



The Secret to Staying Young and Healthy

Exercise slows the aging process and fights off many diseases

by Edward L. Schneider, MD, and Elizabeth Miles

You need only to watch kids playing in a park to remember how natural exercise used to feel. For the young, running, jumping, dancing, and kicking are fun--pure play. My son Samuel has energy to burn. He hits the swing set every day after school not because he wants the workout, but because it feels good.

Somewhere in the teen years, though, exercise levels drop off precipitously, probably as adolescents spend more time on schoolwork and worrying about the opposite sex. For most Americans, this is the beginning of the end--the loss of exercise as play and a new perception that it's just another job. Seventy percent or more of older Americans fail to get the exercise they need.

But exercise is more important than ever now. Overall fitness is the primary determinant of independence in later years, while cardiovascular conditioning is a critical factor in preventing the heart attack that ends most people's lives. The truly good news is that **it's never too late to get fit.**



One of the uncontested facts in aging research is that **people who exercise not only live longer, they live better. Here's what some important studies found:**

- The **Harvard Nurses' Health Study** focused on the exercise habits and lifespans of 85, 326 female nurses across the country over the course of 14 years. From this large, diverse group a unifying fact emerged: The more the women exercised, the longer they lived. But the improvements were by no means most dramatic for marathon runners or gym fanatics. Instead, the biggest increase in lifespan was found when women went from less than an hour per week of exercise to an average of 1 to 2 hours of weekly workout time--a seemingly slim difference with big implications. Moderately paced walking was the women's favorite form of exercise.
- A 22-year study of 2,014 men in midlife found that physical fitness was a strong predictor of mortality. Even small improvements in exercise habits significantly lowered the risk of death for these people in their peak productivity years.
- One of the most exciting findings of the **MacArthur Foundation Study of Successful Aging** was that the senior participants who were physically active had the best preserved mental function 10 years later. This is important evidence that a sound body and mind go hand in hand for life.

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Protect Heart Health

Exercise does wonderful things for your cardiovascular system. It conditions the heart muscle itself, lowers bad LDL cholesterol while boosting good HDL cholesterol, reduces high blood pressure, and keeps triglyceride levels in check. **Regular workouts are one of the best ways to prevent heart attack and stroke, statistically the most likely causes of death for everyone.**

A 1999 study found that women who regularly engaged in brisk walking reduced their risk of heart disease. The time put in by a 5-hour group paid off significantly, but even the walkers at the low end of the scale upped their odds against our top killer by nearly a third.

So I'm not talking about a trivial improvement in your longevity quotient here. Just getting off the couch will deliver a double-digit reduction in your risk of cardiovascular disease, as much as 30 percent.

People at extra risk for heart disease have even more reason to exercise, since a regular workout routine is

one of your best defenses against the development and progression of this disease. Red flags for increased heart disease risk include smoking, being significantly overweight or obese, and having high blood pressure, high cholesterol, a family history of heart attacks, or diabetes.

Stop Stroke

The first cousin to a heart attack (the closing of one of the coronary arteries that feeds the heart) is a stroke, which is the closing of one of the arteries that supply blood to the brain. Stroke is the nation's number-three cause of death in older people. Strokes aren't always fatal, but they can often result in permanent impairment of physical and mental functioning, making them a leading cause of disability among the elderly.

A 1999 study of 20,000 male physicians found that those who managed to get one or more vigorous weekly workouts into their busy schedules had a significantly diminished risk of stroke. The greatest stroke risk reduction--19 percent--was found in the group that exercised vigorously just once a week. You don't need a lot of workout time to ward off this disease.

The Nurses' Health Study tested the stroke-stopping power of exercise on 72,488 female nurses and found once again that the greatest risk reduction occurred with the first increment of exercise--between those who exercised less than 1 hour a week and those who exercised 1 to 1.9 hours a week. The risk of stroke continued to decline with additional exercise.

Prevent and Control Diabetes

The rate of adult-onset or type 2 diabetes, a serious lifestyle-related disease marked by the inability of the body to use insulin effectively, is rising so fast that public health officials have declared it a national epidemic. With age and added pounds, our ability to convert blood sugar into energy can decline, leading to a condition known as insulin resistance. Face this change passively, and your risk of type 2 diabetes increases dramatically. Get active, and you can make great strides toward preventing diabetes or managing the condition if you have it.

Experts consider exercise and diet the most important preventive measures you can take against diabetes. For one thing, diet and exercise work together to reduce excess weight, a major risk factor for type 2 diabetes. Furthermore, the muscle contractions required by exercise remove sugar from the bloodstream, stabilizing blood sugar levels and helping to prevent development of insulin resistance. For people with diabetes, getting physically fit and losing a few pounds can reduce or even eliminate the need for insulin and other medications to control blood sugar.

Reduce the Risk of Cancer

Regular exercise is known to reduce the risk of three of the deadliest cancers--breast, lung, and colon--as well as pancreatic cancer, a particularly aggressive form that is almost 100 percent fatal. Consider these statistics.

Breast Cancer

A study following 25,000 Scandinavian women for more than a decade found that those who exercised at least 4 hours a week reduced their breast cancer risk by 33 percent--a full third.

Lung Cancer

In a survey of 13,905 Harvard alumni who graduated from 1916 to 1950, the inactive men were 40 percent more likely to develop lung cancer than those who did even moderate amounts of exercise.

Colon Cancer

The National Health and Nutrition Examination Survey (NHANES I) followed 5,138 men and 7,407 women for a decade and found that inactive individuals had a 60 percent greater risk for colorectal cancer than participants who exercised.

Pancreatic Cancer

Walking or hiking more than 4 hours a week reduced the risk of pancreatic cancer, the deadliest of cancers, by 54 percent in a large-scale study of 117,000 women and 46,000 men. Again, moderate activity was all that was required for this protective effect.

Studies of prostate cancer, another potentially deadly cancer, are less conclusive, but evidence suggests that exercise may lower the risk for this type of cancer, too.

Strengthen Bones

You may exercise to gain strength and sculpt your muscles, but did you know that the benefits of exercise penetrate deep into your bones, as well? Like muscles, bones gain or maintain density with the workout they get from weight-bearing activity. Exercise at any age can help bolster and preserve bone mass, and so it becomes even more important as the years go by, especially for women at risk for osteoporosis.

Boost Brainpower

The once well-entrenched idea that we're born with all the brain cells we'll ever get has been immolated by the landmark discovery that neurogenesis, or the production of new brain cells and connections between them, continues throughout adult life. This good news was first noted by Fred Gage at the Salk Institute in California. The race is on to uncover what triggers neurogenesis, and it looks like two important factors figure in: mental and physical stimulation, and the reduction of stress, which can kill brain cells. Exercise does both.

Following in Gage's footsteps, Salk researcher Henriette van Praag found in 2001 that adult rats who worked out on a running wheel were creating new brain cells at a rate astonishingly higher than their sedentary friends. While it's harder to study brain cell response to exercise in humans, evidence does show that physical exercise can improve people's performance on various mental tasks.

Exercise looks to be even more important to the brain in later life, when physical fitness provides powerful protection against dementia and Alzheimer's disease. One of the highlights of my work on the MacArthur Foundation Study of Successful Aging was discovering that the participants who exercised the most had the best mental function 10 years down the road.

Relieve Stress

From daily pressures to life-changing trauma events, modern life is highly stressful, with real consequences for your health. While organization and planning are good stress reducers--it's always a good idea to prepare for that big meeting, allow extra commute time for traffic, and make checklists to pull off your daughter's wedding hitch-free--one of the best ways to manage stress is a regular exercise regimen. By relaxing muscular and mental tension, **exercise controls stress hormone levels and improves both your energy and your sleep.** For this reason alone, exercise belongs on your to-do list. Think of it this way: No matter how busy your schedule, you will always accomplish more if you take the time to exercise.

Move for Just 30 Minutes

Many people think that workouts without blood, sweat, and tears are worthless--so forget about it. On the contrary, the latest evidence shows that just 30 minutes of moderate movement a day can make the difference. An adequate workout doesn't have to be painful or hard. In fact, in 1995 the American College of Sports Medicine lowered its minimum recommended exercise intensity level from 60 percent to 50 percent of your maximum heart rate.

What's more, you don't have to do it all at once. Short exercise sessions are just as beneficial as long ones, as long as you get at least 30 minutes' worth each day--and small choices like walking up stairs instead of taking the elevator add up to big health gains when done regularly.

Soothe Arthritis

Osteoarthritis, the painful stiffening of joints from age or overuse, will hit us all if we live long enough. Rheumatoid arthritis, an autoimmune disease with more crippling symptoms, can strike at any time. For sufferers of either type of arthritis, movement is so difficult that the idea of exercising seems completely counterintuitive--however, a number of studies have shown that exercise can actually reduce pain and improve the function of diseased joints. No one knows how it works, but it does.

By toning muscles, improving posture, training the body to transfer weight, and extending your range of motion, a fitness routine can help you continue to move gracefully for years to come.