How old are you? No, I don't mean how many birthdays you've celebrated. I'm talking about your functional or biological age, which may be years apart from your chronological age. We all know people who appear years younger than they are—and others who seem old before their time.

Lab tests give an overview of basic health status, and blood pressure, handgrip strength, vision, hearing, and treadmill stress tests all provide insight into functional age. Specific gene variations, epigenetic tags that activate or silence genes, and DNA markers such as telomeres are promising biomarkers of aging, and disease burden and medication load are valid indicators as well.

Biological age is a loose concept, and there is no definitive formula for determining it. Nevertheless, we all want to age gracefully. Let's look at some self-assessments you can perform at home that will give you additional clues as to where you stand functionally relative to your chronological age.

Balance: A Key to Longevity

Balance involves the interplay of the senses of sight and touch, vestibular organs of the inner ear, proprioceptors in the muscles—and integration of all this information in the brain. No wonder poor balance is a primary reason for falls in older people.

*One-Legged Standing:* Stand on a hard floor with your arms crossed, barefoot, or wearing sensible shoes. Lift either leg, bending the knee about 45 degrees, and time how long you can stand in that position. Stop the timer when the raised leg touches the floor or the other leg, or your arms move out of position.

*Eyes Closed Variation:* This is similar to the above test but much harder. After raising your foot, close your eyes. Stop the timer when you move or flail around to restore balance. (Have another person or a chair or counter nearby in case you start to fall.)

**Interpretation:** Most people younger than 60 can balance with eyes open for around 40 seconds, but times thereafter drop by about 10 seconds per decade. With eyes closed, average time is 12–15 seconds for younger people, 8 seconds after age 50, 4 after 60, 3 after 70, and 0–2 seconds after age 80. Less than 10 seconds with eyes open suggests impaired balance and less than 5 seconds is associated with increased risk of falls. Some experts consider the eyes-closed balance test, which emphasizes age-related changes in the sensory and nervous systems, one of the best biomarkers of aging.

**How to Improve Balance:** Practice standing on one foot while brushing your teeth, watching TV, etc. Standing on both feet with eyes closed is also good for improving balance as is heel-to-toe walking—one foot directly in front of and almost touching the other. Studies show that tai chi and yoga not only improve balance but also reduce risk of falls.

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America's leading independent health newsletter since 1991
The Breath of Life

Lung diseases are our third leading cause of death, but even in the absence of COPD, lung function declines with age. Results of the old-school “bedside tests” below have proven correlations with more sophisticated testing devices.

**Match Test:** Light a match, hold it about a foot from your mouth, and try to blow it out with your mouth wide open (not with lips pursed like you normally would). Slowly move it closer until you can blow it out and measure that distance.

**Interpretation:** If your lung capacity is normal, you should be able to blow the match out at 6”. Younger people can do this at closer to a foot. The average for people in their 40s–50s is 7–8”.

**Breath-Holding Test:** Take a full, but not too deep breath. Start your timer and hold your breath for as long as you can. Stop the time when you need to exhale.

**Interpretation:** If you can hold your breath for more than 25 seconds, you have normal cardiopulmonary reserve (CPR). Fifteen to 20 seconds is indicative of limited CPR and less than 15 seconds very poor.

**How to Improve Lung Function:** In addition to increasing your cardiorespiratory fitness with endurance exercise, practice this breathing technique. Lying on your back, breathe in deeply through your nose from your abdominal area up through your chest. Hold for a few seconds and exhale slowly, squeezing your abdominal muscles to push out all the air. Repeat for 5–10 cycles. Yoga and meditation practices that focus on the breath are also recommended.

How’s Your Cognitive Function?

Alzheimer’s disease is among the greatest concerns of aging. Although some changes in cognitive function are inevitable, dementia is not.

**Sniff Test:** Gather a number of fragrant items such as coffee grounds, a cut orange, vanilla extract, mouthwash, chocolate, soap, etc. With the help of another person, take turns smelling and trying to identify each item while blindfolded.

**Interpretation:** Loss of sense of smell has emerged as a fairly reliable indicator of neurodegeneration. Researchers had 3,000 older people identify five different odors: chocolate, mint, leather, soap, etc. Those who couldn’t recognize at least four were twice as likely to have developed dementia five years later. Do not be alarmed if your sniffer is off—there are other reasons for olfactory decline.

**Serial 7s:** Count backward from 100 by 7s, subtracting 7 each time. (100, 93, 86…)

**Interpretation:** Serial 7s, part of the popular mini-mental status exam, is not diagnostic on its own, but it does require concentration and memory. Unless you’re math-phobic, you’ll probably do fine on this.

**Ruler Drop:** Have someone hold a ruler or yardstick at the 12–18” mark. Place your thumb and index finger just below and on either side of the other end (0”). As the other person drops the ruler without warning, catch it as fast as you can. Record the mark where you caught it, repeat three times, and average your scores.

**Interpretation:** The lower the number, the faster your reaction time. Younger people generally grab it before the 6” mark. This span gradually increases with age, with those over 60 often catching it at 10–12”—or missing it altogether.

**How to Improve Brain Function:** A healthy diet, physical and mental exercise, and supplements such as curcumin, fish oil, B-vitamins, and resveratrol help preserve cognitive function. And computer-based programs such as BrainHQ and Luminosity, may improve concentration and reaction time.
The Skin We’re In

Wrinkles aren’t an accurate gauge of age because sun exposure also causes skin damage. However, aging does take its toll, as this test clearly demonstrates.

**Skin Pinch:** Pinch the skin on the back of your hand between your thumb and index finger for 5 seconds, then time how long it takes to flatten out and return to normal.

**Interpretation:** Average times: under age 30, 1–2 seconds; 30–44, 3–4 seconds; 45–50, 5–9 seconds; 60, 10–15 seconds; 70, 35–55 seconds; over 70, 56+ seconds.

**How to Improve Skin:** Use sunscreen, moisturize (Aminocare, which boosts collagen and elastin synthesis, is one good product), stay well hydrated, and take multivitamins and omega-3 supplements.

Strength and Flexibility

After age 30, we lose muscle mass with every passing decade—and it speeds up as we get older. Although flexibility is related to genetics and body type, we also get stiffer with age.

**Floor Sitting and Rising:** From a standing position with shoes off, lower yourself to a cross-legged position on the floor, ideally without using your hands or touching your knees to the floor. Then rise to a standing position, again without using your hands.

**Interpretation:** If you can sit down and stand up give yourself 10 points—but subtract one point every time you use your hand or knee for assistance and half a point every time you lose your balance. Very few people over 50 get a perfect 10 and many youngsters struggle with this. Studies show that for every point you score, there’s a 21 percent decrease in risk of death over the next five years. However, 3 or less suggests increased risk.

**Chair Rise:** Place an armless chair against a wall (for stability). Sit in the center of the chair, straight back, arms folded across the chest, feet on floor. Using a timer, see how many times you can rise from standing up straight back to a fully seated position in 30 seconds, without using your arms.

**Interpretation:** Men in their 60s should be able to do a minimum of 12–14 and women of that age 11–12. Averages fall by about one per decade then drop off after age 90.

How to Improve Strength and Flexibility:

Only exercise can slow age-related muscle loss. Practic resistance training regularly, and do yoga or stretching exercises to improve flexibility.

See Into the Future

By age 50, almost everyone has trouble focusing on near objects. But other aspects of vision also change with age.

**Dark adaptation:** Focus on an object such as a chair or bed about eight feet away in a well-lit room. Close the curtains and turn off the lights so the room is quite dark. Note how long it takes you to see the object again.

**Interpretation:** Younger people should be able to make out the object within a few seconds, although maximum dark adaptation from bright light takes 20–30 minutes. It takes longer for our eyes to adjust to the dark as we get older, which can make driving at night more difficult.

**How to Improve Vision:** To stave off age-related eye disease, get regular checkups and take vision-supporting zinc, vitamin C, lutein, and zeaxanthin. Lutein has been shown to increase the density of the macula and improve contrast and glare sensitivity, especially in high- and low-light conditions.

Ask Yourself These Questions

How is your health compared to others your age? Is your walking speed about the same as it’s always been? Can you walk two or three blocks? Climb up and down a flight of stairs? Do your own housework and self-care? Eat a good diet? Take supplements? Manage your stress? Exercise regularly? Get quality sleep?

Your answers to these questions—especially the first one—may be the most reliable assessment of your functional age. And positive responses to most of the rest suggest you can look forward to many more years of health and vitality.

Do not attempt any of these tests if you think they could cause you pain, falls, or injury. Skip those noted with an asterisk (*) if you have joint or balance problems. These tests are not meant to diagnose or predict any disease.
Dear Dr. Whitaker

Q I’m seeing “manufacture” dates on some supplements instead of “best by” dates and I’m confused. How long are supplements good after they are manufactured? — S.S., via email

A Although most reputable companies list best-by or expiration dates, some use the manufacture date when the supplement was bottled or packaged. As a rule, products remain stable and at their full potency for at least two to three years after the manufacture date, but it depends on the supplement. Probiotics, for example, contain live cultures and have a shorter shelf life. That’s why I use expiration dates along with lot numbers to further ensure quality control on all my products. Bottom line, buy from a trusted source that follows Good Manufacturing Practices (GMPs), look for lot numbers and expiration (or manufacture) dates, and if a supplement looks or smells “off,” replace it.

Q What is your opinion of Gardasil, the HPV vaccine? My daughter’s pediatrician is pressuring us to get it. — A.M., Tampa, FL

A My opinion is to pass. The vaccine is supposed to prevent human papilloma virus (HPV) infection and reduce risk of cervical cancer. But cervical cancer is quite rare, and most healthy people clear the virus from their systems naturally. Furthermore, the vaccine isn’t very effective. Gardasil targets only a handful of the more than 100 strains of HPV, so it’s a literal shot in the dark. Research also shows that HPV antibodies go way down within a couple of years, so by the time a girl becomes sexually active, protection may be nil. Last but not least, there have been more than 33,000 reports of adverse reactions to Gardasil, including 117 deaths—more than any other vaccine.

Q Do you have anything for lowering high blood pressure fast? I need clearance for a job I am applying for. My blood pressures were 180/91 and 161/80 on two consecutive days recently. I’m sure it’s due to stress. — A.B., Redlands, CA

A Between now and exam time, cut out sodium and eat more potassium-rich produce, which helps balance electrolytes and lower blood pressure. Drink 8 ounces daily of low-sodium V8 (a good source of potassium) and beet juice (nitrates in beets boost artery-relaxing nitric oxide), along with a multivitamin and lots of water to flush out excess sodium.

On the day of the test, skip the coffee and drink two cups beet juice a couple of hours prior to testing. Get to the doctor’s office early so you’ll have time to sit, relax, and practice 10–15 minutes of deep, slow breathing before test time. (Inhale slowly through your nose for a count of 5, pause, and exhale slowly for a similar count.) Make sure you are sitting in a chair with your feet on the floor rather than dangling off a table and refrain from talking while your blood pressure is taken. Please note these quick fixes are just that. Once you pass your test, focus on long-term lifestyle changes such as diet, exercise, stress management, and supplements that support cardiovascular health.

From My Blog

Resolve to Be Happy

National Geographic recently named Boulder, CO, as the happiest city in America, and the World Happiness Report singled out Norway, Denmark, Iceland, and Switzerland. (The US was #19.) The personal and social criteria these surveys selected, including health, finances, activities of daily life, companionship, and location, seem reasonable. However, happiness is in the eye of the beholder. Albert Einstein wrote in an autographed note that recently sold for $1.56 million, “A calm and modest life brings more happiness than the pursuit of success combined with constant restlessness.” Dan Buettner, author of The Blue Zones of Happiness, lists pleasure, pride, and purpose as the “secret sauce,” while spiritual leaders cite faith, gratitude, and doing things for others. Some experts believe happiness is contagious. Ever heard the saying, “Your vibe attracts your tribe?” Surrounding yourself with positive people increases your chances of happiness. I personally believe happiness is to some degree a choice. Resolve to be happy in 2018—then make it happen.
Works for Me...

Foot Pain/Calluses I developed thick, cracked calluses on my heels that were quite painful when walking for some distance. So I tried O’Keeffe’s for Healthy Feet cream and put it on my heels at night before bed. My heels began healing in a few days and now they are back to normal. The cream is not greasy or strong smelling, and it really works. — Phillip Wright, Roscoe, TX

Thanks for this suggestion. I was not familiar with O’Keeffe’s, but I’m going to try it myself. It’s inexpensive and available online and in drugstores.

Chronic Fatigue I have had chronic fatigue syndrome for some time. Nothing really helped until Dr. Stivi, my doctor at Whitaker Wellness, recommended ATP Fuel. I take this supplement twice a day and it has boosted my energy level tremendously. — Fran Drosman, Irvine CA

ATP Fuel is a favorite of Whitaker Wellness patients. It contains NT Factor, a blend of phospholipids that support and repair cellular membranes and facilitate delivery of therapeutic compounds into the cells. In addition to boosting mitochondrial ATP production and reducing chronic fatigue, ATP Fuel also counters oxidative stress and promotes optimal cellular function. To order, call 800-810-6655.

Back Pain I have three young, active kids and periodically tweak my back. Salonpas pain-relieving patches with menthol, camphor, and methyl salicylate work wonders. I put several of them over the affected area at night and always wake up feeling much better. — Kat B., Austin, TX

These patches get great reviews and are certainly worth a shot for occasional back or neck pain.

Alcohol I enjoy wine in the evenings and try to limit myself to one glass. However, I am the only person in my house who drinks, and with a full bottle, it’s tempting to top my glass off a time or two. I recently discovered a solution: single-serving cans or bottles. I’m no wine connoisseur, but I think they are very good—and the single servings keep me “honest.” — B.W., Phoenix, AZ

Do you have a Health Tip to share? We’d love to hear it! Send it to worksforme@drwhitaker.com.

Health Hack: Can Your Smartphone Make You Healthier?

Hundreds of smartphone apps that promote a healthy lifestyle are now available. For instance, MyFitnessPal tracks foods eaten, calories, and workouts and allows you to set weight loss and other fitness goals. Habitbull challenges you to adopt positive, customizable habits and helps you stay accountable. Stand Up! and Move send regular reminders to be active, and Headspace and Calm help manage stress. Email me at worksforme@drwhitaker.com with your favorite health apps and how they’ve helped you, and I’ll share them in a future issue.

Monthly Health Quiz: What Are the Most Widely Consumed Foods in the World?

Oils: olive, palm, soybean, or canola?
Grains: wheat, rice, millet, or oats?
Vegetables: tomatoes, beans, corn, or potatoes?
Fruits: bananas, oranges, mangoes, or apples?
Meats: chicken, beef, pork, or fish?

Answer:

Worldwide: Palm oil, rice, potatoes, mangos, and pork are the most commonly consumed foods in each category. In the US, it’s soybean oil, wheat, potatoes (mostly as French fries), tomatoes as sauce, and rice.

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Notable Quote

“The time is always right to do what is right.”
— Martin Luther King, Jr.
January 15, 1929—April 4, 1968
“Tired because of iron-poor blood? Feel stronger fast!” “Twice the iron in a pound of calf’s liver.” Do these taglines ring a bell? How about the infamous, “My wife. I think I’ll keep her.”

These slogans promoted Geritol, the best-selling iron supplement from the early 1950s through 1979. Although “iron-poor blood” may have worked as a marketing ploy, it is not the primary cause of fatigue. In fact, supplemental iron often does more harm than good.

Adequate Iron Is Essential…

Iron is an essential mineral required for the production of hemoglobin, the protein in red blood cells that transports oxygen from the lungs to tissues throughout the body. It is also a cofactor in a number of enzymatic reactions and a key component of myoglobin, a protein that stores oxygen in the heart and skeletal muscles.

Without sufficient iron, the blood’s oxygen-carrying capacity declines, resulting in fatigue, lethargy, and shortness of breath with exertion. These are the classic signs of iron-deficiency anemia, a serious condition also linked with developmental problems in children, cognitive decline, ADHD, and other neurological disorders. Although iron deficiency is most common in developing countries, millions of Americans suffer with anemia or suboptimal iron levels.

Anemia may be caused by vitamin B12 deficiency or chronic diseases such as cancer or heart failure, but it is usually related to blood loss. Women who lose iron during their monthly periods and people with bleeding problems such as gastrointestinal ulcers are most often affected. Pregnant women and breast-fed infants are also at increased risk, as are strict vegetarians, children, older people, and others who do not get enough dietary iron or have digestive disorders that impair nutrient absorption.

Deficiencies can and should be corrected with iron-rich foods or supplements. Bringing iron stores into the normal range not only eliminates symptoms of anemia but has also been shown to improve restless leg syndrome and ADHD, reduce unexplained fatigue in women with borderline-low iron levels, enhance memory and learning in adolescent girls, and lower risk of PMS.

…But Too Much Is Harmful

Iron also has a dark side, particularly for individuals with hemochromatosis, an inherited condition that enhances iron absorption and causes it to build up in the joints, heart, liver, muscles, skin, and other organs. Excess iron unleashes free radical activity that damages tissues and dramatically increases the risk of diabetes, heart attack, heart failure, cirrhosis, arthritis, infections, and premature death.

Hemochromatosis can be treated. Unfortunately, iron accumulation is gradual and early symptoms subtle, so it often goes undiagnosed until irreversible damage becomes evident, usually after age 30 for men and 50 for women. About a million Americans suffer with hemochromatosis, but like iron deficiency, there are less severe degrees of iron overload that are routinely overlooked.

Even in the absence of hemochromatosis, elevated iron promotes the growth of pathogenic microbes, alters the gut microbiota, and raises risk of infection. A high intake of iron or surplus iron stores is associated with an increased risk of type 2 diabetes and heart disease, and links have been discovered between high consumption of iron-rich red meat and colorectal cancer. Accumulation of iron in the brain is also a feature of Alzheimer’s and Parkinson’s, and may accelerate disease progression.

Testing Is Important

Ironically, fatigue, lethargy, headaches, and other symptoms are common to both iron deficiency and overload, so you can’t make assumptions.

Most doctors routinely order a complete blood count (CBC), which includes hemoglobin and hematocrit (the percentage of red blood cells by volume of blood). This test picks up anemia but misses more subtle deficiencies. That’s why I recommend testing ferritin, a protein that stores iron in the body. It gives a much better picture of iron status.
Ferritin testing also reveals iron overload. If levels are high, hereditary hemochromatosis should be ruled out by genetic testing. Many people of Northern European ancestry are carriers of the most problematic mutation, but the disorder doesn't develop unless both parents pass on the gene. Other genes and environmental factors also affect risk of iron overload.

**Lowering Highs, Raising Lows**

Hemochromatosis is treated by avoiding excessive iron intake and regular phlebotomy (bloodletting). Less serious iron overload can be managed by diet changes such as going easy on red meat and fortified foods like cereals. Many multivitamins contain iron so read labels carefully, and avoid taking vitamin C with meals, as it increases iron absorption. And consider giving blood. Some studies suggest that healthy people who give blood a couple of times a year have a reduced risk of heart attack.

If your ferritin level is low, do the exact opposite. Eat more red meat, which contains highly bioavailable heme iron. Potatoes, beans, tofu, and pumpkin seeds are good sources of non-heme iron, but it is poorly absorbed—which is why strict vegetarians should stay on top of their iron levels and likely need supplements. Increasing heme iron intake should replenish iron stores within a couple of months.

Supplements are another option. Ferrous sulfate is notorious for causing constipation, black stools, and stomach upset, so I recommend ferrous bisglycinate or slow-release chelated iron, which are pricier but better tolerated. Be aware that tea, coffee, milk, whole grains, and soy protein as well as mineral supplements, antacids, and protein pump inhibitors hamper absorption, so space them an hour or two apart. Vitamin C, on the other hand, boosts absorption.

As you can see, there’s a sweet spot for iron—too little or too much can harm your health. Don’t start popping iron pills before testing. You may need them, but healthy, well-fed men and postmenopausal women are more likely to have iron overload than “iron-poor blood.”

**Reference**


—I was having issues with all areas of my body and mind. I struggled to walk on the treadmill for 20 minutes, and after just a few exercises I was spent. Mentally, I lacked vitality, and whereas I had always been a positive person, I was increasingly negative.

“Because of my family history, I was very concerned about having a heart incident. My doctor’s only recommendation was a statin drug. I tried it for three months, but it did horrible things to my body that took a year to rectify. I didn’t want to just wait for something bad to happen but didn’t know where to turn.

“I first went to Whitaker Wellness in early 2017. Heavy metal testing revealed extremely high levels of lead, mercury, and other metals, so I started EDTA chelation therapy. It took a month or two to see results, but my wife, friends, and I all noticed a change. I was more energetic, had a more positive attitude at work, and my zest for life returned.

“Three months after starting treatment, I was able to work out for an hour on the treadmill and do weights for half an hour. I now have my stamina, energy, vigor, and vitality back. It has been a godsend.

To make an appointment at the Whitaker Wellness Institute, call 800-488-1500 or visit whitakerwellness.com.
Innovations in Wellness Medicine

Vitamin D for Asthma

One out of every 12 people in America—roughly 25 million total—is afflicted with wheezing, chest tightness, and breathing difficulties related to asthma. Many of them turn to oral, inhaled, or injected steroids during acute attacks. But what if a supplement could help prevent flare-ups from occurring in the first place? In a review study published in *Lancet* involving more than 1,000 adults and children with asthma, researchers found that vitamin D reduced the risk of attacks requiring steroids by 30 percent and slashed risk of asthma-related hospitalization in half. Not surprisingly, the greatest benefits were reaped by people with low baseline vitamin D levels (less than 25 ng/mL).

Everyone should check their vitamin D levels and take enough vitamin D3 (typically 2,000–5,000 IU per day) to bring levels into the 40–60 ng/mL range. Even if you don’t have asthma, vitamin D will support your immune system and overall health and help stave off colds, flu, and other infections.

Light Therapy for Low Libido and Testosterone

Gentlemen, let’s shine a light on sexual desire—literally. European researchers treated men who complained of low libido with light therapy: 30 minutes of high-intensity light exposure daily. After two weeks, their testosterone levels increased significantly and their sexual satisfaction scores tripled. Even though this research is preliminary and light therapy seems a little out there, they’re on to something. Levels of testosterone, the “hormone of desire,” naturally decline during the darker days of winter and begin rising in the spring and summer.

Testosterone replacement therapy is a more reliable option for men with low levels. In addition to positive effects on sexual desire and function, it improves bone and muscle mass, boosts energy and mood, and protects against heart disease. You read that right. Despite sensationalized headlines to the contrary, the latest research clearly shows that testosterone replacement is associated with a reduced risk of cardiovascular problems. And although it shouldn’t be used by men with prostate cancer, it is firmly established that testosterone therapy does not cause prostate cancer. For more information on treatment with bioidentical hormone replacement therapy at Whitaker Wellness, call 800-488-1500.

Health & Healing Resources

- Renew Your Subscription . . . . . . . . 800-539-8219 (M–F 9 AM–5 PM EST)
- Buy Supplements . . . . . . . . . 800-722-8008 or drwhitaker.com
- Sign Up for My Free E-News . . . . . . . . . . . . . . . . . . . . . . . . . . . . . drwhitaker.com
- Make an Appointment at Whitaker Wellness . . . . . . . . . . . . . . . . . . . . . 800-488-1500 or whitakerwellness.com

Coming In Future Issues:

- Making Sense of All the Conflicting Diet Advice
- Snoring: Beyond Sleep Apnea
- New Research on Alzheimer’s Disease

Did You Know?

- If your shadow is taller than you, you aren’t getting enough UVB radiation to produce vitamin D.
- Almost half of all medical care in the US is delivered in emergency rooms.
- Although 10% of Americans think they’re allergic to penicillin, only 1% actually are.
- The average person unlocks his or her smartphone 80 times a day.
- Our epidemic of nearsightedness is linked to children spending more time indoors.
- Fear of spiders and snakes is an inborn, evolutionary response.
- The American Red Cross won’t accept blood donations from people with hemochromatosis, but the FDA and other countries allow it.
- Antibiotics are a safe and effective alternative to appendectomy for most cases of acute appendicitis.
- White rice, powdered milk, whole wheat, dried beans, corn, vinegar, sugar, honey, and instant coffee and tea will keep for decades.
- Fetal death rates in Flint, MI, rose by 58% after lead levels in tap water soared in April 2014.