Weight Management and the Role of Strength Training

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Authors' Note: This is the first of several articles based on exercise science to assist Auxiliarists in developing their own fitness programs.

Have you tried to lose weight only to see it come back after completing a weight loss program?

Many people find this dilemma to be true. If fact most people return to their pre-diet weight I to 2 years post-diet. While they are successful at first with their diet plan they soon gain the weight back. Current research has found that diet alone does not result in long-term benefits. In fact, the reverse is true as dieting alone without exercise can actually cause a person to gain more weight than before. The science behind this is that weight loss without exercise causes not only a reduction in body fat, but also a reduction in lean muscle mass, as much as 25% of the weight lost. Since muscle tissue burns more calories in both an active state and in a resting state than fat tissue, the loss of muscle mass results in a lower metabolic rate. You might think the diet was successful at first, but in fact with the loss of muscle mass your body's ability to burn calories is reduced and the weight returns even more rapidly than before, resulting in a frustrating situation that leads many people to give up dieting altogether.

The goal therefore is to reduce one's weight by losing fat without losing lean mass (muscle) and even better to add lean mass while losing body weight. Current research has shown that combining exercise with dieting can offset the loss of muscle tissue by as much as 50%. However, not all exercise achieves the same results. *Studies have found that while cardiovascular exercise helps prevent weight gain post-diet, it is not enough to prevent muscle loss.* To achieve this it is necessary to commit to approximately 225 minutes weekly of aerobic activity to maintain the weight loss, not something everyone can commit to.

Fortunately, studies have shown that there is a less intensive answer to losing weight and keeping it off.

Research conducted by Wayne Westcott, PhD, professor of Exercise Science and Personal Training at Quincy College, MA has shown that strength training, or weight resistant exercise, with protein supplements is successful in achieving this. Many people think that weight lifting is for young people, athletes and body builders, but in fact, there are multiple benefits to weight lifting for the average person at any age in maintaining a healthy body, and weight loss and maintenance is one of them.

Strength training with protein supplements results not only in the loss of fat, but also in muscle gain (strength training without protein supplement will result in muscle loss but less so than cardio exercise).

Weight Management and the Role of Strength Training (cont.)

Dr. Westcott's research has shown that a moderate exercise program of 40 minutes in a circuit format of strength training and cardio exercise, twice a week, along with a protein shake replacement meal, not only results in healthy weight loss, but also promotes muscle building (see the exercise program below).

The importance of this again is the fact that *muscle tissue increases the metabolic rate* by burning more calories than fat tissue while in a resting state. To a certain degree the more lean mass you have and less fat tissue the higher your metabolic rate and the easier it is to burn calories and not gain weight. In addition, muscle that has been stressed through strength training burns even more calories than non-stressed muscle. The reason for this is that it takes more calories (and thus the need for additional protein) to repair and build muscle tissue when stressed than when it is not. The more exercised (i.e. stressed) muscle you have the higher your metabolism and the easier it will be to keep the weight off. Subjects in Dr. Westcott's research successfully maintained their weight loss through continuing a program of moderate strength training exercise and diet management after concluding their initial weight loss program.

So, before you completely give up on losing weight consider introducing strength training into your diet program. Strength training not only will help you lose weight and keep it off it improves body composition and appearance. You will have more energy and strength as well as being a more healthy you.

For more information on Dr. Wayne Westcott's research visit: https://quincycollege.edu/program/exercise-sciencepersonal-training

Weight Loss and Maintenance Exercise Program*

Perform this exercise program twice a week on non-consecutive days such as Monday and Wednesday or Tuesday and Thursday. This circuit program consists of approximately 20 minutes of ***machine resistance training*** and 20 minutes of aerobic activity for a total of 40 minutes.

Remember before you starting any new exercise program you should consult your personal physician. To avoid injury when starting out use lightweights start and with moderation.

Warm Up- 5 to 10 min stretches

Circuit One: Legs- 1 set each of 8-12 reps**

1. Leg Extension
2. Leg Curl
3. Leg Press
4. 6-7 minutes interval training of 20 sec moderately fast speed and 20 sec of moderately low speed – cycle, treadmill, or rower

Circuit Two: Upper Body- 1 set each of 8-12 reps**

1. Chest Press
2. Lat Pulldown
3. Shoulder Press
4. 6-7 minutes interval training of 20 sec moderately fast speed and 20 sec of moderately low speed – cycle, treadmill, or rower

Circuit Three- Core Exercises- 1 set each of 8-12 reps**

1. Abdominal Curl
2. Low Back Extension
3. Torso Rotation
4. 6-7 minutes interval training of 20 sec moderately fast speed and 20 sec of moderately low speed – cycle, treadmill, or rower

Nutrition Program

Substitute a protein shake for one daily meal (typically breakfast or lunch). Meal replacement protein shake consisting of approximately 260 kcal, 24g protein (whey, soy, or plant based), 36g carbohydrate, 3g fat and 6g dietary fiber.

*Exercise program based on research conducted at the program for Exercise Science and Personal Training at Quincy College, MA.

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