JACKSON®

Is 100 the new 70?

Aging well in the age of living longer

"How would you like to live to 100?"

"Only if I'm in good health and have all my faculties."

This common response to the above question is often conditional. But for those trying to lead a healthy lifestyle, the answer is more likely a resounding "yes."

The number of people who live for a century—known as centenarians—is growing, and a strong case can be made that age 100 will become the new age 70 early in the next decade.[1] As the data and science of aging evolves, so does what life can look like at 100 and what it may take to get there.

In this paper, we'll examine some of the latest and most impactful research on aging. We'll also use a science-based approach to provide valuable information intended to support living your best life—long into the future—while exploring the fundamentals of aging well, or "SuperAging."

More specifically, we'll explore the:

- **Exponential growth expected in longevity, partly driven by significant advancements in biotechnology**
- **Importance of keeping healthy by focusing on the foundational areas of sleep, movement, nutrition, and stress**
- **Need to secure sufficient retirement income to help support longer lives, as well as the fear of not having enough money to last through retirement**

[1]Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.

The number of centenarians is surging

Centenarians remain rare but are second in growth only to the over-85 set, which is currently the world's fastest-growing age group.[2] There were more than 100,000 people age 100 and over in the U.S. alone in 2019,[3] a number more than triple the 1980 figure of 32,194.[4] The older population is expected to grow significantly in the future, according to the U.S. Administration on Aging,[5] which will likely produce more centenarians. Growth slowed somewhat during the 1990s as few births occurred during the Great Depression but is exploding again with 41% of baby boomers now 65 and older.[6]

Centenarians are becoming more common
Number of people worldwide who are 100 years or older

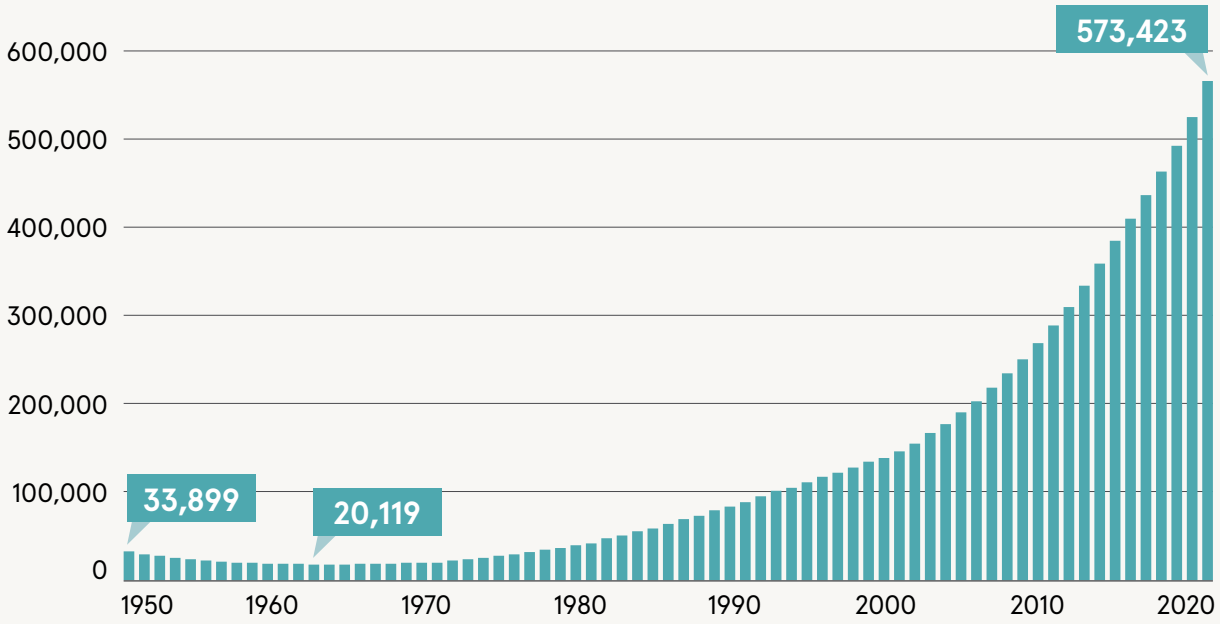


Chart source: Statista, "Centenarians are becoming more common," February 5, 2021.

The science behind living longer

But birth demographics are just part of the story. While life expectancy increased by an average of 2.5 years in each decade from 1850 to 2020,[7] advances in medical science and technology were significant. This, coupled with the growing knowledge about health and lifestyle choices and their effects on aging, brought us to a new frontier. We're on the cusp of an era where the increase in life expectancy is expected to evolve from a linear path to an exponential one.[8]

In fact, longevity expert Dr. Michael Roizen, chief wellness officer at the Cleveland Clinic and a *New York Times* best-selling author,[9] predicts that by the early 2030s, we'll see an increase in longevity of around 30 years,[10] making 100 the new 70.

Roizen, a past chairman of a Food and Drug Administration advisory committee and a practicing internist, is also co-founder of the RealAge concept.[11] Unlike chronological age, RealAge refers to the body's biological age and is based on actual health as well as health behaviors both good and bad.[12] He credits progress related to the Human Genome project—completed in 2003—with driving advances in research on aging. This research shows that we're largely in control of which genes are "turned on" at any given time, making us the genetic engineers of our own bodies based on our lifestyles.[13]

[2] Bryant Stamford, Courier Journal, "The fastest growing group is people over 85. It's possible to live long and well, but how?" May 26, 2022.
[3-6] Administration on Aging, "2020 Profile of Older Americans," May 2021.
[7,8] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[9] Cleveland Clinic, "Michael Roizen, MD," accessed October 2022.
[10] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[11] Cleveland Clinic, "Michael Roizen, MD," accessed October 2022.
[12] Sharecare.com, "RealAge," accessed October 2022.
[13] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.

U.S. life expectancy 1950–2022*
Includes United Nations projections through 2100

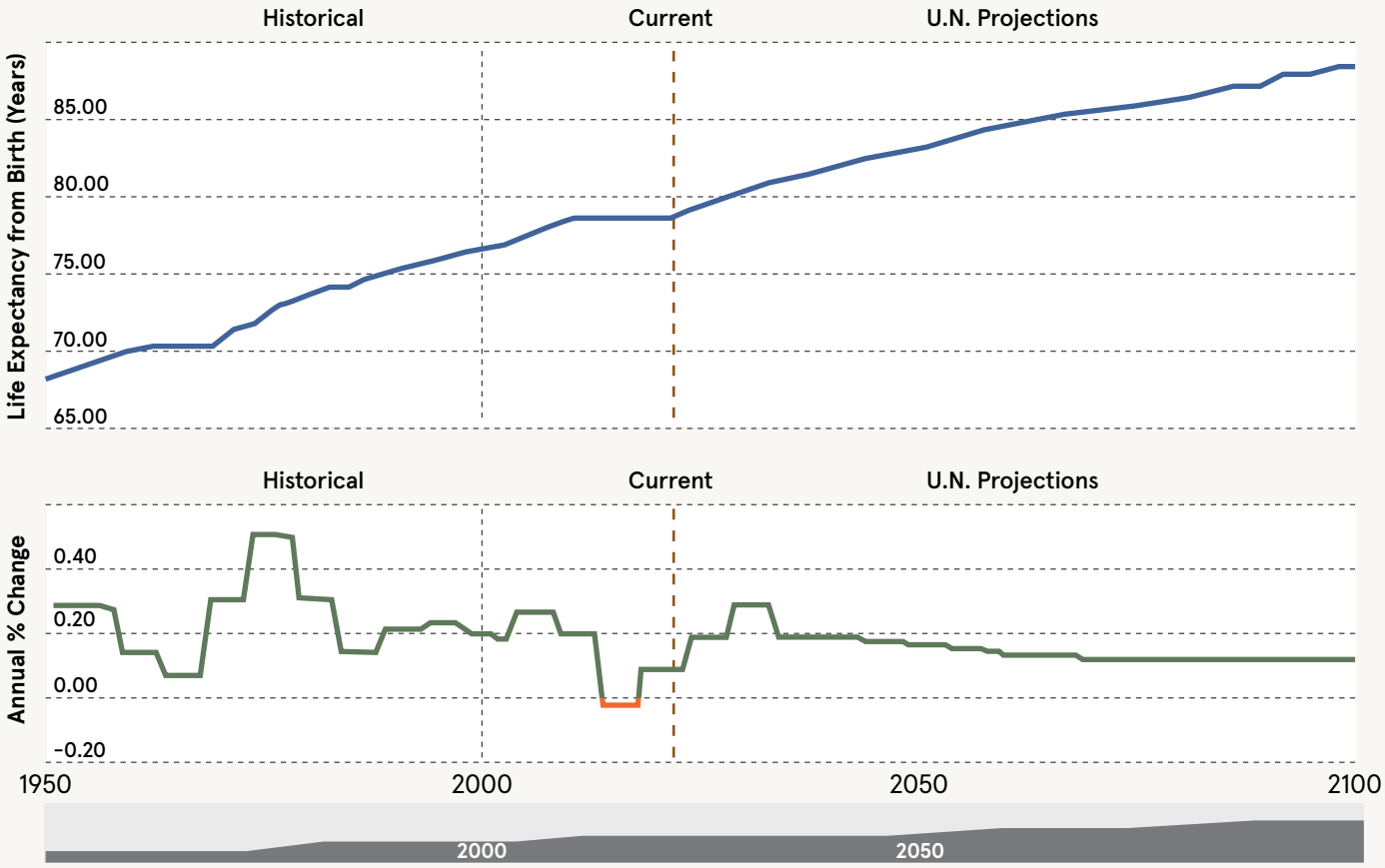


Chart source: Macrotrends, "U.S. Life Expectancy 1950-2022," accessed October 2022.
*All 2020 and later data are U.N. projections and do not include any impacts of the COVID-19 virus.

For example, Roizen says stress activates genes that make inflammatory proteins, and we can relieve stress by having purpose, friends to discuss our problems with, or meditating. In the process, we can turn off most inflammatory proteins and turn on genes that produce proteins with anti-inflammatory properties.[14]

A longevity calculator: the RealAge Test

To help determine a person's biological age—the true age of their body—Roizen worked with top doctors to develop the RealAge Test,[15] a longevity calculator widely viewed as one of the more comprehensive tests available to predict life expectancy.[16] The assessment is divided into four sections—health, feelings, diet, and fitness. It estimates your life expectancy and provides personalized recommendations to support a healthier lifestyle.[17]

[14] Stacey Lindsay, Maria Shriver's Sunday Paper, "Is 90 Really the New 40? Dr. Michael Roizen Says It Is. Here Are His Groundbreaking Tips to Help Anyone Live Past 100," September 24, 2022.
[15-17] Mark Stibich, Verywell Health, "RealAge Longevity Calculator Review," March 17, 2022.

Estimate your biological age with the Sharecare RealAge Test[18]

- A comprehensive personal health assessment designed to measure biological age, proven reliable in estimating how long someone may live[19]
- Weighs a person's choices in exercise and food, their stresses, and even their capacity for love to predict how young or old their body is[20]
- The four-section assessment takes about 20 minutes to complete, at no cost, but requires an email address[21]
- For more accurate results, provide detailed information concerning your health such as your cholesterol levels, blood pressure, or your vitamin D intake[22]

Click here to create a profile and take the RealAge Test[23]

There are other ways to measure biological age that favor lab tests over self-reporting. Telomere dynamics have been found to better predict survival and mortality than chronological age.[24] Telomeres are protective caps at the ends of chromosomes known to shorten with age. They eventually cause cells to lose the power to divide and grow, deteriorating in function.[25] This, of course, mirrors aging. Telomeres are sometimes described as the biological equivalent of the plastic caps at the ends of shoestrings that prevent fraying.

Whether the length of telomeres influences biological age in real time is the subject of ongoing research.[26] But their specific role in longevity is considered very important, since they may have functions that postpone aging.[27] Most tests to measure telomeres require a blood sample. A mail order kit is available for $89, but the cost can range much higher depending on the company and level of reporting.[28]

Advancements and breakthroughs in the science of aging

It seems like almost suddenly we reached a point where a simple home blood test or online personal health assessment might predict how long we live. Roizen says rapid advancements and breakthroughs also define the current research in more than a dozen key areas associated with aging.[29] He estimates there's an 80% chance progress in these areas will lead to the longer lives he's predicting and will affect everyone and the broader economy.[30] The areas range from stem cell production, gene editing, and induced tissue regeneration to telomere regeneration, immunotherapy, and bionics.[31]

One unprecedented effort by Harvard Medical School scientists reversed age-related vision loss and eye damage from glaucoma in mammals.[32] The researchers used epigenetic reprogramming to restore vision in mice by turning back the clock on aged eye cells in the retina.[33] Additionally, they used gene therapy to reverse vision loss in mice whose optic nerves were intentionally crushed to mimic glaucoma, a leading cause of blindness.[34]

The team's work showed for the first time that it may be possible to safely reprogram complex tissues to an earlier age, which carries broader implications for the treatment of various age-related diseases in humans.[35]

"At the beginning of this project, many of our colleagues said our approach would fail or would be too dangerous to ever be used," says lead study author, Yuancheng Lu, a research fellow in genetics at Harvard Medical School.[36] "Our results suggest this method is safe and could potentially revolutionize the treatment of the eye and many other organs affected by aging."[37]

[18-20] Sharecare, "Research Confirms the Accuracy of the RealAge Test," March 30, 2022.
[21,22] Mark Stibich, Verywell Health, "RealAge Longevity Calculator Review," March 17, 2022.
[23] Sharecare, "Let's Get Started," November 2022.
[24-27] Huda Adwan Shekhidem et al., International Journal of Molecular Sciences, "Telomeres and Longevity: A Cause or an Effect?" July 1, 2019.
[28] Christina Swords, Nebula Genomics, "TeloYears review—Can telomere length show how you age?" July 29, 2022.
[29-31] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[32-37] Mass Eye and Ear, "Harvard Medical School Scientists Reverse Age-Related Vision Loss, Eye Damage from Glaucoma in Mice," December 2, 2020.

Roizen notes people are already living far longer than they did in past decades. For instance, a woman who was expected to live to age 42 in 1850 is now likely to live to 80.[38] Better sanitation, public health measures, and vaccines helped increase survival of the young and healthy in the 20th century.[39] More recently, improvements in managing high blood pressure and other diseases contribute to longer life spans for the elderly.[40] Even declines associated with the COVID-19 pandemic are expected to return to normal levels by 2025.[41]

> **"Down the line, it will not be uncommon for people to regularly live to 115 and even 130."**
>
> — **Dr. Michael Roizen**, *The Great Age Reboot*

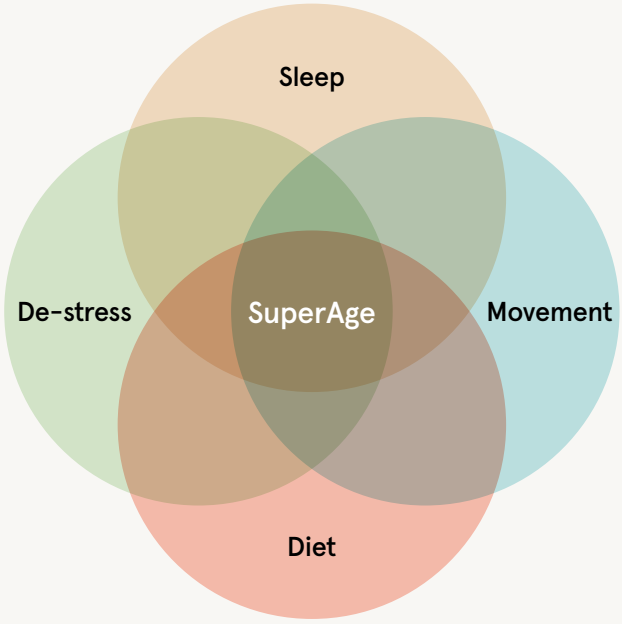
Doctors also express newfound optimism about developing immunizations against various forms of cancer, after some initial setbacks.[42] There's encouraging data around vaccines that would use the immune system to protect against pancreatic, colon, and breast cancer the same way other vaccines prevent infectious disease.[43] Doctors see future potential for anyone with a precancerous condition or genetic predisposition to cancer to be vaccinated.[44] The first vaccines could be available in the next five years and will likely be used to prevent cancer from recurring in patients who were already successfully treated.[45] After that, the emphasis will likely shift to primary prevention—vaccinating people at high risk for cancer.[46]

"Down the line, it will not be uncommon for people to regularly live to 115 and even 130," Roizen writes in his 2022 book, *The Great Age Reboot*.[47] He predicts this longevity will be a great "social disruptor" with clear implications for their families and finances.[48] Even with the many advances in science and medicine that will make this possible, Roizen claims people will need to take proactive steps to maintain their own health[49] as they live longer, healthier, more productive lives.[50]

Four fundamentals that can support optimal aging

Alongside exciting, new information about the biology of aging, solid evidence shows the best way to increase our chances of living a long and active life is to follow advice most of us received at an early age.[51] This includes eating well, exercising regularly, and getting plenty of sleep[52]—three of the four foundational areas of SuperAging.

Four fundamentals of SuperAging



[38-41] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[42-46] Gina Kolata, The New York Times, "After Giving Up on Cancer Vaccines, Doctors Start to Find Hope," October 10, 2022
[47] Michael F. Roizen, National Geographic Society, "The Great Age Reboot," accessed September 26, 2022.
[48] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[49] Michael F. Roizen, National Geographic Society, "The Great Age Reboot," accessed September 26, 2022.
[50] Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
[51,52] Surgey Young, CNBC, "A longevity expert shares the diet, exercise and sleep rules he lives by for a longer, stronger life: These are 'nonnegotiable,'" August 26, 2021.

Sleep: elusive but vital to long-term health

Why is sleep so important to our overall health? According to Matthew Walker, founder and director of the Center for Human Sleep Science at the University of California, Berkeley and professor of neuroscience and psychology,[53] sleep helps us recover from illness, heal physically, manage stress, and consolidate memories.[54]

Sleep is also vital to the long-term health of our brain—arguably the most important organ in our bodies. It needs time to create new pathways for information we just learned. Inefficient sleep makes it hard to focus, reduces our decision-making abilities, and diminishes emotional and behavioral control.[55]

Observing our evening routine and examining how it sets us up for when we close our eyes can maximize the restorative benefits of sleep. When preparing for sleep, imagine slowly landing a plane instead of crashing one. The brain needs quiet time before bed to destress and transition from high activity into down time.[56]

Tips to develop a pre-sleep routine[57]

- Set a bedtime and begin your pre-sleep routine at the same time nightly
- Avoid using electronics at the beginning of your routine—they trick your mind into thinking it's daytime
- Enjoy a light snack or non-caffeinated tea
- Take a warm bath about an hour before bedtime
- Listen to music to distract you from worries
- Stretch, breathe, and relax
- Practice mindfulness meditation
- Read a good book, avoiding suspense and action genres
- Journal or write a to-do list for the following day
- Prep your bedroom—set the thermostat between 60 and 71 degrees, and make it as dark and quiet as possible

53 Berkeley Psychology, "Matthew P. Walker," accessed October 2022.
54 MasterClass, "Matthew Walker's 11 Tips for Improving Sleep Quality," June 7, 2021.
55 Danielle Pacheco, Sleep Foundation, "Memory and Sleep," September 22, 2022.
56 Rise, "Wind-Down Time: The Key to Healthy, Natural Sleep," accessed October 2022.
57 Danielle Pacheco, Sleep Foundation, "Bedtime Routines for Adults," September 20, 2022.

The National Sleep Foundation recommends an average of eight hours of sleep per night for adults,[58] but the quality of that sleep is very important.[59] Essentially, there are two categories of sleep[60]:

- **Nonrapid eye movement (NREM) sleep** allows your body to wind down, transition into deep sleep, and consolidate memories. It also helps boost the immune system.[61]
- **Rapid eye movement (REM) sleep** is the phase closest to wakefulness and where most dreaming occurs. Getting enough sleep during the REM stage is important to support and bolster mood, learning efficiency and memory consolidation.[62]

Although sleep is a natural function of the body, it can be elusive. Twenty-eight percent of Americans report insomnia takes a toll on their daily lives and nearly two-thirds rely on sleep aids.[63] Walker, the sleep scientist, notes that sleep aids like Ambien do not support high-quality sleep.[64]

"Unfortunately, the current set of classes of sleeping pills that we have do not produce naturalistic sleep," he says.[65] "So, they are all a broad set of chemicals that we call the sedative hypnotics, and sedation is not sleep, it's very different. It doesn't give you the restorative natural benefits of sleep. If you look at the electrical signature of sleep that you have when you're taking those medications, it's not the same as a normal night of sleep."[66]

Similarly, Walker says alcohol leads to fragmented sleep, with short awakenings throughout the night that we don't recall. He adds that alcohol blocks our much-needed REM sleep. On the other hand, he says to avoid caffeine in the evening because it limits deep sleep.[67]

"So, people wake up the next morning, they'll feel unrefreshed," he says of caffeine. "They'll start to reach for the coffeepot earlier. They'll drink more caffeine, never having realized that it was the cup of coffee last night that has left you feeling under slept, because they didn't wake up during the night."[68]

The stakes of not getting enough good sleep are high, according to the American Academy of Sleep Medicine. Chronic insomnia or a prolonged reliance on sleep aids can result in depression, type 2 diabetes, and even Alzheimer's.[69]

58 Berkeley Psychology, "Sleep Scientist Warns Against Walking Through Life 'In An Underslept State'," accessed September 24, 2022.
59-62 MasterClass, "Matthew Walker's 11 Tips for Improving Sleep Quality," June 7, 2021.
63 UPI, "Nearly two-thirds of Americans use sleep aids, survey finds," June 24, 2022.
64 Berkeley Psychology, "Sleep Scientist Warns Against Walking Through Life 'In An Underslept State'," accessed September 24, 2022.
65-68 Ibid.
69 UPI, "Nearly two-thirds of Americans use sleep aids, survey finds," June 24, 2022.

Movement supports longevity and many health benefits

Research shows that exercise promotes longevity, even if it simply involves moving one foot in front of the other.[70] This was the conclusion of an 11-year study, published by the JAMA Network in 2021. It found middle-aged adults who took 7,000 or more steps daily had a 50% to 70% lower risk of dying from any cause, compared with those who took fewer than 7,000 daily steps.[71] The intensity of the steps didn't matter.[72]

"Regular physical activity is one of the most important behaviors people can do to improve or maintain good health," the authors of the study wrote. "Being physically active provides substantial health benefits for many conditions, such as cardiovascular disease, diabetes, and several cancers, as well as improving the quality of life."[73]

More than just burning calories, exercise affects nearly every cell in the body—including all the organs—and is vital for good health, according to Glenn Gaesser, professor of exercise physiology at the College of Health Solutions at Arizona State University.[74] Gaesser cites research that suggests increasing physical activity—independent of any weight loss—reduces mortality risk between 15% to 60%.[75]

"The major take-home message is that just being physically active and trying to improve your fitness seems to provide better prospects for longevity than just trying to lose weight," says Gaesser.[76]

Health benefits of physical activity[77]

Immediate

- Improves sleep quality
- Reduces anxiety
- Reduces blood pressure

Long-term

- Reduces risks of developing dementia including Alzheimer's
- Reduces depression risk
- Lowers risk of heart disease, stroke, and type 2 diabetes
- Lowers risk of eight cancers: bladder, breast, colon, endometrium, esophagus, kidney, lung, and stomach
- Reduces risk of weight gain
- Improves bone health
- Helps with balance and coordination, reducing risks of fall

[70-73] Paluch et al., JAMA Network, Open, "Steps per Day and All-Cause Mortality in Middle-Aged Adults in the Coronary Artery Risk Development in Young Adults Study," September 3, 2021.
[74-76] Jacqueline Stenson, NBC NEWS, "New science shows how exercise affects nearly every cell in the body," January 3, 2022.
[77] Centers for Disease Control and Prevention, "Health Benefits of Physical Activity for Adults," November 1, 2021.

The Centers for Disease Control and Prevention (CDC) defines physical activity as anything that gets the body moving and suggests adults should move more and sit less throughout the day.[78] The CDC recommends 150 minutes of moderate-intensity physical activity each week and two days of muscle-strengthening activity but notes that any amount of moderate-to-vigorous-intensity physical activity will lead to some health benefits.[79]

The CDC adds that exceeding this activity offers even greater benefits.[80] These can include lowering the risk of depression, heart disease, and stroke as well as reducing the risk of several forms of cancer and helping improve bone health and decrease the risk of weight gain.[81]

Physical activity is clearly one of the most important ways to support good health and improve quality of life.[82] It can range from very simple to more complex with varied benefits across this range. Whether your goal is to merely relieve stress and realize some basic benefits of moving more, become a dedicated gymgoer, or something in between, there are a few key points to consider:

1. Just move

Those with a sedentary career or lifestyle can start by simply building up to a brisk hour-long walk each day to improve heart health, increase cognitive ability, strengthen the immune system, and elevate mood.[83] Or just do something you enjoy.

2. Incorporate strength training

Working with weights, weight machines, or resistance bands can help maintain and grow muscle mass and strength. It can also slow bone loss and even build new bone by stimulating the growth of bone-forming cells.[84]

3. Pursue healthy physical stress

The healthy response of our muscle cells to moderate stress from exercise is a biological process known as hormesis and is one reason performance improves with regular training. This physical stress is an essential trigger for growth and can increase strength, resilience, and longevity. High-intensity interval training is movement that has a strong hormetic effect.[85]

The Mayo Clinic credits exercise with everything from improving mood and combating health conditions and diseases, to boosting energy and even enhancing physical intimacy.[86] And there's no need to worry if you don't have significant time to dedicate, as long as you focus on moving more throughout the day. This might mean taking the stairs instead of the elevator or increasing the intensity of household chores.[87] Whatever path you choose, consistency is key.[88]

[78-80] Centers for Disease Control and Prevention, "How much physical activity do adults need?" June 2, 2022.
[81] Centers for Disease Control and Prevention, "Health Benefits of Physical Activity for Adults," November 1, 2021.
[82] Centers for Disease Control and Prevention, "How much physical activity do adults need?" June 2, 2022.
[83] Mayo Clinic, "Walking: Trim your waistline, improve your health," May 19, 2021.
[84] Harvard Health Publishing, Harvard Medical School, "Strength training builds more than muscles," October 13, 2021.
[85] Tina Gammon, "Hormesis: 3 Science-Backed Ways to Train Your Stress Response," March 22, 2022.
[86-88] Mayo Clinic, "Exercise: 7 benefits of regular physical activity," October 8, 2021.

Nutrition: one of the most important aspects of aging well

Eating smart is one of the most important steps we can take at any age for good health.[89] Not surprisingly, exercise and diet also share many of the same benefits.[90] These include lowering the risk of chronic diseases such as heart disease, high blood pressure, stroke, and some cancers, as well as improving overall well-being.[91] While diet matters more than exercise for weight loss, physical activity is crucial for overall fitness and keeping off the weight.[92]

The broad category of nutrition and diet can seem overwhelming. Messages bombard us everywhere from social media to the grocery store checkout aisle—all promising effective ways to quickly lose weight, gain energy, and feel younger. Eating smart is not about fad diets, but rather setting realistic expectations and making a long-term commitment to changing habits.[93]

If your goal is weight loss, a safe, sustainable amount to lose is about half a pound to two pounds per week. While your weight will likely fluctuate week to week, if it's trending downward over time, you're on the right track.[94] The focus should not be another detox or rigid meal plan posted on Instagram, but adopting eating habits you'll be able to follow over a long time.[95] Since long-term weight loss is all about incremental, lasting habit changes, people who are successful at losing and keeping weight off will often seek the professional guidance of a doctor, registered dietitian, or therapist.[96]

> **"Eating more legumes, whole grains, and nuts and eating less red meat and processed meats were estimated to be the most effective ways to increase life expectancy for individuals with a typical diet."**
>
> — **Lars T. Fadnes,** professor at the University of Bergen in Norway

The CDC says good nutrition may help us live longer.[97] Not only does it keep skin, teeth and eyes healthy, it supports strong muscles, boosts immunity, and strengthens bones.[98] Exactly how long the human life span may be extended through diet is the subject of continuing research.

One recent study suggests switching from a typical Western diet to an optimal diet at the age of 20 could increase life expectancy by nearly 11 years for women and 13 years for men.[99] Changing to the same optimal diet at 60 would increase life expectancy for both women and men by about eight years.[100] The "optimal diet" in the study is the Mediterranean diet, which the authors note aligns with most dietary guidelines and education programs worldwide.[101]

"Eating more legumes, whole grains, and nuts and eating less red meat and processed meats were estimated to be the most effective ways to increase life expectancy for individuals with a typical diet," says the lead author, Lars T. Fadnes, professor at the University of Bergen in Norway.[102] "It might appear a bit surprising that the benefit of further increasing fruits and vegetables is likely to be lower than the benefit of optimizing legumes and whole grains, but this is due to most people having already `harvested' some of the benefits from fruits and vegetables by already consuming more of these compared [with], for example, legumes and whole grains."[103]

[89-91] Missouri Department of Health and Senior Services, "Nutrition and Physical Activity," accessed October 2022.
[92-96] Lainey Younkin, Eating Well, "How to Lose Weight When You Don't Know Where to Start, According to a Dietitian," March 21, 2021.
[97,98] Centers for Disease Control and Prevention, "Benefits of Eating Healthy," May 16, 2021.
[99-103] Robby Berman, Medical News Today, "Dietary changes may extend life span by up to 10 years," February 8, 2022.

Study co-author Dr. Marialaura Bonaccio of IRCCS Istituto Nerologico Mediterraneo Neuromed in Italy calls the Mediterranean diet one of the "healthiest dietary models in the world."[104] She says more than a grocery shopping list, it represents a lifestyle that "obviously includes regular physical exercise but also other types of 'exercises,' such as mental, cultural, spiritual, that may have a favorable impact on longevity."[105]

"Not a fad": the Mediterranean diet[106]

Emphasizes eating:

- Less red meat, sugar, and saturated fat
- More fruits, vegetables, nuts, and whole grains

U.S. News & World Report ranked the Mediterranean diet the best overall diet for five consecutive years. The diet also was ranked No. 1 by *U.S. News* in five other categories:

- Best for healthy eating
- Easiest to follow
- Best for diabetes
- Best heart-healthy diet
- Best plant-based diet

"The Mediterranean diet is not a fad. People who live in Italy, Spain, and other countries in the Mediterranean region have eaten this way for centuries. It's just a way of life. I grew up on it. My blood pressure is fantastic."

— **Physician David Felix,** Scripps Clinic Torrey Pines

It's important to eat based on daily activity level but also consider factors such as age, sex, height, and weight.[107] Several free digital apps including one by the U.S. Department of Agriculture at **MyPlate.gov** will not only calculate your target calorie intake but also assist with building healthy goal-based eating habits.[108]

MyPlate replaced the six food groups of the food pyramid in 2011 and is considered simpler, more intuitive, and more accurate than the pyramid.[109] MyPlate helps visualize what a plate for each meal should include and emphasizes a balance of vegetables (30%), fruits (20%), grains (30%), and proteins (20%).[110]

MyPlate doesn't account for fats,[111] but they are included in the Institute of Medicine's recommendations for daily consumption of macronutrients,[112] which suggest:

- 45-65% of calories from carbohydrates[113]
- 25-35% of calories from fat[114]
- 10-30% of calories from protein[115]

[104,105] Robby Berman, Medical News Today, "Dietary changes may extend life span by up to 10 years," February 8, 2022.
[106] Scripps, "Mediterranean Diet Is Best Diet—Once Again," January 4, 2022.
[107] U.S. Department of Agriculture, "MyPlate Plan," accessed October 2022.
[108] U.S. Department of Agriculture, "Learn how to eat healthy with MyPlate," accessed October 2022.
[109-111] Lauren Wellbank, Martha Stewart, Live Well, "Should the Food Pyramid We Grew Up with Still Inform the Way We Plan Our Meals?" March 3, 2022.
[112-115] Kwon et al., National Center for Biotechnology Information, "Associating Intake Proportion of Carbohydrate, Fat, and Protein with All-Cause Mortality in Korean Adults," October 21, 2020.

According to U.S. dietary guidelines, adults 21 and over should consume between 1,600 and 3,000 calories per day.[116] As we age—especially in times of illness or other bodily stress—we need to consume more protein-rich foods. For some adults, this may represent a 20% to 50% increase from standard recommendations.[117] Aging bodies process protein less efficiently and need more of it to maintain muscle mass, bone health, and strength.[118]

Additional nutritional recommendations include reducing the intake of saturated fat as much as possible and avoiding trans fats.[119] But enjoy all the leafy green vegetables you want—they are excellent for producing nitric oxide, which increases blood flow and lowers blood pressure.[120]

And don't forget the essential building block for all human life. Water has a lead role in the body's cellular process, and when you're dehydrated, everything runs less efficiently—including your metabolism.[121] According to the National Library of Medicine, 75% of Americans are chronically dehydrated, which is not a healthy state considering the human body is composed of 55% to 65% of water.[122] To stay properly hydrated, start by consuming between half an ounce and an ounce of water for every pound you weigh daily.[123] For example, if you weigh 150 pounds, you would drink from 75 to 150 ounces per day.[124]

116 Cleveland Clinic, "How Many Calories Should You Eat in a Day," April 26, 2022.
117,118 Judith Graham, Kaiser Health News, "Why Older Adults Should Eat More Protein (And Not Overdo Protein Shakes)", January 17, 2019.
119 Mayo Clinic, "Trans fat is double trouble for heart health," February 23, 2022.
120 Santos Baião et al., MDPI, "A Narrative Review on Dietary Strategies to Provide Nitric Oxide as a Non-Drug Cardiovascular Disease Therapy: Beetroot Formulations—A Smart Nutritional Intervention," April 15, 2021.
121 Gina Shaw, Nourish by WebMD, "Water and Your Diet: Staying Slim and Regular With H2O," February 13, 2022.
122 Kory Taylor and Elizabeth B. Jones, NCBI Bookshelf, "Adult Dehydration," May 15, 2022.
123,124 Gina Shaw, Nourish by WebMD, "Water and Your Diet: Staying Slim and Regular With H2O," February 13, 2022.

Unmanaged stress can make life's clock tick faster

Healthy physical stress can stimulate growth and support longevity. Some stress activates genes that make inflammatory proteins, which are associated with a wide range of human diseases from allergies to osteoarthritis.[125] But both good and bad stress are inevitable in life. It's how we manage the bad that can not only affect our life span,[126] but the quality of our interactions and the life we lead, up to and through retirement.

We may associate chronic stress only with those who are actively managing careers or raising families, but it can affect adults at any age. In older adults, chronic stress due to illness, losing a spouse, changes in finances or retirement, or separation from family and friends can be debilitating.[127]

"Stress increases blood sugar and can make diabetes worse," says Ann Webster, a health psychologist at the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital.[128] "It can create high blood pressure and cause insomnia. It can also make people become anxious, worried, depressed, or frustrated."[129]

We all know that exhilarating but often uncomfortable feeling we experience when we're excited—our pulse quickens and we feel "butterflies" in our stomach. This can come before a big presentation or deadline at work. It can accompany a first date, the start of a new job, the birth of a child, or buying a new house.[130] This short-term stress is known as eustress, and it helps us face challenges, spurs us to meet goals, and ultimately supports our happiness and health.[131] It also motivates us, helps us focus our energy, and enhances our performance.[132]

"The common misconception is that all stress is bad stress," says Minkyung Chung, a therapist with Talkspace.[133] "This isn't always the case, and it's important to recognize that stress can mean different things in certain situations. Understanding the differences...will help in managing these stressors in different ways."[134]

> **"These results support the popular notion that stress makes us age faster. But they also suggest a promising way to possibly minimize these adverse consequences of stress through strengthening emotion regulation and self-control."**
>
> — **Zachary Harvanek**, resident in the Yale Department of Psychiatry

125 Weronica E. Ek et al., Science Advances, "Causal effects of inflammatory protein biomarkers on inflammatory diseases," December 8, 2021.
126 Science Daily, "Heavy stress and lifestyle can predict how long we live," March 11, 2020.
127-129 Heidi Godman, Harvard Health Publishing, "Stress relief tips for older adults — Know the symptoms, get the treatment right for you," March 20, 2017.
130 Minkyung Chung, Talkspace, "How to Tell the Difference Between Good and Bad Stress," April 4, 2022.
131,132 Summa Health, "Stress Management: How to Tell the Difference Between Good and Bad Stress," January 18, 2021.
133,134 Minkyung Chung, Talkspace, "How to Tell the Difference Between Good and Bad Stress," April 4, 2022.

Unlike good stress, bad stress—or distress—is that overwhelming, anxious stress that can render you unable to focus, complete tasks, or face challenges.[135] Both types of stress help release hormones such as cortisol and adrenaline that lead to the racing heart, sweaty hands, and other symptoms. Bad stress is generally longer term, chronic, and draining.[136] Unlike eustress, it can be a barrier to accomplishing goals and is ultimately very damaging because it does not provide time to recover from the body's fight-or-flight response.[137] Instead, it induces a constant, exhausting state of threat that can make you feel like giving up.[138]

Deadlines illustrate the difference between good stress and bad stress.[139] While focusing on a single deadline can result in good stress and enhance performance, constantly facing stress from prolonged deadline pressure can decrease performance.[140] The ultimate indicator of good stress or bad is how you react to the experience.[141]

Chronic stress risks[142]

The long-term effects of stress and overexposure to cortisol and other stress hormones can disrupt almost all the body's processes. This can increase many health risks, including:

- Anxiety and depression
- Heart disease, heart attack, high blood pressure, and stroke
- Loss of sleep
- Weight gain
- Difficulty remembering and concentrating
- Headaches and digestive problems

Researchers at Yale University found that relatively young and healthy subjects who scored high for chronic stress traits showed accelerating aging markers and physiological changes such as greater insulin resistance.[143] They determined this by tracking chemical changes in their DNA that occur naturally with age but at different times in different people—referred to as epigenetic clocks.[144]

While the research showed stress can make life's clock tick faster, stress doesn't affect everyone's health equally.[145] Subjects who exhibited greater emotion regulation and self-control were more resilient to the effects of stress—they kept their life clocks in check.[146]

"These results support the popular notion that stress makes us age faster," says one of the study's lead authors, Zachary Harvanek, a resident in the Yale Department of Psychiatry.[147] "But they also suggest a promising way to possibly minimize these adverse consequences of stress through strengthening emotion regulation and self-control."[148]

[135-140] Minkyung Chung, Talkspace, "How to Tell the Difference Between Good and Bad Stress," April 4, 2022.
[141] Summa Health, "Stress Management: How to Tell the Difference Between Good and Bad Stress," January 18, 2021.
[142] Mayo Clinic, "Stress Management," July 8, 2021.
[143-148] Bill Hathaway, Yale News, "Stress makes life's clock tick faster—chilling out slows it down," December 6, 2021.

How's your stress level? Find out by taking this quick assessment.

The Holmes-Rahe Life Stress Inventory is a leading scale for measuring the link between stress and illness. Whether you score high or low, it's good to have an idea about the role stress can play in your life. **Take the assessment** at Jackson's Find Your Path retirement resource center.

Fortunately, there are various self-care methods that can help us manage stress—these include watching what we eat and how we move.[149] Certain foods including fatty fish, green leafy vegetables, and lean cuts of meat may help combat the effects of stress and anxiety.[150]

And getting active for just 15 minutes a day—to the point of breaking a sweat—can also reduce stress.[151] You can also practice mindfulness meditation, set healthy boundaries personally and professionally, and take time to confide in family and friends about how you're feeling.[152]

Another way to destress is using the "box breathing" technique, which is named after a box's four sides.[153] You slowly count to four a total of four times—four counts of breathing in, four counts of holding your breath, four counts of exhaling, and four more counts of holding your breath after you exhale.[154] It's also known as "4x4 breathing" and "4-4-4-4 breathing."

Breathing is our primary connection to life, and when we're stressed, we tend to breathe fast and shallow. Box breathing lowers stress and calms the mind by activating the parasympathetic nervous system, which is responsible for rest and digestion.[156] The Cleveland Clinic notes that you don't even need to be stressed to benefit from box breathing because it lets you practice mindfulness, which is useful even in times of calm.[157]

"It allows you to slow your breath, and it also has an aspect of meditation," says integrative medicine specialist, Dr. Melissa Young.[158] "As you're breathing, you're also silently counting, which is a kind of mantra meditation that, again, calms the nervous system and brings you into the present moment."[159]

[149-152] Minkyung Chung, Talkspace, "How to Tell the Difference Between Good and Bad Stress," April 4, 2022.
[153-159] Cleveland Clinic, "How Box Breathing Can Help You Destress," August 17, 2021.

Longer lives reinforce financial security needs

Many of us will likely live far longer than we ever thought possible. Even the COVID-19 pandemic, while concerning, is a blip on the overall longevity radar screen and actually has led to medical advances expected to contribute to longer life expectancies.[160] Research by the University of Washington determined the current record of a 122-year lifespan will be almost certainly broken by the end of this century.[161]

It's not difficult to visualize this occurring much sooner. After all, the number of centenarians has been increasing for decades and is expected to continue to do so.[162] And age 100 could be the new 70 as soon as the next decade.[163]

There's evolving science tied to key fundamentals for health and vitality that most of us learned as children. Sixty-three percent of U.S. adults consider the scariest aspect of aging to be a potential decline in health.[164] This reinforces the value of applying the science as we focus on the basics of moving more, eating well, getting plenty of sleep, and properly managing stress. Doing so will not only support greater longevity, but also help ensure we can enjoy a vibrant life—rich with many of the opportunities the future and retirement hold.

But financial worry can be a top stressor—one that's often chronic.[165] Because mental health and financial health are closely linked,[166] financial well-being is another key aspect to SuperAging.

For financial professionals and their clients, the message is clear—it's essential to prepare mentally, physically, and financially for very long lives and having sufficient retirement income will be even more important. It's not surprising research consistently shows many Americans have intense fear of not having enough income in retirement. In one recent survey, 87% of respondents said it was their top fear.[167] At the same time, the American Academy of Actuaries calls the widespread assurance of lifetime income "the single most important step needed to improve the retirement security of older Americans."[168]

Options for protected lifetime income like pensions aren't as common as they once were. Then there's Social Security, which was designed to replace only about 40% of income for the average retired worker. But it's relied on more heavily by many people because they lack other sources of guaranteed lifetime income.[169]

Plan for a healthy wealth span

As we seek to live longer and healthier lives, ensuring your retirement plan can provide the financial freedom you need is even more important. **Click here** to determine if your financial plan is retirement ready at Jackson's Find Your Path retirement resource center.

160 David Colander, The Wall Street Journal, "Covid Will Increase Life Expectancy," July 28, 2021.
161,162 Kim Eckart, UW News, "How long can a person live? The 21st century may see a record-breaker," July 1, 2021.
163 Julie Blim, CBN.com, "Aging in the Future Never Looked Better," accessed September 24, 2022.
164 Alena Hall, Forbes Health, "53% of U.S. Adults Don't Fear Growing Old - Study Finds People Actually Fear Less As They Age," October 19, 2022.
165,166 Purdue University News, "Mental well-being inherently connected to financial wellness," January 27, 2021.
167 Gabrielle Olya, Yahoo Finance, "40% of Americans Fear Retirement More Than Death—Here's Why," July 28, 2021.
168 American Academy of Actuaries, "Lifetime Income Initiative," accessed September 26, 2022.
169 Social Security Administration, "Social Security Fact Sheet," 2021.

What are annuities?
Annuities are long-term, tax-deferred vehicles designed for retirement. Variable annuities involve investment risks and may lose value. Earnings are taxable as ordinary income when distributed. Individuals may be subject to a 10% additional tax for withdrawals before age 59½ unless an exception to the tax is met.

Annuities can be an option to consider when addressing longevity risk—the risk of outliving one's savings. A broad range of these versatile retirement products is available today, offering more choices and greater flexibility to accommodate changing economic conditions and evolving investor needs. These needs may involve supplementing retirement income, preserving principal, or building a more diverse retirement portfolio.

Jackson's own research found annuities may improve how people perceive and experience their retirement.[170] Amid today's longer life spans, the heightened economic uncertainty we're all experiencing only reinforces the value of securing a source of protected lifetime income.* While there's a bounty of products out there designed to minimize risks, only an annuity can help eliminate the risk of running out of money.[171]

The share of financial professionals who would not recommend an annuity is shrinking.[172] Additionally, 90% of registered investment advisors (RIAs) whose clients own annuities agree or strongly agree that guaranteed lifetime income makes their clients more confident in their retirement plans, which can help them relax.[173] This can free them to focus more on enjoying today's longer retirements and even the possibility of living 100 years or more.

* The principal value of the variable annuity will fluctuate based on the performance of the underlying investment options and may lose value.

170 Jackson, "A Holistic Look at Annuities," research study, 2020.
171 Alliance for Lifetime Income, "Reducing Retirement Uncertainty And Stress," accessed November 2022.
172,173 RetireOne, "Lifetime Income or a Fully Stocked Wine Cellar," 2021

Contact your financial professional to learn how an annuity may help protect you against longevity risk and support greater confidence in your retirement future.

For more information on building and growing an income in retirement:

- Visit Jackson's **Find Your Path** holistic retirement planning site
- **Read more** about annuities at Jackson's website
- Explore timely retirement topics with Jackson's **educational resources**
- Speak with your financial professional

For more information on SuperAging:

- Sign up for the AGEIST digital **newsletter**
- Download the SuperAge **podcast**
- Visit the AGEIST **website**
- Follow AGEIST on social media

CMC74525 02/23

CMC74525 05/24