

We used to think our fate was in the cards—or in the stars. Now, thanks to research unlocking the secrets to living longer and better, we know different. It turns out that 70% of the factors influencing life expectancy are due to good choices and good luck—not good genes.

What are the moves that will peel off the years? *Prevention* asked dozens of scientists studying aging, exercise, nutrition, and related fields which changes deliver the biggest payoff. Turn the page for their picks—powerful enough to make these researchers adopt them in their own lives.

Prevention's anti-aging guide

How to take off 10 years or more—
and look and feel better than ever

BY ANDREAS VON BUBNOFF AND JOANNA LLOYD

1 stay the weight you were at 18

“Next to not smoking, this is probably the most important thing we can do to stay healthy and live longer,” says Walter Willett, MD, chair of the department of nutrition at the Harvard School of Public Health.

Leanness matters, because fat cells produce hormones that raise the risk of type 2 diabetes. They also make substances called cytokines that cause inflammation—stiffening the arteries and the heart and other organs. Carrying excess fat also raises the risk of some cancers. Add it

up, and studies show that **lean people younger than age 75 halve their chances of premature death**, compared with people who are obese.

The government deems a wide range of weights to be healthy (between 110 and 140 pounds for a 5-foot-4 woman), partly because body frames vary tremendously. So to maintain the weight that’s right for you, Willett suggests you periodically try to slip into the dress you wore to your high school prom—assuming, of course, that you were a healthy weight at that age. If not, aim for a body mass index of about 23.5.

Willett can’t use the prom-dress test himself. Nevertheless, at 6-foot-2 and a lean 184 pounds, he dutifully hews to the BMI of his youth.

2 take the dynamic duo of supplements

They’re what Bruce N. Ames, PhD, a professor of biochemistry and molecular biology at the University of California, Berkeley, swears by: his daily 800 mg of alpha-lipoic acid and 2,000 mg of acetyl-L-carnitine. In these amounts,

he says, the chemicals boost the energy output of mitochondria, which power our cells. “I think mitochondrial decay is a major factor in aging,” Ames says—it’s been linked to diseases such as Alzheimer’s and diabetes. In his studies, elderly rats plied with the supplements had more energy

and ran mazes better. “If you’re an old rat, you can be enthusiastic,” Ames says. “As people, we can’t be sure until clinical trials are done.” (They’re under way.) But the compounds look very safe—the worst side effect documented in humans is a rash, Ames says—and “the data in animals looks really convincing,” says S. Mitchell Harman, MD, PhD, president of the Kronos Longevity Research Institute in Phoenix.

3 skip a meal

This one move could have truly dramatic results. Rats fed 30% less than normal live 30% longer than usual—and in a recent study at the Washington University School of Medicine in St.



Louis, the hearts of the leaner human calorie-cutters appeared 10 to 15 years younger than those of regular eaters. In other research, calorie restrictors improved their blood insulin levels and had fewer signs of damage to their DNA. Eating less food, scientists believe, may reduce tissue wear and tear from excess blood sugar, inflammation, or rogue molecules known as free radicals.

Edward Calabrese, PhD, and Mark Mattson, PhD, have opted for “calorie restriction lite.” Calabrese, a professor of toxicology and environmental health sciences at the University of Massachusetts, Amherst, dumped the midday meal. Mattson, chief of the laboratory of neurosciences at the National Institute on Aging, has done without breakfast for 20 years. *Try it* Skip a meal a day. You don’t need to try to cut calories; Mattson’s research suggests you’ll naturally consume less that day. Or try fasting one day a week. Just drink plenty of water.

4 get a pet

Open up your home and heart to Rover or Boots. Owning a pet reduces the number of visits to the doctor, prolongs survival after a heart attack, and wards

off depression, says James Serpell, PhD, director of the Center for the Interaction of Animals and Society at the University of Pennsylvania. (His family has a cat, a dog, a large green iguana, a bearded dragon, and a dozen fish.) **Pet ownership also protects against a major problem of aging: high blood pressure.** In one standout study at State University of New York, Buffalo, stockbrokers with high blood pressure adopted a pet. When they were faced with mental stress, their BP increased less than half as much as in their counterparts without animal pals. But pick your pet with care. There is nothing stress-reducing about a dog that chews the baseboard to bits.



OPENING SPREAD: STOCKBYTE; LEFT: ERIK RANK/BOTANICA/JUPITERIMAGES; RIGHT: LACOPPOLA-MEIER/PHOTONICA/GETTY IMAGES

5 get help for what hurts

Studies suggest that continuous pain may dampen the immune system—and evidence is clear that it can cause deep depression and push levels of the noxious stress hormone cortisol higher.

So enough with the stoicism: Take chronic pain to your doctor and keep complaining until you have a treatment

Tanaka, PhD, an associate professor of kinesiology and health education at the University of Texas, advises after tracking the elasticity of people's blood vessels using ultrasound.

With age, blood vessel walls tend to stiffen up like old tires—the main reason two-thirds of people older than age 60 have high blood pressure. Exercise keeps vessels pliable. **Mild exercise**

also reduces the risk of diabetes, certain cancers, depression, aging of the skin, maybe even dementia. That excites exercise researcher Steven N. Blair, past president of the nonprofit Cooper Institute in Dallas. He's run nearly every day for almost 40 years. "Not bad for a 66-year-old fat man."

7 fight fair

Nasty arguments

between couples increase the risk of clogged arteries. In a recent University of Utah study, women's hearts suffered when they made or heard hostile comments; men's hearts reacted badly to domineering, controlling words. "It's normal to have a fight with your spouse—it's a matter of *how* you fight," says Ronald Glaser, PhD, an immunologist at Ohio State University. What he and his wife, Ohio State clinical psychologist Janice Kiecolt-Glaser, PhD, put off-limits: "Getting nasty, sarcastic,

plan that works, says Nathaniel Katz, MD, a neurologist and pain-management specialist at Tufts University School of Medicine. Your mood will improve—and your immune system may perk up, too.

6 take a hike

To make the walls of your arteries twice as flexible as those of a couch potato, just walk briskly for 30 minutes, 5 days a week. That's what Hirofumi

or personal, or using body language like rolling your eyes. It's better to simply agree to disagree."

8 stop and plant the roses

Gardening or being around plants bears fruit. In one study, blood pressure jumped in workers given a stressful task—but rose only a quarter as much if there were plants in the room. And patients who had a view of trees as they recovered from surgery left the hospital almost a day sooner than those with a view of a brick wall.

9 hoist a few (weights, that is)

Everyone knows cardio exercise is key to slowing the advance of time. More surprising: Strength-training is crucial, too. That's because after their mid-40s, people lose ¼ pound of muscle mass a year, gaining fat in its place. But, says Miriam E. Nelson, PhD, an associate professor at the Friedman School of Nutrition at Tufts University, "**For a couple of decades, you don't have to lose any muscle, if you do the appropriate exercises.**" Even people well into their 90s can regain muscle, she's found. Just lift weights 2 or 3 days a week, for a

the biggest bang

The top seven steps you can take to stay young:

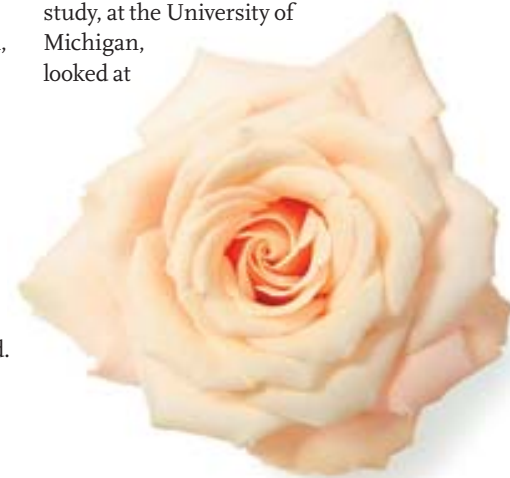
- Take brisk walks
- Keep your waist trim
- Eat a wide variety of fruits and vegetables
- Strength-train a few times a week
- Get enough sleep (most people need 7 or 8 hours nightly)
- Manage your stress
- Keep a positive outlook

minimum of 30 minutes. The payoff: more endurance, stronger bones, less risk of diabetes—and better sleep and thinking. Nelson rock climbs and does plenty of other weight-bearing exercise.

10 do a good deed

Pick up trash in the park or shop for a neighbor who needs help, says William Brown, PhD, a lecturer of psychology at Brunel University, West

London. He studied people in Brooklyn and found that those who had a denser social network and gave more to their friends and family than they received—whether the gift was in the form of money, food, advice, or time—reported feeling healthier than others, even when he factored in activity levels. Another study, at the University of Michigan, looked at



LEFT: RUBBERBALL PRODUCTIONS/GETTY IMAGES; RIGHT: MELANIE ACEVEDO/BOTANICA/JUPITERIMAGES

423 elderly married couples; after 5 years, the pairs who were more altruistic were only half as likely to have died. “Many people grow up thinking it’s a dog-eat-dog world,” Brown says. “But there’s a lot of data that suggests **the best way to be healthy is to be kind to others.**”

11 eat a rainbow...

...made of vegetables, says Peter Greenwald, MD, director of the division of cancer prevention at the National Cancer Institute. Their cancer-preventing abilities are unparalleled. Remember: Aim for nine servings of fruits and vegetables each day.

12 sup from the sea

Don’t just slap anything with fins onto your plate: You want fatty fish, such as salmon, sardines, and lake trout. They contain the omega-3 fatty acids DHA and EPA, which many studies show help prevent sudden death from heart attack. Omega-3s may also help ward off depression, Alzheimer’s disease, and age-related macular degeneration, a leading cause of blindness—and maybe some cancers, although evidence is mixed.

To get more of the benefits of good fats, snack on an ounce (a handful)



of walnuts a day. Use less corn oil, and more canola and olive oils. Greg Cole, PhD, a professor of medicine and neurology at UCLA, also avoids cookies, margarine, and snack foods such as chips, which are loaded with unhealthy trans fats. On his menu: two tuna sandwiches plus a couple of DHA-enriched eggs a week. He takes 2 g of fish oil daily.

13 belt out a tune

Exposing yourself to music might help boost your immune system: In a study done by Robert Beck, PhD, a professor emeritus at the University of California, Irvine, levels of an infection-fighting antibody called IgA increased 240% in the saliva of choral members performing Beethoven’s *Missa Solemnis*.

14 drink a cuppa

Intrigued by studies (of mice, cells in lab dishes, and people) that say

tea may fight prostate and breast

cancer and heart disease, researcher Anna Wu, PhD, a professor of preventive medicine at the University of Southern California, downs at least 3 cups daily.

Green is best, although black tea confers some benefits, too.

15 whittle your waist

To determine if your body is staying young, the tape measure is better than the bathroom scale: Your weight can remain the same while you lose muscle and pack on fat, including visceral fat, the culprit behind a thick waist. It’s linked to a heightened risk of age-related ills such as high blood pressure, diabetes, and heart disease. If your waist measures more than 35 inches (for a woman) or 40 inches (for a man), you probably have too much belly fat.

The best way to shed that inner load: exercise, says Kerry Stewart, EdD, director of clinical and research exercise physiology at the Johns Hopkins University School of Medicine. In a 6-month study of 69 men and women, he found a 20% reduction in visceral fat, though participants lost only 5 pounds. Stewart’s program was brisk but not too arduous: 45 minutes of moderate-intensity aerobics three times a week and 20 minutes of moderate-intensity weight training, also three times weekly.

16 double up on D

If there’s one vitamin supplement you should take, this is it, experts say. Vitamin D is made in the skin when sun hits it—but as people get older, the D factory doesn’t work as well. About half of Americans fall short. Research suggests that a lack of D raises the risk of osteoporosis, multiple sclerosis, and various cancers.



“No other nutrient is so widely deficient in the United States,” says Meir Stampfer, MD, chair of the department of epidemiology at the Harvard School of Public Health. “Unless you eat a lot of fish, you have to supplement.” Stampfer takes 1,800 IU daily in the winter and 800 to 1,200 IU a day the rest of the year. Make sure your supplement contains vitamin D₃, the form the skin makes.

17 dine on curry

Turmeric, the spice that makes curry yellow, is loaded with curcumin, a chemical with potent antioxidant and anti-inflammatory properties. In

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India, it's smeared on bandages to help heal wounds. East Asians also eat it, of course—which might explain why they have lower rates than we do of various cancers and Parkinson's disease and Alzheimer's disease. (Animal research is promising.) Cole, of UCLA, makes sure he gets a good dose of Indian food with "lots of yellow stuff" three times weekly. Don't like the taste? Try a daily curcumin supplement of 500 to 1,000 mg.

18 donate blood

The life you save may be your own. Many researchers think that we take in too much iron, mostly from eating red meat. Excess iron is thought to create free radicals in the body, speeding aging and raising risk of heart disease, cancer, and Alzheimer's. Until menopause, women are naturally protected from iron overload, but after that the danger of overdose climbs.

Preliminary studies suggest you can **lower your risk of heart disease by regularly giving blood**. Thomas Perls, MD, an associate professor of medicine at Boston University who leads the New England Centenarian Study, donates a unit every 2 months. He has a rare blood type, so he's helping others—and he may get something out of it, too. If you're scared of needles, at least go easy on red meat: no more than a daily serving the size of a pack of cards.

19 look out for your eyes

Getting plenty of omega-3s in food or supplements may help ward off age-related macular degeneration. Plant antioxidants such as lutein and zeaxanthin (found in leafy green vegetables like kale and collards) are helpful, too. People who have drusen—tiny deposits within the retina that can be early signs of macular degeneration—can **reduce their risk of blindness in both eyes by 25% if they take a supplement**, says John Paul SanGiovanni, ScD, a staff scientist at the National Eye Institute. What to take, according to his study: 500 mg of vitamin C, 400 IU of vitamin E, 80 mg of zinc, 15 mg of beta-carotene, and 2 mg of copper.

20 take fern extract for your skin

Studies suggest that the antioxidant-rich extract of the South American fern *Polypodium leucotomos* may help keep your skin youthful by protecting against free radicals and reducing inflammation. Until clinical trials find proof, "it's like chicken soup—it can't hurt and it might help a bit," says dermatologist Mary Lupo, MD, a *Prevention* advisor and a clinical professor of dermatology at the Tulane University School of Medicine. Lupo takes 240 mg every morning in a supplement called Heliocare, made by Ivax Dermatologicals. She also slaps on broad-spectrum sunscreen and Retin-A daily and eats

a diet loaded with colorful fruits and vegetables—blueberries, raspberries, grapefruit, broccoli, spinach. It may also help to drink green tea and nibble flavonoid-rich dark chocolate, she adds. What you *must* do: Avoid excessive sun exposure and don't smoke.

21 take a deep breath

Strife at work, bumper-to-bumper traffic, little Will's report card: Stress increases the concentration of the hormones cortisol and norepinephrine in our bloodstream, kicking up blood pressure and suppressing the immune system. Chronic stress delays wound healing, promotes atherosclerosis, and possibly shrinks parts of the brain involved in learning, memory, and mood. "**The key is lowering the concentration of those stress hormones,**" says Bruce Rabin, MD, PhD, medical director of the Healthy Lifestyle program at the University of Pittsburgh Medical Center. He's devised a research-based program that mutes the hormone flow: It includes meditation, deep breathing, writing, chanting, and guided imagery. Check it out at <http://healthylifestyle.upmc.com>.

Deep breathing is the top antistress pick of *Prevention* advisor Andrew Weil, MD: He makes time for it at least twice a day. "It only takes 2 minutes," he says. "I do it in the morning, when I'm falling asleep in the evening, and any time I feel upset." *Technique* Exhale strongly through the mouth, making a *whoosh* sound. Breathe in quietly through the

nose for a count of 4. Hold your breath for a count of 7; then exhale with the *whoosh* sound for a count of 8. Repeat the cycle three more times.

22 hey—turn it down!

Exposure to noise damages the delicate hair cells of your inner ears. So **when you're around loud noise, wear earplugs**—the cheap type you can buy at the drugstore, or pricier ones that preserve sound quality. Andy Vermiglio, a research audiologist at the House Ear Institute in Los Angeles, offers free hearing tests at trade shows for audio engineers (aka sound guys). He can always tell which 40-year-old engineer was religious about ear protection and which one was careless: The latter typically has the hearing of a 70-year-old.

23 get more shut-eye

Some sleep problems raise the risk of high blood pressure, heart disease, and diabetes—maybe even obesity. Everyone's sleep needs are different; to find out what *yours* are, sleep experts recommend you turn off the alarm clock when you're well rested, and see how long you naturally sleep. (Most people need 7 to 8 hours.) While you're at it, ask your spouse if you snore. Snorting and honking through the night are signs that you may have sleep apnea, which causes you to stop breathing at least five times an hour; it raises your risk of stroke. An estimated 18 million

Americans have the disorder, but many don't know it, reports the National Sleep Foundation. Doctors are more likely to miss sleep apnea in women, says Joseph Kaplan, MD, codirector of the Mayo Sleep Disorders Center in Jacksonville, FL—and women may not want to mention their unladylike habit. Ladylike, schmadylike. Tell your doctor.

24 drop that hot potato

High-glycemic foods, rich in quick-digesting carbohydrates, can cause blood sugar spikes and crashes and contribute to overeating and diabetes risk—which accelerates aging.

We need to retrain our taste buds, says Willett. **What to ditch: sugary drinks. And cut way back on America's favorite veggie, the potato.** It has the highest glycemic index of any vegetable, sending more sugar rushing into the bloodstream faster. Willett's team at Harvard recently found that over a 20-year period, women who ate more whole grains and fewer spuds had a 20 to 30% lower risk of type 2 diabetes. His

carb picks for his own dinner: brown rice and whole grain bread, and sometimes whole wheat pasta or bulgur.

25 put on your rose-colored glasses

"Embracing some of the positive aspects of aging is helpful," says Becca Levy, PhD, an associate professor of epidemiology and psychology at Yale. She found more than a 7-year survival advantage for older men and women with a positive attitude toward aging, compared with people who have a negative one.

If you're a cranky sort, you might also want to tweak your attitude about other things. "People who have a goal in life—a passion, a purpose, a positive outlook, and humor—live longer," says Robert Butler, MD, president of the International Longevity Center in New York City.

Embrace life, and the coming of old age—it happens to all of us. If we're lucky.

Andreas von Bubnoff has written for *Nature*, the *Los Angeles Times*, and the *Chicago Tribune*. **Joanna Lloyd** writes often on health and medicine.