

Strength Training for Women

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To the best of my knowledge, I have never addressed the topic of women's strength training in the *Keeping Fit* column. The main reason for this is that there is essentially no difference between men and women with respect to exercise technique, training procedures or strength development. Basically, what is good for the goose is equally good for the gander.

However, you may not be aware of our research studies that led us to this conclusion. In fact, you may have heard that women should not do strength exercise for one of the following reasons.

- (1) Strength training makes women too muscular and bulky.
- (2) Strength training is a waste of time for women because they are not capable of developing strong muscles.
- (3) Strength training is dangerous for women because their bodies are not designed to exercise with resistance.

Of course, none of these reasons is valid and such misinformation is incorrect. Actually, very few women have the genetic potential or enough natural testosterone to develop large muscles. Firm, fit, functional muscles, yes-large muscles, no. On the other hand, women most certainly can achieve high levels of muscle strength. In fact, our studies show that females develop muscle strength at the same rate as males, and on a pound-for-pound basis are equally strong. Finally, it is ridiculous to think that women's bodies are too frail to perform resistance exercise. After all, what physical activity is more demanding than childbirth?

To clarify some of the above statements let me share some of our research findings. In one of our largest studies, with over 900 male and female participants, we tested the leg strength of both genders. In terms of actual weight lifted, the men were 50 percent stronger than the women. However, the men also were, on average, 50 pounds heavier than the women. We therefore decided to compare leg strength relative to the individual's lean body weight. On a muscle-for-muscle basis we found essentially no difference in male and female leg strength. Both genders performed 10 computer-monitored leg extensions with 75 percent of their lean body weight. Other researchers have attained similar results, and no scientist can distinguish between male and female muscle tissue under the microscope, because there is no physiological difference.

Over the past 15 years, we have performed dozens of research studies and taught hundreds of classes with women strength trainers of all ages (children, teens, young



adults, middle agers, and seniors). To date, not one participant has complained about becoming big or building too much muscle.

Remember, women who do not strength train lose about 5 pounds of muscle every decade of adult life. That leads to a lower metabolism and a gradual increase in fat weight (about 15 pounds per decade), as well as a less fit, firm and attractive appearance. So, in most cases, the added muscle simply replaces the muscle previously lost through lack of use. And women who start strength training typically lose twice as much fat as they gain muscle. In one of our studies, more than 700 women performed about 25 minutes of strength training (13 Nautilus exercises) and 20 minutes of aerobic activity (treadmill or cycle) 2 or 3 times a week for two months. On average, they added almost 2 pounds of muscle and lost about 4 pounds of fat. They also increased their muscle strength by over 40 percent, which greatly enhanced their physical abilities and performance levels.

In my experience, most women who start strength training make excellent progress, attain their exercise objectives, and maintain their muscular fitness through regular workouts. However, not all are satisfied with a better body composition and higher functional capacity. Some women want to achieve their best physical appearance and highest level of strength fitness.

High-Intensity Strength Training

Over the past few years, many women who enjoyed the benefits of our standard strength training program elected to participate in our high-intensity workouts. Our 6-week high-intensity strength training program involves 30 minutes of nearly continuous strength exercise, working all of the major muscle groups to fatigue. Each of the two weekly workouts is performed under the expert direction of a personal trainer who ensures safe and productive exercise sessions.

So how does such hard training affect the women's physical appearance? As you can see from the photo of our most recent high intensity trainers (and their coach), these women in their 20s, 30s and 40s look lean, strong, and extremely fit. While they are certainly muscular, they are by no means big or bulky. What's more, they feel great and function like teenage athletes.

Although these women were already well-conditioned when they started high-intensity strength training, they definitely enhanced their physical appearance over the 12 exercise sessions. On average, they added 3.3 pounds of muscle and lost 2.7 pounds of fat, for a 6-pound improvement in body composition.

Conclusions and Recommendations

Strength training is a safe and effective exercise for women. It does not produce bulky bodies, but it does develop strong and shapely muscles that are fit and functional. Both standard and high-intensity strength training programs are time efficient, requiring only two half-hour exercise sessions a week for excellent results. Over the past five years,

Shape Magazine has regularly featured our women's strength training programs (basic and advanced), and the response has been excellent.

Regardless of age or present level of fitness, I encourage every woman to begin a strength training program for life. The South Shore area offers a variety of fine fitness facilities with highly qualified strength instructors and personal trainers. Many offer women's strength training classes and some fitness centers are exclusively for women. So there is no excuse not to start strength training in 1999. In addition to looking, feeling and functioning better, research indicates that regular strength exercise may also reduce your risk of osteoporosis, diabetes, heart disease, low back pain, certain types of cancer and depression.

Wayne L. Westcott, Ph.D., is fitness research director at the South Shore YMCA, and author of several books on fitness, including *Building Strength and Stamina*, and *Strength Training Past 50*.