

## **Strength Training Benefits for Maintaining Healthy Weight**

The benefit of strength training evolves around its ability to increase muscle mass and cause an increase in calorie consumption. If intake of calories is controlled and caloric output is increased, reduction of stored fat can be obtained. This reduction of fat and increase in muscle mass may not manifest itself as a reduction in body weight as muscle weighs more than fat. Individuals must realize that increasing muscle and decreasing fat stores is the positive effect of a fitness program, even though actual scale weight may not change. To understand these changes, let us examine a hypothetical situation: a student who is 130 lbs with 20% body fat who exchanges 5 lbs muscle for fat. The student's body composition is 20% fat thus 26 lbs are fat tissue and 104 lbs are fat-free tissue, including muscle, organs, bones and water. When the student decreases the body fat by 5 lbs, he/she now has 16% body fat, 21 lbs of fat, and 114 lbs of fat-free tissue. Assuming the student has been participating in a strength (resistance) program, the added weight on the fat-free side is increased muscle mass. The 5 lbs of muscle that the student has added will burn more calories and could account for as much as a 10% increase in the Basal Metabolic Rate (BMR). This can help the individual lose more fat with a continued program of controlled caloric intake. Basal Metabolic Rate refers to the energy used by the body at rest to maintain normal body functions. The body's muscles have high calorie (energy) requirements, but fat has a very low calorie requirement. Each person has his or her own unique BMR. The body resists change to the BMR so it is important that you maintain an intense and regular exercise program.

The body's resistance to change is referred to as the "Set Point" theory. "Set Point" helps to explain why so many diet programs end up as failures, since the body, in its attempt to find calories when there are restrictions, searches for available energy stores. The stores come from fat and muscle cells that can break down for energy. Once the muscle mass is reduced, the body's caloric needs decreases. Unfortunately, we rarely reduce the caloric intake, thus our bodies again begin storing the extra calories as fat. Remember that muscles have high-energy requirements. Even when you are sleeping and your muscles are at rest they are using more than 25% of the body's energy (calories). When you implement an effective strength-training program, and are consistent, you will achieve an increase in lean muscle mass throughout your body and slowly increase your BMR. The objective is to condition the metabolism to work better and more efficiently even when the body is at rest. An increase in muscle tissue can cause an increase in metabolic rate, but we have to overcome the body's resistance to change. You need to strive for a steady slow change in body composition. Although your weight may change very slowly, you should notice improvements in strength, muscle tone, and firmness, yielding a more fit appearance.

Research indicates that unless we strength train regularly, we can plan to lose more than one-half pound of muscle every year of our lives after age 25. As we age, unless we implement a safe and effective strength-training program, our muscles gradually decrease in size. This process is called "atrophy." Strength training is therefore important for preventing the muscle loss that normally accompanies the aging process. That one-half pound of muscle loss every year after age 25 produces a one-half percent reduction in basal metabolic rate every year. A reduction in BMR means that your body is less able to use the food you consume and again you are thrown into a cycle of gaining stored fat. You can see that anyone interested in decreasing body fat percentage needs to incorporate a strength-training regimen into the workout program in order to maintain or improve the percentage of lean muscle mass and improve the basal metabolic rate.