

SportsNutrition

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The Athlete's Kitchen

Like it or not, every one of us is getting older, day by day. As a fitness exerciser or an athlete, you might wonder how aging impacts performance—and what you can do to retain youthful energy. The following information is gathered from a workshop (www.sportsnutritionworkshop.com) offered by Dr. William Evans, an exercise physiologist and expert on aging, muscles, and protein. The following information can help you chart a healthy course into your future.

- The average person loses about 1% of their fitness per year. Aerobic capacity goes down, particularly after age 60. Staying active helps maintain a slighter higher oxygen uptake than a non-athlete, but the rate of loss is the same.

- Muscle is an active tissue (as compared to body fat). The more muscle you have, the more calories you can eat without getting fat. Yet muscle loss creates a subtle change in metabolism that can contribute to weight gain with aging.

- We lose muscle as we age, starting as young as age 20, with a steady decline year after year. To treat this age-related loss of muscle, you need to lift weights or do other forms of resistance exercise. Yet, even strong athletes still lose some muscle with aging.

- With aging, the average person loses more fast-twitch muscle fibers (used in sprinting) than slow-twitch fibers (used for endurance). This loss starts early in life and explains why elite sprinters peak in the early 20s. In comparison, elite distance runners maintain their slow-twitch muscle fibers until age 40ish. But even top athletes notice they slow down after age 40, at which time the nerves that connect to muscles start to die off, resulting in a loss of both slow- and fast-twitch fibers. Athletes can lose about 20% of their muscle fibers between ages 40 and 70.

- With age, we not only lose muscle but also tend to gain fat. It's easy to eat more even though we need less. The cause of weight gain is not due to "slow metabolism." Metabolic rate remains constant, but daily activity easily declines! A study with obese people suggests they sat 3 hours more per day than their lean peers; this saved them 350 calories per day.

- Body fat secretes adipokines (hormones) that have negative effects on muscle and contributes to increased inflammation, particularly after ages 60 to 70. Inflammation contributes to heart disease and diabetes. Some body fat gets stored within the muscles; it reduces strength and increases the risk of becoming diabetic. Hence, fatness is a powerful predictor of disability in people ages 50 to 75. Stay lean!

- When young people gain weight, about one-third of the weight gained is lean muscle. When older people, in particular older women, gain weight, it's all fat. yet, when older people lose weight (due to illness or a low-calorie diet), half of the weight lost is muscle. Hence, yoyo dieters who gain fat and lose muscle are on a downward spiral. Being fat but fit is preferable to going on and off diets.

- Muscle loss is the key reason why older people end up in nursing homes. When they stop exercising, they experience a steep drop in strength. The good news is they can reverse frailty by lift weights! In only 12 weeks, 60- to 70-year-old men regained the fitness they had lost over 15 years.

Getting Older, Day by Day

- To maintain (but not gain) strength, a person can lift weights just one day a week. Lifting weights does not stress the heart nor increase blood pressure. Aerobic exercise actually causes a greater increase in blood pressure because it uses more muscles and more oxygen, which means the heart has to pump more blood than with strength training.

- Even 90-year-olds in a nursing home can triple their strength in 10 weeks. That means they can walk faster, get to toilet by themselves, be less depressed, and stay in the independent living part of elder-care housing. Tell your parents and grandparents to start a weight lifting program so they can stay out of the nursing home!

- How much weight should people lift to build muscle? Three sets; the first two sets should have 8 reps; the final set is to exhaustion. If you can lift a weight 12 times in the final set, you need to lift heavier weights the next time. Because muscle damage stimulates muscles growth, you want to spend more time lowering the weight than lifting it.

- Most strength gains occur in the first 3 months of starting a lifting program, due to early neuro-muscular changes. The nervous system learns how to recruit muscles more efficiently and this stimulates more muscle cells.

- Strength training helps prevent bone loss. In a year-long study with post-menopausal women, all of the women who lifted weights improved their bone health. Those who did not lift weights lost ~2% bone density in one year. Exercise is *better* than osteoporosis drugs; it makes you stronger!

- By lifting weights and building muscle, older people should be able to eat more calories (which boosts their intake of health-promoting protein, vitamins, minerals). Yet, adding exercise does not always entitle a person to eat more. In a study with 62-year-old people who walked briskly for one hour a day (five days/week) for 3 months, their daily energy expenditure remained stable—despite the brisk walking. How could that be? They became more sedentary the rest of the day; they napped more and slept longer. They compensated for having exercised...

- About 25- to 33-percent of people older than 65 years are eating too little protein. This leads to loss of muscle and bone—and expensive medical problems. The goal is at least 0.55 grams of protein per pound of body weight per day to maintain and build muscle. For a 140 pound person, this equates to about 75 grams of protein, or 25 grams of protein per meal (B: 3 eggs + L: 1 can tuna + D: 4 oz. chicken).

The Bottom Line: Stay young by staying active, lifting weights or doing some type of resistance exercise to strengthen both muscles and bones. And remember the words of gerontologist Water Bortz: "No one really lives long enough to die of old age. We die from accidents and most of all, from disuse." Use it or lose it!

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