

Strength training is the fountain of youth

If you think you're doing a good job warding off the ravages of aging by getting the recommended 30 minutes of moderate exercise four days a week, you might want to think again, particularly if your work out is limited to aerobic exercise.

Everyone talks about how important it is to have excellent cardiovascular health, and certainly the aerobic workout that you get on the treadmill, stationary bike, elliptical or just walking, will increase endurance, circulation and longevity. However, having the heart of a marathon runner doesn't protect you from falling and breaking bones, from age related muscle loss, or from joints that ache and don't work well. It turns out that as we age, strength training in the form of lifting weights is as important if not more important than aerobic exercise.

Most people lose 20 to 40 percent of their muscle tissue as they get older. There is nothing you can do to stop this. Our joints also go through change. The process of aging causes the ligaments that attach tendons to bone get brittle and weak. As many of us know through personal experience, this unfortunate process begins in our 40s. The slippery pads between the bones dry out, they start to crunch and creak when you move, you start to hurt, and before you know it, you are not springing up from the couch any more.

And then there is bone loss. You reach peak bone mass by age 30, and then lose 1 to 2 percent per year for the rest of your life. Falling, resulting from loss of balance as we age, becomes

another significant hazard. There are one and a half million fractures — hip, spine and wrist — from falls each year. Many of these become lifetime disabilities.

The good news is all of this is reversible through strength training. And it turns out that you don't have to drip testosterone in the gym to reap the benefits. Strength training with weights just two days a week for the rest of your life can reverse muscle weakness and bone loss. Lifting weights is the single most important thing you can do to avoid the horror that comes with crippling falls, broken bones and debilitating injury.

Miriam Nelson, Ph.D., whose research created news worldwide when the results were published in the *Journal of the*

American Medical Association in 1994, showed that after a year of strength training just twice a week, women's bodies were 15 to 20 years more youthful. Strength training stopped the clock on bone loss. Her research proved that it is inactivity, not age, that causes our muscles and bones to deteriorate. Without drugs, the women regained bone, helping to prevent osteoporosis. They became stronger, in most cases even stronger than when they were young. Their balance and flexibility improved. They were leaner and trimmer without changing what they ate. One of the best ways to prevent and even reverse the effects of aging is to strength train. And this goes for the guys too.

There is no way to escape losing muscle cells as you age,

nor do you build new muscle cells with strength training. But you can build up the surviving cells, which will offset that loss. What strength training does is build new muscle mass inside the remaining cells. Research shows that this potential growth in the remaining cells is amazing, enough to keep you strong and fit for the rest of your life. The bottom line is although you lose half of your muscle cells over the course of your life, you can still live strong into your 80s. Lifting weights a couple of times a week stops bone loss, stops muscle loss, stops the weakening of tendons, restores the joints and stops the pain.

An added benefit is the effect on your metabolism. Our base metabolism goes down as we age, but you can change your metabolism and burn twice as many calories a day as projected for your age if you have the lean muscle mass that comes from doing weight training. The point of exercise is not to "burn off" calories while you are at the gym, but rather to tell your body to grow, to build new tissue and to run at a higher metabolic rate all day and all night long, even while you are just sitting around or sleeping. Those extra calories you burn sitting around are how you lose weight.

Weight training can be

harder than it looks, particularly if you are doing it right, which many people aren't. It's worth working with a trainer, at least in the beginning, to avoid the risk of injury. Many gyms now offer strength training in group classes, eliminating the monotony of the work-out routine. The general recommendation is that free weights are better than machines. Weight machines stabilize the body, while free weights demand that you stabilize the body with your own muscles. Free weights can include barbells, dumbbells and hand weights. You can even use soup cans or used milk jugs filled with sand for home workouts. If

joining a gym is not your cup of tea, a convenient and inexpensive alternative is to purchase a stability ball with an instruction video and pairs of hand weights for working out at home. You will want to work both upper and lower body. And even though strength training is critical, don't neglect the aerobics.



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