

Why *NOT* Aerobics?

Answers to Frequently Asked Questions

I receive many pieces of email asking me to detail the specific reasons The SSEG is so "anti-aerobics". To quote Greg Anderson: "...we harbor no prejudice against that particular metabolic pathway". If you read in detail the [Definition of Exercise](#) and [Exercise vs. Recreation](#), the underlying philosophy is there. If you have any comments on this FAQ, please email me and we can discuss them. Most of the information in the FAQ is courtesy of SuperSlow Master Instructor Greg Anderson at Ideal Exercise in Seattle. Some sections are paraphrased from Men's Journal Magazine (November 1995). This document will be updated periodically.

Aren't "aerobics" necessary for fat loss?

"Aerobic" activity is not the most effective activity for fat-loss. Steady state activities such as running, cycling, dancing, etc. do not burn a significant number of calories! One pound of fat can fuel the body for up to 10 hours of continuous activity. "Aerobic" activity is simply inefficient for this purpose!

The most important contribution that exercise makes to a fat-loss program is the maintenance of muscle tissue while fat is lost. Strength training is the only reliable method of maintaining muscle tissue. Aerobics can actually cause you to lose muscle tissue!

Some supposed "experts" have suggested that the important effect of aerobics is that of increasing metabolic rate. Our question is this: If "aerobic" activities burn few calories while you are doing them, then how many calories will they burn (calories burned=metabolic rate) when you are not doing them? The answer to that question is: very few....

On the subject of metabolic rate: Every pound of muscle added to the body of an adult female will require an additional 75-100 calories per day just to keep it alive. The average person, through a program of proper strength training can add enough muscle to burn an additional 3500 calories per week (1 lb. of fat=3500 calories). The amount of strength training required to effect such a change is less than one hour per week.

Don 't I need some form of aerobics to insure good health? What about my heart?

Remember: The function of the cardiovascular system is to support the muscular system-- not the other way around. Increases in muscular strength (from a proper strength-training program) will correlate to improvements in cardiovascular function.

You will notice that the word "aerobic" has been set off in quotation marks when it refers to an activity performed for exercise. There is a good reason for this emphasis: There is no such thing

as aerobic exercise! We have all heard that activities such as jogging and cycling are "aerobic" while those such as weight training and sprinting are "anaerobic". These distinctions are not 100% correct. The words aerobic and anaerobic refer to metabolic pathways which operate continuously at all times and in all activities. You cannot "turn off" either of these pathways by merely increasing or decreasing the intensity of an activity.

A word on intensity: Few of the "experts" who promote aerobics will debate our last statement. What they do say, however, is that gentle low-intensity activities use the aerobic pathway to a greater degree than they use the anaerobic pathway. We agree with this statement completely and feel that it should be taken to its logical conclusion: The most "aerobic" activity that a human being can engage in is sleeping!

Elevated heart rate is not an indicator of exercise intensity, exercise effect, or exercise value. It is quite possible to experience an elevated pulse, labored breathing, and profuse sweating without achieving valuable exercise. Intense emotional experiences commonly cause these symptoms without a shred of exercise benefit.

Even if an elevated pulse is necessary for cardiovascular conditioning (we do not doubt that pulse elevation may be necessary, but we do not believe that it should be the emphasis of a conditioning program) remember that some of the highest heart-rates on record were achieved during Nautilus research performed at West Point. The West Point cadets commonly experienced heart rates in excess of 220 beats per minute during Nautilus exercise. These pulse rates were maintained for periods of 20-35 minutes.

What's wrong with doing both? Why can't I weight-train and do "aerobics" activities that I enjoy?

"Aerobics" activities are dangerous! Running is an extremely high-force activity that is damaging to knees, hips, and back. Aerobics dance is probably worse. And so called "low impact" classes or activities like stationary cycling are not necessarily low force. Don't be fooled by the genetic exceptions who protest that they have never been injured - overuse injuries are cumulative and we are often not aware that we have them until it is too late. In time, the enthusiastic aerobics-dance participant or jogger will probably pay the price for all that "healthy" activity. If that price is a decrease or loss of mobility in one's later years, then "aerobics" have effectively shortened the individuals lifespan. Loss of mobility is often the first step toward loss of all biological competence.

If you study the Exercise vs. Recreation argument, you'll understand why there is no point in doing an "aerobics" activity for exercise. Time spent trudging away on the Stairmaster® could be spent in some form of more enjoyable recreational activity: playing basketball, swimming, kung fu, even shooting pool or going to see a movie. The mental benefits of recreation far outweigh what small exercise effect is attained. Don't lose opportunities to enjoy life in pursuit of the "inner beauty" of supposed "fitness".

Exercise only "does" one thing: destroys the body. The body, being dynamic, responds to this stress by recovering and making itself stronger. If we don't give our bodies enough time to

recover from a workout, we'll never make any progress. By performing activities on your off days, you compromise the progress you could be making. That is not to say you should avoid doing anything, but don't waste time and recovery resources doing "aerobics".

According to Rick Sharp, PhD., the director of Sports Science and Medicine for the U.S. Olympic Swimming Team, "endurance" training may use up more protein than previously thought, leaving less to build muscles. "Aerobics" exercise compromises muscle gain.

Okay, high-impact activities may be dangerous, but what about low-impact alternatives like walking, or certain machines?

The term "low-impact" is a marketing farce. The machines and activities may in fact be low impact, but they are rarely low-force. Force is Mass x Acceleration, and it is there any time you move quickly, with or without resistance. You cannot avoid all force in physical activity, of course. But, why subject yourself to it when it is entirely unnecessary? If someone is hurt while playing football or some other activity, it is unfortunate. If someone is hurt during an "aerobic" dance class or while running for "fitness", it is a tragic waste.

What about endurance? Won't my athletic performance suffer if I don't do aerobics?

Endurance for athletics and recreational activities is primarily a result of three factors: skill, muscular strength, and genetics. Heritable factors (genetics) are considered to be non-trainable or, in other words, you cannot do much about them. Increasing one's skill in an activity is a result of practicing that activity. For long-distance runners skills such as stride length and efficiency can be trained through practice (practice on a treadmill doesn't serve this purpose as it is not the same as road-running). Muscular strength is the single most trainable factor in endurance performance. It is the muscles that actually perform work. When strength increases, the relative intensity of any given task decreases.

Athletes often talk about training their "wind". Actually our bodies' ability to use oxygen is not as trainable as once believed. Consider that in a resting state the lungs can saturate with oxygen the blood moving through them during the first one-third of the total transit time. At maximal exertion, saturation speed might slow to one-half of the total transit time. Even with some compromise of pulmonary function (illness, injury, etc.) the lungs can usually perform their job quite adequately. It is the muscle's ability to use the nutrients delivered to it that needs training. This is most efficiently addressed by strength training.

More on the subject of "wind": Most exercise physiologists refer to the phenomenon of "wind" as maximal oxygen uptake. One Canadian researcher has determined that maximal oxygen uptake is 95. 9% genetically determined (also see the note farther down).

A 1991 study at the University of Maryland showed that strength training produced improvements in cycling endurance performance independent of changes in oxygen consumption.

Northend Nautilus in Seattle, Washington possesses signed testimonials from members who have

improved their endurance performance for running, skiing, and other activities while following a program of Super Slow strength training without any auxiliary endurance training.

But, this is all just your opinion. What about all of the research that has been done?

Consider this: Dr. Kenneth Cooper (author of *Aerobics*, *The New Aerobics*, *Aerobics for Women*), the U.S. Air Force Cardiologist who coined the term "aerobics" (meaning a form of exercise) and has promoted their use for over 25 years now admits that he was wrong! According to Dr. Cooper, further research has shown that there is no correlation between aerobic endurance performance and health, longevity, or protection against heart-disease. He will admit, however, that such activities do carry with them a great risk of injury. Further, he admits that gross-overuse activities such as running may be so damaging to the body as to be considered carcinogenic.

Irving Dardik, MD, former vascular surgeon, contends that: "The basic concept of aerobics conditioning is wrong." He also contends that the best way to train the vascular system is to build flexibility into its response by using short bouts of elevation followed by sudden recovery, then demanding activity again.

Covert Bailey, author of *Fit or Fat* and advocate of "gentle aerobic exercise" now recommends wind sprints to those seeking to become maximally fit. Why wind sprints? Because sprinting is a much more intense muscular activity than jogging. Why not wind sprints? Because as with other running, the risk of injury is just too great! Pulled hamstrings, sprained ankles, and damaged knees are too high of a price for a marginal increase in fitness. Strength training greatly increases the intensity of muscular activity (much more so than sprinting) and greatly reduces the risk of injury!

Another quip from Rick Sharp: How much attention should we pay to all of those exercise physiologists telling us to boost our oxygen-burning capability (VO2 MAX)? Not a lot. He contends: if you compared VO2 MAX measurements of Olympic and Collegiate swimmers, there would be no great difference. He trains his team to improve their technique (read: skills) rather than some illusory physiological number.

