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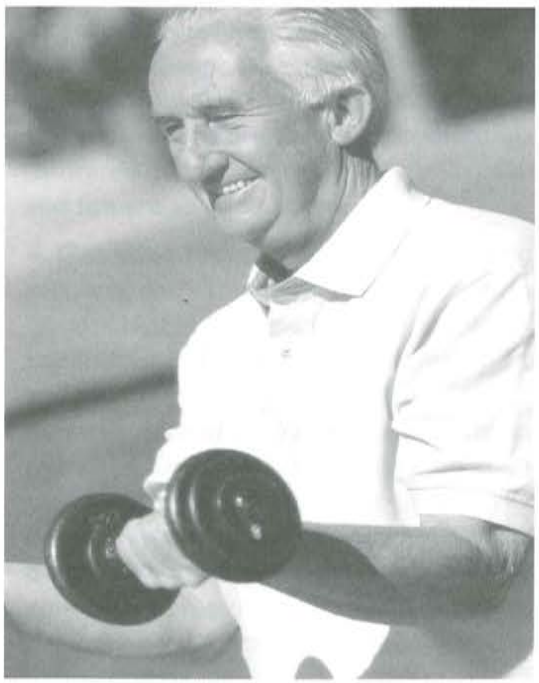
Stay Sharp, Stay Strong, Stay Healthy

The New Harvard Medical School Guide to Successful Aging



Harvard Medical School
Trusted advice for a healthier life

What to do now to stay independent in your later years

We all hope to stay active and independent for the rest of our lives. And most of us want to stay in the familiar surroundings of our own homes and neighborhoods, rather than move to an assisted living or continuing care community, or—worse—a nursing home, a prospect so devastating that, according to a study published in the medical journal BMJ, many older women who suffer hip fractures say they would rather die than face it.

Fortunately, there are ways to help ensure that you never have to make such a dire choice. Addressing a handful of health risks at midlife can profoundly affect your ability to continue living independently. Meanwhile, new concepts and technologies are helping to make staying in our own homes and communities an attainable goal for increasing numbers of us. Below are some steps you can take—and recommend to friends and aging parents.

Safeguarding your health

A 20-year nationwide survey of people ages 45 to 74, published in the Archives of Internal Medicine, identified five health problems that substantially boost the risk of admission to a nursing home:

- **Smoking.** Smoking increased the likelihood of a nursing home admission by 56% in the younger group and by 32% in the older group.
- **Inactivity.** Among those ages 45 to 64, physical inactivity boosted the risk of entering a nursing home by 40% (although it had no significant impact at older ages).
- **Obesity.** In the 65-to-74 age group, obesity increased the risk by 31% (although it had no significant impact at a younger age).
- **Diabetes.** Among those ages 45 to 64, diabetes more than doubled the risk of eventually entering a nursing home.
- **High blood pressure.** High blood pressure also increased the risk, by 35% in the 45 to 64 group and by 29% in the older group.

These problems contribute to many chronic illnesses that can cause disability and death as we age, including heart disease, stroke, osteoporosis, and certain cancers. The effect was even greater when risk categories were combined. For example, diabetic smokers in the younger group were five times more likely to enter a nursing home than people the same age with no risk factors.

What to do

Taking steps to address these five factors could reduce not only the risk of a future nursing home admission but also the chance of premature death. Fortunately, most are within our control.

Here are several things you can do to preserve your independence throughout life. Keep in mind that these changes interact and reinforce one another; the more you adopt, the greater the potential payoff:

1. If you smoke, talk to your doctor about options for quitting. We all know that smoking is bad for health, but here's a quick reminder of how bad: it's harmful from before birth to the end of life, raising the risk of cardiovascular disease, cancer, respiratory disease, osteoporosis, macular degeneration, and cataracts.

2. Become more active. Just 30 minutes of brisk walking five days per week reduces the risk of heart attack, stroke, and diabetes; lowers blood sugar levels; decreases depression; and helps activate genes that clear fat and sugar from the bloodstream. Upping your physical activity level to 60 to 90 minutes most days of the week can help you lose weight—and keep it off.

3. Improve your diet through some simple changes. Add more servings of dark green, red, orange, or yellow vegetables or fruits to your daily intake, with a goal of reaching nine servings per day. And switch to healthier fats: skip trans fats, choose fewer saturated fats, and get more healthy fats (monounsaturated and polyunsaturated oils and omega-3 fatty acids). Plant oils, nuts, and fish are all good sources.

4. Get your blood pressure under control. Exercise regularly, don't smoke, and consider adopting the classic DASH eating plan **(www.nhlbi.nih.gov/health/public/heart/hbp/dash)**, a diet high in fruits, vegetables, and low-fat dairy products and low in red meats (and other sources of saturated fats), sweets, and sodium (salt). The OmniHeart trial, published in 2005, showed that you can lower blood pressure even more by eating fewer carbohydrates and more healthy fats and protein. If improved diet and increased exercise alone don't bring your blood pressure under control, prescription antihypertensive medications may help, as long as you take them consistently.

5. Talk to your doctor about bone mineral density (BMD) testing. All women ages 65 and over should have their BMD tested. If you're at high risk for osteoporosis, your clinician may recommend screening at an earlier age. Be sure to get adequate calcium (1,000 to 1,200 mg per day) and vitamin D (800 to 1,000 IU per day).

Depression is another risk factor for nursing home admission. A 2007 European study that analyzed information from 11 countries on adults ages 65 and over receiving home care services found that the more severely depressed a person was, the more likely she or he was to be admitted to a nursing home. There are several possible explanations. Depression can chip away at immune function, heart health, self-care, and the ability to stay active and connected with others. If you think you might be depressed, talk to your clinician about antidepressants and psychotherapy.

How your social life protects your brain and memory

Can simply socializing with friends and family protect your brain and your memory as you age? Research has shown that people who have a small or nonexistent social circle or who are generally less engaged with other people are at greater risk of developing memory loss.

A 2008 study put this association to the test by drawing on data from the Health and Retirement Study (HRS), a biannual survey of older adults that began in 1992 and is funded by the National Institute on Aging. Subjects in the HRS are a representative sample of U.S. residents over age 50.

Investigators from the Harvard School of Public Health used information gathered from more than 16,000 HRS subjects between 1998 and 2004. Because the study spans several years, the researchers could draw conclusions about the crucial issue of causation. They could ask, does being socially active protect against memory loss? Or is it the other way around—do people who suffer cognitive decline tend to socialize less than average?

The results were impressive. People with the highest levels of interaction with family, friends, and other people were more likely to retain cognitive functioning. This connection was particularly prominent among people most at risk for dementia: those who had fewer than 12 years of education and those with "vascular conditions" (defined as high blood pressure, diabetes, or stroke). And since social interactions were measured before cognitive decline was apparent, the cause-effect relationships seem to hold up.

Another study done at Kaiser Permanente Southern California, a large health maintenance organization, looked at the effect of social networks on more than 2,200 female members. These participants, who were at least 78 years old, did not show any symptoms of dementia in 2001, when the study started. The women were given follow-up interviews over the next four years. The authors found that women with large social networks were less likely to develop dementia than were more isolated women. This finding held up when the researchers controlled for age, education, and depression and other health conditions.

How social contact helps

The two studies do not tell us how social integration protects against cognitive decline, but the authors suggest some possibilities. Regular social contact may not only promote healthier behaviors but also make it easier to get medical help when necessary. For example, friends and family may give helpful nudges to get a troubling symptom evaluated by a doctor, and then offer a ride to the medical office. Individuals may feel motivated to do what others in their life are doing to take care of themselves. And group pursuits may simply lead to more activity and exercise.

In addition, when people are more integrated into a social network and feel supported in their relationships, they may experience less stress—and avoid triggering stress hormones that may interfere with brain function. A rich social life may also be more emotionally and intellectually stimulating, exercising the brain and fostering better neuronal connections and even nerve cell growth.

The authors acknowledge the limitations of both studies. It would have been useful to have more detail about the quality of participants' social connections. And one of the studies only included women. Nevertheless, the studies were unique because of the large pool of data obtained over several years. The results support the theory that social networks are a boon to intellectual health in later life.

Clinicians and policymakers can now take note: programs that keep older adults engaged and involved in their social life are likely to yield good results. Until the pharmacological treatment of dementia improves, relationships may be the most powerful treatment we have.

Creating new social connections in your life

Over time, social bonds can be broken. Older adults often face a time when close friends and relatives die. That's why it's important to grasp opportunities to expand your social circle and deepen ties you've already made:

- **If you normally wait for others to reach out, pick up the phone and propose a date.**
- **Make a difference in someone's life.** Explore some of the many volunteer opportunities available, from wielding tools to spruce up affordable housing to mentoring a child or businessperson.

• **Consider rejoining the work force.** AARP lists employers who tend to be senior-friendly and has tips on buffing up your skills when searching for work. Besides bolstering your finances—which might be necessary—a job can offer opportunities to connect with others.

• **Harness the warmer side of technology.** E-mail and telephones extend our reach around the world. Libraries and senior centers may offer free online time and may even help you set up a free e-mail account.

• **Find like-minded individuals through organizations or hobbies that interest you.** Local newspapers are a good source of this information.

• **Return to the classroom.** Learn a new skill, brush up on an old one, or pursue a passion. Local colleges and adult education centers offer up a variety of new experiences—from learning to sail to studying art history to finding out how to make the perfect crème brûlée.

Beginning regular exercise: Better late than never

If you are a middle-aged "couch potato" and don't exercise regularly, here's some news that should be of interest to you.

Even if you're over 50, you might still prolong your life by starting an exercise program. But Swedish researchers have found that the positive effects don't happen immediately; it takes about 10 years for the life-enhancing effect to appear. The Swedish study kept track of 2,205 men for more than 20 years, beginning at age 50. Researchers divided them into groups based on exercise levels. In the first five years of the study, death rates were lowest among those who exercised the most. But some men started to exercise between 50 and 60. After 10 years, their death rates were as low as those of men who had exercised all along. Exercise made as big a difference in death rates as quitting smoking, researchers said.

Exercise saves lives

More than 2,000 men were studied and asked about their physical activities. They were first examined and questioned at age 50, and then four more times between ages 60 and 82. The researchers found that men who were inactive had the highest death rates. Those men who were already very active were least likely to die in the follow-up period.

But the most interesting results pertained to men who had been inactive, but began to exercise during the course of the study. For these men, exercising regularly for 10 years or more decreased their death rates. This study looked only at men, but it is reasonable to think that women could also see similar benefits.

So now we know that beginning regular exercise in middle age eventually can lead to a longer and probably better life. So start moving. It is never too late to become physically active.

Where to start

If you don't exercise, now may be a good time to begin. It might add years to your life. It probably will make you feel better as well.

• **Check with your doctor if you have questions about safely starting an exercise program.** This is very important if you are older, have been inactive, or have medical problems. But remember that the greatest risk might be not exercising at all, so once your doctor gives you the green light, get started.

• **Make the commitment to exercise.** It takes patience and hard work, but also provides many rewards, both physical and mental.

• **Set your exercise goals and plan your program.** What do you want to do? What do you like to do? Think about what types of exercise will work with your life style, your job, and your family. Remember to start with a warm-up, and end with a cool-down and stretching.

• **Include activity to increase your heart and lung fitness (aerobic exercise), endurance, flexibility and muscle strength.** All are important for your overall fitness and longevity.

• **Aim to exercise at least three times a week, preferably more.** If you already do mild exercise a few times a week, try exercising every day.

• **Once you are doing moderate daily exercise, try bursts of more intense activity.** This is known as "interval training." This is very good for your heart and blood vessels.

• **Be careful when exercising in extremely hot weather.**
It's better to wait until the temperature cools down or to exercise in an air-conditioned space.

If you decide to begin a regular exercise program, you can certainly hope to live longer and live better. And if you really do make exercise a regular part of your daily life, you probably will learn to love it!

Preventing falls in later life

Among older people, men are more likely to die from a fall, but women are more than twice as likely to suffer a fracture—especially a hip fracture, which often results in long-term impairment and nursing home admission. At almost every age, falls are the leading cause of injury in women.

Simply being afraid of falling can affect mobility and independence. A study published in the April 2008 Journal of the American Geriatrics Society found that 60% of 673 older community–dwelling adults who said they were worried about falling avoided or restricted everyday activities, such as shopping, bathing, walking outdoors, and visits to relatives or friends. These self-imposed limits were associated with declining ability to handle the tasks of daily living over the following three years.

What you can do to prevent falls

If you're concerned about falling, have your clinician assess your situation, prescribe a plan to put you on a safe track, and help set your mind at ease. She or he can evaluate your gait (how steadily you walk), the sensation in your feet, your medications, your vision, and your muscle power—for example, whether you have sufficient strength to rise from a chair or recover your balance easily. Your clinician may refer you to a physical therapist or other professional who can suggest anti-fall techniques and ways to improve the safety of your home.

To avoid falls, try some of these proven strategies:

- **Exercise.** Weak muscles, poor balance, and limited flexibility due to arthritis often turn trips into falls. In one study, a fall prevention program comprising strength training and balance exercises reduced falls and fall-related injuries by 35% in people ages 80 and over. Yoga or tai chi is also helpful. For example, in a study of previously inactive women in their 70s at Harvard's Spaulding Rehabilitation Hospital in Boston, 12 weeks of tai chi was better than brisk walking for balance, leg strength, and flexibility. In a study reported in The Journal of the American Geriatrics Society, a 15-week program of tai chi reduced the rate of falls by nearly 50% in a group of elderly people.

- **Check your vision.** Age-related vision changes also contribute to accidents and falls. Have regular eye exams, and keep your glasses or contacts up to date. One randomized trial found a reduction in falls among women over age 70 after cataract removal, although not all studies agree on the effects of that procedure.

- **Review your medications.** The body's response to medication, prescription or over-the-counter, changes with age. Some medications—narcotic pain relievers, antihypertensives, and certain tranquilizers, for example—may cause drowsiness or dizziness or otherwise impair balance. These side effects (like all side effects) are more likely to occur if you are taking multiple medications. Regularly review your medications with your clinician, and discuss the possibility of dropping or changing those that may be causing troublesome side effects.

- **Remove home hazards.** Many fixes are simple and inexpensive:
  - Improve your home's lighting with higher wattage, fluorescent bulbs, or additional lamps. Night-lights or other nighttime lighting may also help.
  - Coil loose electrical wires, and affix them safely along walls.
  - Keep stairs and walkways uncluttered.
  - Repair torn carpeting.
  - Remove throw rugs or secure them with nonslip backing or double-sided tape.
  - Rearrange kitchens and closets so that you can easily reach the items you use most often.
  - Install handrails on stairways and landings, and put light switches at the top and bottom of stairways.
  - Use nonslip strips or rubber mats in tubs or showers.
  - Install grab bars in tubs or showers and near the toilet.

Age and job performance

It's impossible to deny that things change as we age. Among other things, reaction times, sensory-motor skills, and fine coordination tend to decline as we gain in years. At the same time, though, added years provide added experience.

The question is, can experience, knowledge, and judgment compensate for subtle mental and motor changes? Two very different studies suggest that seniority does have its compensations.

Senior pilots

The Federal Aviation Administration (FAA) requires all commercial airline pilots to retire at age 65. However, general aviation pilots do not face a similar maximum flying age. Is it safe for older pilots to take command in the cockpit?

To find out, researchers from the Stanford University School of Medicine studied 118 general aviation pilots between the ages of 40 and 69; most were men. Each volunteer was checked annually for three consecutive years. The evaluations included a battery of cognitive function tests and five tests of flying ability and performance in a computerized flight simulator.

The older pilots scored lower on the baseline tests at the start of the study. Interestingly, however, the older pilots maintained their skills over time better than the younger individuals. In addition, the most experienced and expert pilots scored high on the initial round of tests and then showed fewer declines over time than the pilots with less experience.

"Flying" a simulated single-engine plane over flat terrain and near mountains is one thing, piloting a 747 quite another. The Stanford study doesn't address the FAA's retirement age. But it does show that training and experience can compensate for the tick of the clock, and that age itself does not necessarily predict performance. And if you don't believe Stanford researchers, just ask the 155 people whose lives were saved when 57-year-old Captain Chesley B. "Sully" Sullenberger landed disabled US Airways Flight 1549 in the Hudson River on January 15, 2009.

Staying young

There is no fountain of youth, nor are there any medications or supplements that can slow the aging process. But simple lifestyle changes can help keep your mind and body young as the years pile on. Here's how:

- Avoid tobacco.
- Stay physically active.
- Stay mentally active.
- Eat right.
- Stay connected with people and your community.
- Keep your blood pressure, cholesterol, blood sugar, and waistline under control.
- If you choose to drink, stop at one or two a day.
- Reduce stress and get enough sleep, recreation, and fun.

Senior surgeons

Many patients feel most comfortable with doctors who have a few streaks of gray, but they may balk at selecting a surgeon with a shock of white hair. It's another case of experience versus age; when it comes to surgeons, what's the right balance?

Researchers from the University of Michigan tackled the question by examining Medicare's records of operative mortality in about 461,000 patients who had undergone one of eight surgical procedures. For each operation, they compared the results for surgeons age 40 or younger with those 41 to 50, 51 to 60, and over 60. The study also determined how many operations each surgeon performed. In analyzing the results, the researchers took patient characteristics and hospital attributes into account.

There was no link between the surgeons' age and the operative mortality for five of the eight operations. For three particularly complex operations (removal of the pancreas, coronary artery bypass grafting, and carotid endarterectomy), the surgeons above 60 had somewhat poorer results than those between 41 and 50. Even so, high-volume surgeons over 60 did as well as their younger peers, even on these difficult operations.

In the OR, as in the air, experience counts.

Practice, practice, practice

These two studies tell us that practice and experience can go a long way toward compensating for the tick of the clock. And the message is not restricted to pilots and surgeons. To stay sharp, keep learning and doing. Remember, too, that physical activity protects the mind as well as the body.

Beyond pills: 5 conditions you can improve with lifestyle changes

We've gotten used to taking pills for much that ails us. But prescription drugs are not infallible and many have been pulled from the market or slapped with a warning by the FDA, due to health-threatening side effects.

We don't lack for alternatives. Plenty of research shows that exercise, diet, and other lifestyle changes are effective weapons against many chronic diseases. But there are more findings about preventing diseases with so-called lifestyle changes than there are about treating them.

Let's be honest: there's a wonderful convenience to taking a pill. It's just so much easier than changing what we eat, mustering up the time and willpower to exercise, or fighting the uphill battle of weight loss. Doctors see this and, understandably, figure medication is a more dependable, and responsible, way of treating a disease.

But for those wary of taking medications who want to take the road less traveled, here's a brief overview of five common conditions and approaches to managing them without medication or supplements.

1 Exercising to ease arthritis

If you're heavy and the problem is arthritic knees, losing weight won't make the arthritis go away, but there's a good chance it will make it less painful—and that's what most people care about. Research results published several years ago showed that combining some weight loss (5.7% of body weight) with moderate exercise will result in less pain and improved mobility for heavy people with arthritic knees.

Even for those who aren't heavy, exercise that doesn't put "load" on the joints—swimming and bicycling are good examples—works to reduce pain. For walking, the right shoes can make a huge difference for people with arthritic knees. A padded heel can cut in half the force with which your foot hits the ground with each stride. A knee brace is another thing to try. It can realign the knee, taking pressure off the "compartment" of the joint that's the most arthritic.

Activity that targets certain muscle groups is a proven pain reliever; beleaguered knees respond well to stronger quadriceps, for example. Some rain on the exercise parade: exercise may be more beneficial—and practical—for people with relatively mild cases of arthritis.

2 Eating for healthier cholesterol

You can adjust your diet in several ways to lower levels of "bad" LDL cholesterol. Your LDL level may drop by 5% or so if you keep foods high in saturated fat (namely, meat and full-fat dairy products) off the menu. Every additional gram of soluble fiber per day—the sort of fiber found in oatmeal, beans, nuts, and fruit—may reduce LDL levels by about 2 mg/dL. Diets that have included margarines fortified with sterols—compounds that block cholesterol absorption—have brought about LDL drops of 10% to 20% in some studies. And in others, low-fat, "plant-based" diets that are very heavy on the vegetables (10 servings a day) and legumes and nuts (four servings a day) have dialed down LDL levels by almost 10%.

The problem is that all of these approaches fall short of what the statin drugs can accomplish: a drop of 25% to 35% in LDL. The exception may be a diet that includes a veritable dream team of LDL-lowering foods (plant sterols, soy protein, soluble fiber, and almonds). It has managed to match effects of statins in several short, head-to-head studies.

And HDL, the "good" cholesterol? Exercise is probably the best way to boost levels. Inactive people who start to exercise regularly have seen their HDL levels increase by as much as 20%. Moderate alcohol consumption (one or two drinks a day) is another HDL booster. Excess weight, smoking, and diets heavy in easy-to-digest carbohydrates depress HDL levels, so changes in those areas can give your HDL a lift.

3 Mental—and physical—exercise to avoid cognitive decline

Memory training and other "brain exercises" seem to help healthy older people stay sharp, although there's been some question about how well the gains translate to real, everyday activities. Scores of studies have been done and, by and large, the results in people with early, and even full-fledged, Alzheimer's have been positive. Several studies have shown that structured "cognitive stimulation" programs administered by caregivers at home may help Alzheimer's patients. But there are questions about the quality of a lot of the research showing positive results. Moreover, the bar for success is set pretty low: a positive finding is often a slowing of the rate of cognitive decline, not reversing it.

Evidence for the mental benefits of physical exercise may be stronger and more consistent than the evidence for mental gymnastics. A study published in 2007 is typical. It showed that even a simple, hour-long exercise program twice a week had a positive effect on the ability of Alzheimer's patients in nursing homes to perform daily activities.

4 Physical activity to relieve depression

Many studies have found that regular physical activity seems to have an antidepressant effect. Some research has shown that a fairly strenuous exercise program results in a 50% decrease in depressive symptoms, a drop comparable to that seen when people take antidepressant medications or receive cognitive behavioral therapy. The particulars of the program seem less important than sticking with it. Physical activity may affect the brain directly by boosting neurogenesis: brain cells grow a bit and make more connections where it counts.

It may not be just the physical activity alone that improves mood. Consider everything that can come with it: camaraderie if you exercise with others, the psychological boost from adhering to a challenging routine, the relief of focusing on something besides your problems. The exercise-as-antidepressant formula does have a major problem: one common feature of depression is that nothing seems enjoyable or worthwhile. Finding the motivation to exercise may be a huge, even insurmountable, hurdle for some.

5 Lifestyle changes to lower high blood pressure

If there's one condition that you can change without a pill, it's high blood pressure or, as doctors call it, hypertension. Take your pick: lose some weight, get more exercise, eat less sodium, change your diet. They all work.

If you're heavy, each 2 pounds of weight loss—easier said than done, we know—translates into a 1–mm Hg drop in systolic (the top number) and diastolic (the bottom number) blood pressure. Regular exercise can even lower your blood pressure if you don't lose weight.

Eliminating about three-quarters of a teaspoon of salt (1.8 grams of sodium) from your diet each day may drop your systolic reading by five points and the diastolic by three. Trials of vegetarian diets have shown that they can reduce systolic blood pressure by 5 mm Hg. The Dietary Approaches to Stop Hypertension (DASH) diet is even better, lowering systolic blood pressure as much as 12 points and diastolic pressure by five. DASH dieting does involve eating a lot of fruits and vegetables (seven to nine servings a day) and low-fat dairy products (two to three servings a day), plus whole grains, nuts, poultry, and fish, all while keeping saturated fat, red meat, and sweets to a minimum. If you've got the discipline to follow DASH and keep your salt intake low, the decrease in blood pressure is comparable to that seen with high blood pressure medications.

Any of these lifestyle strategies will also make blood pressure-lowering medication more effective. Whether they can replace the pills depends on how high your blood pressure is. Current guidelines recommend lifestyle changes for prevention and control of high blood pressure, but they aren't terribly optimistic about the control part, predicting that most people with high blood pressure (defined as 140/90 and above) will need to take one or two medications. Even at lower readings, if someone has other health problems (diabetes, for example), most doctors will prescribe blood pressure pills. But weight loss, exercise, and diet can make lower dosages possible and even eliminate the need for medication altogether.

8 nutritional approaches to healthy aging

Numerous products from lotions and creams to dietary supplements are promoted as ways to prevent or slow down the aging process. Yet there is no hard scientific evidence that any of these items are effective. In fact, in the December 2008 issue of *Scientific American,* 51 researchers who study aging stated their concerns over the growing number of anti-aging products and their promises that can't be delivered.

Gerontologists (experts in aging) advocate instead that people focus on staying healthy and well so they can enjoy their favorite activities into middle age and beyond. Eating a balanced diet, which supplies all the necessary nutrients for health, is an important part of a healthy lifestyle. Here are the key factors that influence your nutritional health as you age.

1 Calorie needs

As we get older, our resting metabolic rate declines. This can lead to unwanted weight gain, which can increase your risk for certain chronic diseases. This decrease in metabolic rate is related to the loss of lean body mass as we age. To help lessen this effect:

- Increase your physical activity so you burn more calories.
- Begin resistance training to strengthen your muscles and add muscle mass, which raises your metabolic rate.
- Improve the quality of your diet by including whole grains, fruits and vegetables, lean protein, and nonfat or low-fat dairy.
- Enjoy your favorite foods in moderation; practice portion control to manage your caloric intake.

2 Protein

Protein is necessary for tissue growth, repair, and maintenance. Despite the need for fewer calories as we age, it's important to eat an adequate amount of protein each day.

- The average adult needs 45 to 60 grams.
- Choose high-quality protein foods, like 3 ounces of chicken (21 grams), 8 ounces of nonfat or low-fat milk (8 grams), and 1 cup cooked lentils (18 grams).
- Legumes, eggs, nonfat or low-fat dairy products, fish, poultry, and lean meat are good choices.

3 Dental health

It is estimated that 80% of adult Americans have periodontal disease. Good dental hygiene practices can help prevent it. If left untreated, periodontal disease can lead to problems with your teeth and chewing. As a result, you may avoid foods like fresh fruits, vegetables, and meats. To prevent periodontal disease:

- Have yearly dental exams and cleanings.
- Brush your teeth after meals or after consuming high-sugar foods.
- Floss on a regular basis.

4 Taste

The senses of taste and smell are sometimes dulled by the aging process. Smoking and some medications can also alter your sense of taste. To preserve taste and smell:

- Stay hydrated; adequate saliva is necessary to fully taste food.
- Resist overusing the salt shaker.
- Use herbs and spices to enhance the flavor of food.

5 Antioxidants

There's no definitive data that antioxidant supplements, like vitamin C or E, can help prevent chronic diseases or delay the aging process. In fact, the known health benefits occur from eating foods rich in antioxidants (whole grains, fruits, and vegetables), not from taking supplements. Include more of these in your diet:

- almonds
- bell peppers (especially red and orange)
- blueberries
- dark green leafy vegetables
- strawberries
- tomatoes.

6 Calcium and vitamin D

The majority of our bodies' calcium is in our bones. This mineral is needed for the proper function of the nervous system, muscle contractions, and blood clotting. Adequate calcium intake is crucial for the prevention and treatment of osteoporosis; vitamin D is essential for the absorption of calcium. New evidence indicates that adults need more than the current recommendations, especially those who live in northern climates where there is less sunlight. (The body makes vitamin D from exposure to sunlight.)

- Dairy foods are still the best source of calcium because the body can easily absorb the calcium in them.
- Some experts recommend that adults eat 1,200 to 1,500 milligrams of calcium per day. If you take a supplement to reach this amount, make sure it contains calcium carbonate or calcium citrate.
- Vitamin D is not widely found in foods except for fortified dairy products, so you may need to take a supplement.
- New recommendations for vitamin D intake may be closer to 1,000 international units rather than the current recommendation of 200 to 600 international units, depending on age.

7 Dietary supplements

Health care professionals generally do not recommend dietary supplements unless a person has a vitamin or mineral deficiency or a malabsorption problem. More and more research is showing that food, not pills or commercial drinks, is the best source of nutrients. Keep in mind:

- With vitamins, more is not always better; a multivitamin and mineral supplement should be all you need to make up for any shortfalls in your diet.
- Vitamin D and, in some cases, calcium are the only supplements you need when consuming a healthy diet.
- There is insufficient evidence to promote antioxidant supplements for health.

8 Water

Water is often the forgotten nutrient. But getting enough fluid is needed for almost all bodily functions.

- Healthy adults need about 1.5 to 2 liters, or 48 to 64 ounces, of fluid per day.
- The sensation of thirst decreases as we age, which leaves us vulnerable to dehydration.
- Focus on fluids that are not diuretics, such as decaffeinated beverages, fruit juices, nonfat or low-fat milk and, of course, water.

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