazines and my cookbook collection to plan meals. My husband usually shops or, in season, we enjoy going to the farmers' markets together. We often cook together. Dinners rarely ever include the same dish because there are so many foods in the world to taste and so little time. So we cook from all cultures and with unusual ingredients. My husband is a wine aficionado, and so we enjoy it with our dinners and our restaurant outings.

Physical activity is also part of the *Dietary Guidelines* advice. Julie does yoga every day when she is home. "I adore yoga," she says, "especially in a class which forces me to work harder than I would on my own." When traveling, Julie walks the city she is visiting or does some biking and water aerobics. Julie's philosophy is simple: "Food and health are such a beautiful piece of life. Take time to foster them and enjoy them. Healthy food can be fun, delicious, and part of the adventure of life. And it helps you to feel well enough to enjoy it all."

Useful Resources

Centers for Disease Control and Prevention (www.cdc.gov/aging/aginginfo/index.htm)

- ▷ *Health information for older adults, including physical activity and nutrition among many other topics*

Healthy Aging (<https://healthyaging.net>)

- ▷ *Information on food, lifestyle, and exercise*

Mayo Clinic (www.mayoclinic.org/healthy-lifestyle/healthy-aging/in-depth/aging/art-20046070)

- ▷ *What to expect as we age and what to do about it*

National Institute on Aging (www.nia.nih.gov/health)

- ▷ *Addresses a variety of health and aging topics*

National Institute of Diabetes and Digestive and Kidney Diseases (www.niddk.nih.gov/health-information)

- ▷ *Information on diabetes; diseases of the digestive tract, the kidney, the liver, the urinary tract, and the endocrine systems; and weight management, diet, and nutrition*

The Office of Disease Prevention and Health Promotion (<https://health.gov>)

- ▷ *Covers the Physical Activity Guidelines for Americans and the latest Dietary Guidelines for Americans*

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SECTION 1

EAT WELL

IN THIS SECTION of the book, we take a deep dive into what eating well means. Although the title of the section is Eat Well, we also include a chapter devoted to hydration. Most of you can probably name the nutrients—carbohydrate, protein, fat, vitamins, and minerals—but many overlook the sixth essential and crucial nutrient, water.

The phrase “you are what you eat” is thought to be attributed to a French physician in the 1820s who said, “Tell me what you eat, and I will tell you what you are.” In our modern world of fast and processed food, that could be translated into “If you are what you eat, are you fast, cheap, and easy?”

Eating well is a habit that most adults recognize as being important. We all know firsthand that we can’t eat and drink the same way we did when we were younger if we want to maintain our body weight and keep blood sugar, blood lipid, and blood pressure levels in check. A 2016 survey from the International Food Information

Council Foundation on food and health found that those aged 52 to 70 years old were more likely than other generations to consider health when deciding on food purchases. But the challenge in determining what constitutes healthy is that we are bombarded with nutrition advice from celebrities, television doctors, media headlines, and well-meaning friends and family. From website headings touting the “five superfoods you should eat today” to social media posts that scare us into believing our food supply is toxic, it is no wonder that adults of all ages are confused about foods.

We encourage you to stop searching for the elixir of youth through food, drink, or dietary supplements and to adopt a healthy eating plan for life. The *2015–2020 Dietary Guidelines for Americans* emphasizes eating patterns, not a prescribed intake of carbohydrate, protein, or fat. Several position papers from the Academy of Nutrition and Dietetics also herald dietary patterns for good health. There is no doubt that diet can improve blood lipids, glucose and insulin levels, blood pressure, and body fat; abnormal values for all of these are major risk factors for chronic diseases. Yet fewer than 1% of adults follow a diet that meets the American Heart Association 2020 goals. In this section, we present four different eating plans and show you how they might fit your lifestyle. We encourage you to eat more of the good stuff at every meal (whole grains; fruits; vegetables; legumes, such as beans, peas, and lentils; lean meat; fish; seafood; dairy foods; nuts; and vegetable oils) and eat less of the rest. Remember: eat less doesn’t mean eat never. Food is something that should be enjoyed, but we should flip our thinking that eating well means deprivation or a Spartan diet of cleanses and juicing. Food can be nutritious and delicious, and it should be both, not one or the other.

This section also provides real-food examples of how to get the micronutrients and nutrients—including vitamins, minerals, and important plant compounds, called phytonutrients—that are needed in small amounts in your diet yet are so important to good health. Food is the best matrix for delivering nutrients. While we recommend getting nutrients from foods, there are times when supplementation makes sense, and we encourage you to use the infor-

mation on dietary supplements to be informed about what you are taking and why you are taking a supplement.

We encourage you to assess your food-related habits and beliefs at the beginning of each chapter and use your responses to guide your decisions about improving your food choices and hydration practices and create an eating plan for good health and good taste.

Aging is not an excuse to eat and drink whatever and whenever you want or to spend your days being sedentary, as that will only hasten the aging process. But aging doesn't start when we are 50 years old; most of our body systems start to show some decline in our 30s and 40s. The term *plasticity* is often used to describe the ability of body tissues and organs to respond to a stimulus, such as better eating (and activity) habits, to improve function. Don't assume that blood sugar, blood lipids, blood pressure, and body fat will rise to unhealthy levels as a normal part of aging. All can be kept in check with healthy eating and physical activity, no matter your age.

APPENDIX A

DEFINITION OF TERMS

Aerobic fitness	The capacity to perform extended physical activity
Cardiovascular disease	A group of diseases and disorders affecting the heart and blood vessels, including blocked coronary arteries, electrical abnormalities, and problems with the various heart valves
Cardiovascular fitness	Synonymous with aerobic fitness
Dietary Guidelines for Americans	<p>A set of evidence-based recommendations designed to help Americans eat a healthy diet</p> <p><i>The guidelines are updated every 5 years based on a review of current science by an advisory committee of food and nutrition experts. The most recent edition is the 2015-2020 Dietary Guidelines for Americans.</i></p>
Eating plan	<p>A system for eating; also called food pattern or dietary pattern</p> <p><i>Throughout this book, we use the term “healthy eating plan” to describe the plans we think are best for older adults.</i></p>
Essential body fat	<p>The amount of stored body fat needed for good health and normal functioning</p> <p><i>For men, essential body fat percentage is about 5%, and for women, it is about 12%; this is not considered a desirable percentage of body fat but simply the minimal amount needed for good health.</i></p>
Gastric reflux	A condition when the stomach contents, which are normally acidic, splash up into the lower part of the esophagus (the tube that runs from your throat to the stomach) and causes a burning pain in the middle of the chest
Glucagon	A hormone made by the pancreas that helps increase blood sugar when it gets too low, such as after an overnight fast before you have eaten breakfast
Hormone	<p>A naturally occurring chemical produced in the body that is carried through the blood and has a specific effect on regulating a body function</p> <p><i>For example, the hormone insulin is made in the pancreas but acts on muscle, fat, and liver cells by allowing blood sugar to enter those tissues so that it can be used for energy or storage.</i></p>

Insulin	A hormone made in the pancreas that is released into the blood after eating to help lower blood sugar when it gets too high
Lipid profile	A panel of blood tests that measures blood cholesterol, triglycerides, and particles (lipoproteins, such as low-density lipoproteins [LDLs] and high-density lipoprotein [HDLs]) that carry the fats through the blood
Metabolic syndrome	A group of three or more factors (such as high blood pressure, excess belly fat, high triglyceride levels, low HDL levels, and high blood sugar levels) that are linked to an increased risk of cardiovascular disease and type 2 diabetes <i>This is also called insulin resistance syndrome and was originally known as “syndrome X”</i>
Moderate-intensity exercise	Physical activity conducted at a pace that allows for talking but not singing <i>Examples include walking faster than a 20-minute mile or bicycling slower than 10 mph.</i>
Progressive resistance exercise	Strength-training exercise that uses weights, elastic bands/straps, machines, or body weight to gradually increase muscle strength over a period of months
Type 1 diabetes	A disorder where the pancreas stops making any insulin, resulting in the need to take insulin shots for survival <i>Only about 5% of diabetes cases are type 1.</i>
Type 2 diabetes	The most common form of diabetes <i>This is a chronic and progressive condition that affects the body’s ability to control blood sugar levels.</i>
VO₂ max	A laboratory measurement of maximal aerobic fitness <i>Commonly performed on a treadmill or stationary bicycle, this test requires an all-out maximal effort to exhaustion. Other tests estimate VO₂ max from submaximal exercise.</i>

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