



NO ONE HAS FOUND THE FOUNTAIN OF YOUTH—YET—BUT THERE ARE CERTAINLY STEPS YOU CAN TAKE TO FEND OFF DISEASE AND INCREASE YOUR LONGEVITY.

HERE ARE 25 OF THE MOST EFFECTIVE STRATEGIES FOR LIVING LONGER.

BY RACHEL RABKIN PEACHMAN

LIVING LONG AND PROSPER



GETTY IMAGES

THOUGH CRYONICS IS GENERALLY VIEWED WITH SKEPTICISM, IT HAS BECOME A “WHY-NOT?” FORM OF POTENTIAL LIFE EXTENSION, DRAWING INVESTORS SUCH AS PETER DIAMANDIS.



FOR THE FIRST TIME IN NEARLY A QUARTER CENTURY, LIFE EXPECTANCY IS DROPPING IN THE U.S.,

ACCORDING TO A RECENT REPORT FROM THE NATIONAL CENTER FOR HEALTH STATISTICS, THE AVERAGE AMERICAN BORN IN 2015 HAS A LIFE EXPECTANCY OF 78.8 YEARS, WHICH IS A DECREASE OF 0.1 YEARS FROM 2014. FOR MEN IN AMERICA, LIFE EXPECTANCY FELL FROM 76.5 IN 2014 TO 76.3 YEARS IN 2015, AND FOR WOMEN, IT WENT FROM 81.3 YEARS TO 81.2 YEARS. THE PRIMARY REASON? AN INCREASE IN MORTALITY FROM ILLNESSES SUCH AS HEART DISEASE, STROKE, RESPIRATORY DISEASE, CANCER, ALZHEIMER'S, DIABETES, KIDNEY DISEASE AND PNEUMONIA. BUT THAT DOESN'T MEAN YOUR FATE IS SEALED. THANKS TO SCIENTIFIC ADVANCES AND RESEARCH INTO DISEASE PREVENTION, WE KNOW MORE ABOUT HOW TO LIVE LONGER AND BETTER THAN EVER BEFORE. **FOLLOW THESE SUGGESTIONS FOR YOUR BEST CHANCE TO ACHIEVE THAT GOAL. >>>>**

01 LOOK INTO CONCIERGE MEDICINE

» As a member of a personalized healthcare program, sometimes called **concierge medicine**, you receive high-quality, one-on-one preventive care. "All of our physicians have a reduced practice, which enables you to have an unhurried relationship with a doctor that's based on an ongoing and comprehensive understanding of your health," says Bret Jorgensen, CEO of MDVIP, one example of a national network of physicians offering this service. For an \$1,800 annual membership fee, you'll receive unfettered access to your doctor, same-day appointments when needed and personal health coaching. "Your doctor knows who you are, your risk factors, your health goals—whether that's exercise, diet or heart attack risk management—and helps you manage it," he says. mdvip.com

02 SLEEP MORE

» "If you sleep less than six hours per night, you're not going to live as long," says Dr. Steven Wilson, an MDVIP physician in Redlands, Calif. Most people need to go through at least five sleep cycles each night (which takes about 7.5 hours) to fully rest and repair body and mind. Research shows that going without this period of rejuvenation nightly increases the risk of diabetes, heart disease, hypertension and anxiety—and could rob your body of healthy years.



03 SEQUENCE YOUR GENOME

» Sequencing your genome gives you a more complete picture of your inherited disease risk factors. With that information, you can outsmart your genes and make informed decisions about what to eat, which medications to take and how aggressively to treat certain diseases. Genos, which sequences your exome (part of your DNA) and provides a genetic counselor to help you interpret your data, is an example of a company in the field. *Genos, 415.300.4477, genos.co*

04 EAT IN COLOR AND IN MODERATION

» Good nutrition is imperative to good health. "Everyone should eat at least five servings of fruits and vegetables a day—of various colors, which represent different phytonutrients," says Wilson. It's also important to stick to a moderate calorie intake. Excess weight is linked to an increased risk of diabetes, heart disease and other metabolic disorders. A diet of produce, lean protein, healthy fats and limited processed foods is best to keep your body functioning well for as long as possible.

05 JUMP

» Hip fractures are a leading trigger of death in older adults, says Dr. Michael Roizen, chief wellness officer at Cleveland Clinic and coauthor of *Ageproof: Living Longer Without Running Out of Money or Breaking a Hip*. There is a simple way to guard against fractures: jumping. A trial published in the *American Journal of Health Promotion* found that women who jumped on a hard surface 40 times a day (20 jumps twice daily with 30 seconds of rest between each jump) increased bone density mass, while those who didn't lost bone density mass. "Jumping is thought to create an electrical current that stimulates the bone and thickens internal bone mass," says Roizen. my.clevelandclinic.org

SLEEP: GETTY IMAGES; GENOME SEQUENCE: RAPHAEL GAILLARDE/GETTY IMAGES



06 PRACTICE SPEED-OF-PROCESSING GAMES

» Researchers followed nearly 2,800 older adults for 10 years and compared those who did speed-of-processing brain games—which measure how quickly one can carry out simple cognitive tasks—with those who did memory or reasoning games. Those adults who focused on brain-processing speed were 33 percent less likely to develop dementia and had a nearly 50 percent reduction in auto accidents. You can find examples of these games on brainhq.com.

07 TRY CALORIC FASTING

» Recent studies by researchers at University of Southern California's Longevity Institute have found a link between controlled caloric restriction and a fortified immune system that combats cellular injury from aging diseases and cancer. The product of this research is the "fast-mimicking diet" (FMD), a five-day "fast" whereby one consumes 700 calories a day in the form of 50 percent fat, 35 percent carbs and 15 percent protein. Proponents say one only needs to do this fast three or four times a year to reap its benefits. ProLon, a prepackaged food plan, helps make the fast more manageable. Check with your doctor before adopting any fasting program. *ProLon, 323.580.6855, prolonfmd.com*

CRAIG VENTER DECIPHERED THE HUMAN GENOME IN JUNE 2000. A GENOME SEQUENCE IS COMPOSED OF THE NUCLEOTIDES ADENINE, THYMINE, CYTOSINE AND GUANINE.



08

EXERCISE SMARTLY

» “Maintaining muscle strength as you age is imperative to long-term health and longevity,” says Rachel Straub, coauthor of *Weight Training Without Injury*. “Higher levels of muscle strength reduce the risk of falls, cardiovascular disease, osteoporosis and all-cause mortality.” To offset the decline of muscle and bone mass that starts around age 35, experts recommend at least 150 minutes per week of moderate cardiovascular activity in addition to regular weight training and stretching. Ask your doctor or trainer about the best exercise plan for you.

INTERVAL TRAINING CONSISTS OF SHORT BURSTS OF INTENSE EXERCISE WITH REST PERIODS, RATHER THAN ONE CONTINUOUS DURATION OF ENERGY.

09

CONSIDER CRYONICS

» Do you believe in life after death? That’s the premise behind cryonics—the practice of freezing the body or brain immediately after death with the goal of revival in the future when there is a cure for whatever ailed you. While no person has been revived yet, there are two places in the U.S.—Alcor Life Extension Foundation in Arizona and the Cryonics Institute in Michigan—where people are cryogenically preserved. “It’s purely a science experiment, but it gives a person the possibility of life after death versus being buried or cremated after death with no possibility of revival,” says Marji Klima, an Alcor representative. It sounds like the stuff of sci-fi fantasies but serious minds are behind cryonics, including investor Peter Diamandis. Enthusiasts are banking on better medical technology tomorrow that will restore their bodies and minds for a second act. Fees for cryopreservation vary depending on the company and the service, ranging from \$28,000 to \$200,000 with a yearly membership fee between \$120 and \$705 that is paid through a trust set up while you are still alive. *Alcor Life Extension Foundation*, 480.905.1906, alcor.org; *Cryonics Institute*, 586.791.5961, cryonics.org

10

REDUCE SUGAR CONSUMPTION

» Studies have found that cutting sugar—even while keeping overall calories the same—can lower circulating triglycerides, LDL (bad) cholesterol, hypertension and high blood glucose, all of which are risk factors for metabolic disorders such as heart disease. The American Heart Association recommends no more than six teaspoons (100 calories) of sugar a day for women, and no more than nine teaspoons (150 calories) daily for men.



EXERCISE: GETTY IMAGES

11

TEST HOW WELL YOUR BODY PROCESSES MEDICINES

» Not every drug works on every person, so making sure your medications are right for you could prevent disease and prolong your life. Companies such as Genelex and Millennium Health offer saliva-based tests that analyze genetic variations in metabolic pathways to determine how well you process various medications. Your physician can order the test to guide him or her in prescribing the most effective medicines with the fewest side effects based on your genetic profile. *Genelex*, 800.837.8362, genelex.com; *Millennium Health*, 866.866.0605, millenniumhealth.com

12

DON'T FORGET THE FISH

» There continues to be mounting clinical evidence for the health benefits of omega-3 fatty acids—they reduce inflammation, rejuvenate skin, improve blood lipid profiles, guard against heart disease and decrease the risk of brain and joint injuries. Though the jury’s out on how effective supplements are versus getting them straight from the source, a 2016 study from the Mayo Clinic solidifies their importance to overall longevity and cardiovascular health in any form. The two types of omega-3 fatty acids you should consume, says Roizen, are DHA (docosahexaenoic acid) and ALA (alpha-linolenic acid). DHA is found in fish such as wild salmon and mackerel, and ALA is found in plant-based foods like flaxseed and walnuts.

TISSUE REGENERATION: JEAN-PHILIPPE KSIAZEK/AFP/GETTY IMAGES

CORD BLOOD THAT IS INTENDED FOR PERSONAL USE OR IMMEDIATE FAMILY DOES NOT REQUIRE FDA APPROVAL BEFORE ITS USE.

13

STORE YOUR BABY'S UMBILICAL CORD BLOOD

» If you or your partner is going to give birth, consider storing the umbilical cord blood. It is a rich source of stem cells, which can be used to regenerate healthy blood and immune systems to treat diseases. Cord blood could help not only your child, but also family members with similar DNA. The material is being used to save lives now, and it’s being studied in potential treatments for immune disorders, cancer, diabetes and other incurable illnesses. The cost is relatively moderate: Cord Blood Registry, for example, charges about \$1,700 for the collection and an annual \$125 storage fee. *Cord Blood Registry*, 888.578.4910, cordblood.com

14

MEDITATE

» Stress causes the body to go into flight-or-flight mode, which raises cortisol levels, increases blood pressure and can cause chronic inflammation that increases the risk for all manner of diseases, says MDVIP physician Wilson. There are many ways to dial down your stress level, but the ancient act of meditation has been shown to reduce stress in a way that actually changes your brain. A 2011 Harvard study found that participants who meditated experienced a thickening of the cerebral cortex in areas linked to attention and emotional integration. And a 2015 study from UCLA demonstrated that the brains of longtime practitioners of meditation had more gray matter volume, which aids in cognition and memory.

15

BE GOOD TO YOUR FAMILY AND COMMUNITY

» Longevity researchers have identified clusters of people who live measurably longer lives, often upwards of 100 years, in regions the researchers term Blue Zones, such as Loma Linda, Calif., and Sardinia, Italy. The populations in these places shared key characteristics including diets rich in fruits and vegetables and regular physical activity. But one of the most important common denominators among these people is that they are socially engaged. They belong to spiritual or religious groups, have a sense of purpose in life, feel connected to their community, take care of aging parents and grandparents, and put family first.

16

PAY ATTENTION TO DEVELOPMENTS IN TISSUE REGENERATION

» Scientists are working on therapies to regenerate organs and turn diseased cells into healthy tissue, essentially eliminating disease. “Our strategy is that your body will become younger and rejuvenated via the process of regeneration and repair,” says Ira Pastor, CEO of Bioquark, one biotech firm in Philadelphia doing such work. Companies like Bioquark are continually seeking funding to push treatments through clinical development. *Bioquark*, 267.507.6155, bioquark.com



17

TRACK EFFORTS TO ROOT OUT DISEASES

» Companies like American Gene Technologies are focused on eradicating specific illnesses. “We are using gene-editing technology to treat disease at its genetic roots and remove most of the major diseases that kill you now,” says Jeff Galvin, the company’s CEO. For instance, researchers are reprogramming DNA in animals to eliminate HIV, and they will move to human trials this year. The company is also working to program out genetic drivers of cancer. “Eventually, every terminable cancer will be gone,” Galvin predicts. *American Gene Technologies*, 301.337.2100, americangene.com

18

BE PROACTIVE ABOUT SCREENING

» If you don’t have a concierge doctor who closely monitors your health, the onus of getting the right screening tests falls on you. “Stay up to date with screenings; without them you’re putting yourself at risk,” says Franjo Vlastic, a gastroenterologist at the Center for Digestive Health in Willoughby, Ohio. These tests are some of the best tools available to identify early disease and nip it in the bud. “For instance, colon cancer is the third-leading cause of cancer death in the U.S., but it’s a preventable disease if caught in time,” Vlastic says. For those who are loath to endure a colonoscopy, which is recommended for people 50 and older, Vlastic suggests the Cologuard test, which involves no bowel preparation or dietary restrictions. It is an at-home test that looks for blood and DNA in stool, and flags cancerous and precancerous cells for further testing. Talk with your doctor about how regularly you should receive screenings such as mammograms, skin cancer checks and readings of cholesterol, triglycerides, blood glucose and other health indicators. *Cologuard*, 844.870.8870, cologuardtest.com

19

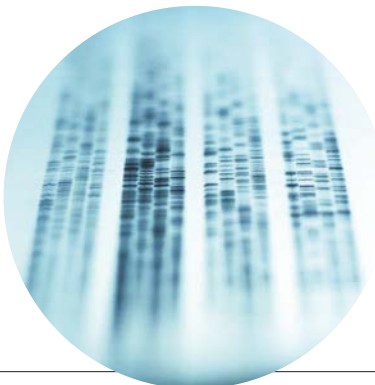
SPICE UP YOUR KITCHEN

» “Spices like turmeric, ginger and cayenne pepper have anti-inflammatory properties and strengthen the immune system,” says Dr. Taz Bhatia, integrative health expert and author of *What Doctors Eat*. A trial published in the journal *Molecular Nutrition & Food Research*, for example, found that turmeric can be just as effective as ibuprofen in treating osteoarthritis of the knee. Other studies indicate that turmeric has the potential to inhibit the growth of cancerous tumor cells and prevent atherosclerosis (hardening of the arteries).

20

LEARN YOUR FAMILY HEALTH HISTORY

» If you don’t choose DNA sequencing, you can still learn about your inherited risk of disease—and how to offset it—by talking with family members. For instance, if you know that a relative carries a mutation of the BRCA1 or BRCA2 gene, which increases the risk for breast, ovarian and prostate cancer, ask your doctor about testing for that mutation. “Getting a genetic test once can help guide prostate cancer screening throughout the entirety of a man’s adult life,” says Dr. Jianfeng Xu, director of the Program for Personalized Cancer Care at NorthShore University HealthSystem in Chicago. “Men who have any pathogenic mutation should consider prostate cancer screening earlier and more frequently.” *NorthShore’s Program for Personalized Cancer Care*, 847.570.4364, northshore.org



TALK TO YOUR PHYSICIAN FOR ADVICE ON THE STRATEGIC USE OF SPECIFIC VITAMINS.

21

SUPPLEMENT, SPARINGLY

» Deficiencies in certain nutrients can raise your likelihood of illness. Though it’s best to get vitamins and minerals through food, it may be necessary to fill some nutritional holes with supplements. “Take B12/B6/B9 vitamins to reduce blood homocysteine levels, thereby decreasing the risk for dementia and stroke,” says Dr. Demetrius Maraganore, medical director of the NorthShore University HealthSystem Neurological Institute. He also recommends vitamin D to improve cognitive function (and build bone mass) and a daily multivitamin. Check with your physician about dosage, brand and possible side effects and drug interactions. *NorthShore Neurological Institute*, 877.570.7020, northshore.org

22

ASK YOUR DOCTOR ABOUT COQ10

» The antioxidant coenzyme Q10 (CoQ10) is necessary for cell function, and levels decrease with age. Because a growing number of studies show that CoQ10 can benefit people with cardiovascular disorders, many experts suggest supplementing with the antioxidant [see Dan Carlin’s “Power Couple” on page 174]. Dr. Sara Gottfried, author of *Younger: A Breakthrough Program to Reset Your Genes, Reverse Aging, and Turn Back the Clock 10 Years*, recommends 100 to 200 mg of CoQ10 per day. (Note: CoQ10 may make warfarin, a blood thinner, less effective.)

DNA FINGERPRINT: COLIN CUTHBERT/GETTY IMAGES



PRODUCE: THOMAS BARWICK/GETTY IMAGES

23

TAKE CARE OF YOUR TEETH

» Gum disease is linked with heart disease, therefore it’s essential to keep up with your dental health even if you’re not concerned about your smile. “Flossing fosters longevity, independent of brushing one’s teeth, as does seeing the dentist at least twice per year,” says Gottfried. An analysis in the *Journal of Aging Research* found that people who never flossed increased their risk of mortality by 30 percent compared to those who flossed every day; skipping the dentist annually increased risk of mortality by 30 to 50 percent compared to people who saw the dentist two or more times per year; and never brushing at night increased mortality risk by 20 to 50 percent.

24

AVOID TOXINS

» Our world is filled with environmental contaminants. There are pesticides in our produce, flame retardant chemicals in our mattresses, parabens and phthalates in our skincare products, mercury in our fish and bisphenol A (BPA) in our plastics, to name a few. These chemicals are associated with a range of problems including cancer, hyperthyroidism, memory loss, impaired fertility and developmental delays in children. While it’s impossible to avoid all of these chemicals, do your best to minimize exposure to them, says Gottfried. Reduce your toxic load by choosing organic food and products as much as possible.

TO BE CONSIDERED ORGANIC, FOODS CANNOT BE PROCESSED USING IRRADIATION, INDUSTRIAL SOLVENTS OR SYNTHETIC FOOD ADDITIVES.

25

GET CUSTOMIZED WELLNESS COACHING

» Seattle-based Arivale is an example of new companies that are taking personalized wellness to a whole new level. For about \$3,500, the company sequences your entire genome and analyzes your saliva, blood and lifestyle to assess factors such as DNA, cortisol levels, blood glucose, lipid panel and gut microbiome. You are also sent a Fitbit that monitors your sleep, physical activity and heart rate, and is incorporated into your profile, which is visible via your online Arivale dashboard. You are then assigned a coach who helps you interpret your data and set health goals—and works with you to achieve them. “Genes are not your destiny but they help us understand your predisposition and potential,” says Clayton Lewis, cofounder and CEO of Arivale. “The coaches help you figure out what to focus on to be healthy for years to come.” *Arivale*, 206.981.5834, arivale.com