**Taking it All off!**

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High Intensity resistance training promotes fat loss without muscle depletion

Can dramatic fat loss results be obtained through steady-state activity alone?

Most people grossly overestimate the number of calories expended as a result of steady-state activities like aerobics, running, biking, stair climbing or rowing. Consider one pound of fat (3,500 calories) can meet the energy demands of six to ten hours of continuous activity. The average man burns one hundred calories for every mile he runs and most women burn even less. The average person would have to run 35 to 45 miles to expend one pound of fat.

An average woman vigorously riding a stationary bike may believe she’s “burning up” calories. In fact, after riding for 45 to 60 minutes she will have experienced a modest caloric expenditure equal to about two Oreo cookies. To expend the 3,500 calories needed to utilize one pound of fat by walking, the average woman would have to walk nearly 15 hours.

Aerobic exercise machine manufactures often overestimate the number of calories burned by using their products. Many gauge expenditures on the calorie needs of a 154lb man with a high metabolism. Several machines prompt the subject to enter his or her weight. Calorie expenditure is then calculated from this number, but is formulated from the number of calories the body expends through the activity in addition to basic daily metabolic functions thus skewing what appears on the machine’s readout.

Discriminated Weight Loss.

Calorie deficit is necessary for fat loss. How then can we be sure it’s fat, not muscle we are losing? This is the concept of discriminated weight loss –the bodies ability to select which tissue to use for energy.

Muscle is the most active tissue in the human body and is essential to life. It is estimated that one pound of muscle requires 50 to 100 calories per day to function.

Increasing a person’s muscle mass by as little as three to five pounds can have a profound effect on daily caloric expenditure by raising Basal Metabolic Rate (BMR), or the number of calories needed by the body to carry out basic daily functions.

If three to five pounds of muscle are added to the body, BMR will increase by 250 to 500 calories per day regardless of activity level. This elevated daily caloric expenditure is typically grater than caloric expenditure brought about by aerobic activity. Aerobics have a “burn off” effect after activity has ceased. However, the number of calories burned varies and is difficult to estimate. As long as a muscle increase is maintained, the body will continue to burn additional calories.

Muscle is spared at the expense of other tissue if there is a need for it. High-intensity resistance training offers the stimulus necessary to tell the body it requires muscle. The body maintains protective margins against stress and exercise is a stressor. When a muscle is taken to failure (the point where continued contraction is impossible), an alarm is triggered, telling the body its protective margins are in danger and it must adapt to maintain itself. Hence muscle will be spared at the expense of fat. This is the method of discriminated weight loss.

Aerobic activities may cause weight loss. However, weight loss is indiscriminate.

In addition to fat, muscle can be lost, Why? Often, the stimulus signaling the body to spare muscle is not present. Your legs may burn, your breathing may intensify and muscle soreness may occur, but resistance is often not intense enough to trigger the body’s protective response.

For fat loss to occur while sparing muscle in the process, a modest reduction in caloric intake should be coupled with a high intensity resistance training program in addition to aerobics.

The Fragile Recovery System

Exercise is capable of stimulating improvement but it can also retard physical gains if performed past the amount needed to stimulate growth. When exercise is preformed impairment occurs. We cause damage to the connective tissue and muscle fibers and drain energy reserves. This damage occurs so stimulation and improvement can take place. Recovery (when the body repairs, overcompensates and improves as a result of exercise) results in strength gains. Exercise merely provides the signal, the body produces the results.

Maximum stimulation with minimal insult to the body’s fragile recovery system is optimal. Aerobics may not offer enough stimulation in return for the stress it imposes on the recovery system and may need to be supplemented with resistance training. The results of a six week experiment employing a weight training program called SuperSlow using high intensity, short-duration resistance, showed a 59% increase in strength gains.

SuperSlow proved to be a vital tool in fat loss. In order to lose fat the body must expend more calories than it ingests, but it must also discriminate. High intensity, short-duration resistance training can provide the needed level of stimulus with out placing excessive stress on the recovery system.

SuperSlow has been touted as one of the safest resistance training methods available. Because acceleration is slow, force to the joints, tendons and ligaments is minimal. Concurrently, momentum is slow. A virtual lack of momentum, coupled with strict attention to form, increases resistance to the muscle-bringing about efficient mechanical loading of the musculature. The intended muscles are worked to the point of fatigue quickly and efficiently.

Stimulation past momentary failure serves only to deplete the system of valuable energy needed for growth. It is the intensity of movements, not the volume of work, that produces results. Performed no more than two times per week to allow the body time to recover and improve, the SuperSlow program is one way to provide maximum stimulation and minimal insult to the recovery system.