

# **Fitness And Training Tid-Bits**

**(Everything you wanted to know  
about fitness and training, and some  
things you didn't think to ask.)**

**By  
Frank Adornato**



**Fitness  
And  
Training Tid-Bits**

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This book is dedicated to my wife Judy.

She has always been there for me; during my training and racing, and in life. When things go well, she's my cheering squad. When things go less than planned, she's been there with reassurance, support and love.

A & F ... & B!



**Tid-bit** (tid'bit') *n.* [dial. *tid.* small object + bit] a pleasing or choice bit of news, etc.





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## Preface

This work is a compilation of articles that I have written on fitness, athletic training and triathlon racing. Each article covers a different topic, and is intended to provide a useful piece of information – a fitness and training tid-bit about one or more aspects of getting healthy, staying fit, improving your athletic performance, eating right, preparing for racing, and recovering.

These are intentionally short, and hopefully easy to read, remember and reference. They are, by design, short summaries of the subject matter covered. Several of the articles build upon each other. Some of the information is anecdotal and some is based upon hard facts and data. All of these have been reviewed by a broad base of athletes, and over the years, I have gotten very good response to them. Because of the short format, the information is easy to retain and has proven useful during workouts and races.

When I started compiling this book, I decided to divide the articles into categories or chapters. Therefore, they are not necessarily in the sequence that they were originally written. Sometimes I chose to repeat an article in two different chapters since the topic applies more than once.

At the end of each chapter there is an Appendix of additional information which ties to the topics discussed in that chapter.

The photos in this book were all taken by my son Dave, who is an accomplished photographer, and Photo Editor at the North Jersey Record Newspaper in New Jersey.

Enjoy.

FA

## **General Fitness**

**The most important thing in life is your health.**

**Without your health, you have nothing, or at the very least,  
none of the other good things in life seem worthwhile.**

## Fitness

**“Fitness”** is defined as “the state of being in good physical condition; healthy”. We achieve proper fitness through healthy eating habits and exercise. How much and what type of fitness program we follow is dependent upon our fitness goals.

There are two aspects to fitness: **external fitness and internal fitness**. Briefly stated, external fitness is how we look on the outside. That is our weight and more important, body composition, i.e., the ratio of lean muscle tissue to fat. Internal fitness is the cardiorespiratory system, i.e., heart, lungs and blood vessels. If you want to be truly fit you need to be healthy on the inside as well as look good on the outside.

There is no “magic bullet” to fitness, although there are many philosophies and advocates for quick fix diets and exercise plans. Fad diets and exercise programs come and go. The most important thing to remember about any fitness program of healthy eating and exercise is that it must become part of your daily routine.

But then come the questions: Which diet? How much exercise? What type of exercise?

There are **three basic aspects to proper eating**:

- portion control
- a proper balance of carbohydrates, proteins and fats
- adequate intake of vitamins, minerals & fluids

There are **three basic aspects to a healthy exercise program**:

- stretching
- aerobic exercise
- weight bearing exercise

## Why and How Proper Aerobic Training Improves Performance

1. The body produces **energy for muscles** using three different pathways:
  - **Two anaerobic pathways** (without oxygen). These pathways are usually for short duration, high intensity exercise. These fuel the “Power Engine” in the body. A by-product of these anaerobic pathways is lactic acid. The accumulation of lactic acid in the muscle will cause fatigue and limit performance. This is often called “muscle burn”.
  - **One aerobic pathway** (using oxygen). This is a more efficient pathway, and it is associated with long duration exercise. This is the “Endurance Engine” that keeps the body going for long periods of time.
2. Endurance athletes want to **optimize the aerobic energy pathway** during training and racing.
3. Therefore, the **flow of oxygen to the muscles** (carried by the blood) is important to the aerobic pathway and to maximize muscle performance.
4. **VO2 Max** is an excellent measure of cardiorespiratory and muscular fitness. It indicates the maximum amount of oxygen (O<sub>2</sub>) that the muscles can process in a defined period of time. VO<sub>2</sub> Max is measured as milliliters oxygen per kilogram body weight. Some examples of VO<sub>2</sub> max in men and women are:
  - Men: Good athlete VO<sub>2</sub> max = 50’s;  
Olympian VO<sub>2</sub> max = 60’s - 70’s
  - Women: Good athlete VO<sub>2</sub> max = high 40’s;  
Olympian VO<sub>2</sub> max = high 50’s -60’s.
5. **Anaerobic Threshold (A.T.)** also called Lactate Threshold is the heart rate above which lactic acid is produced faster than it

can be removed from the muscles. When a person exercises above their A.T. the body starts to use more anaerobic energy producing pathways, and lactic acid is deposited into the muscles. Perceived Exertion is very high and breathing becomes labored. Most people can maintain this level of exercise only for short periods of time, i.e., minutes.

6. To improve athletic performance, the goal is to **increase your VO2 Max** so that your muscles can process as much oxygen as possible, and to **raise your A.T. heart rate** so you can perform faster and longer without lactic acid build-up. Both your VO2 Max and your A.T. are correlated.
7. With proper training, such as long slow distance baseline work, speed intervals with complete and incomplete heart rate recovery, the heart is strengthened and cardiac efficiency is improved. The result is increased stroke volume, and in turn, increased amounts of blood (and oxygen) are delivered to the muscles per heart beat.
8. Higher A.T. and VO2 Max will allow you to perform faster and for longer periods of time with less muscle fatigue.



## Exercise

**Exercise** is a fundamental aspect for a balanced and healthy lifestyle. The key is to make exercise part of your normal daily routine and to stick with it. There are three basic aspects to a healthy exercise program:

- stretching
- aerobic exercise
- weight bearing exercise

After you have consulted with your physician to make sure you have no physical restrictions, set up an exercise program for yourself, or work with a qualified athletic trainer.

As you'll read below, an optimal exercise program of stretching, aerobics and weight training will take about 40 minutes a day. That's less than 3% of your 24 hour day. Not much time is it?

Stretching keeps your muscles and joints limber and helps prevent injury. Many people underestimate the value of stretching regularly. Stretching is critical to healthy muscles, soft tissue, and joints for the young and old alike. Ideally, your program should include about 10 to 15 minutes of stretching each day.

Aerobic exercises and weight training improve cardiorespiratory health, reduce the risk of bone and joint deterioration, and increase muscle strength and endurance.

If you currently don't exercise at all, start easy with some walking for 15 to 30 minutes a day. After you become comfortable with walking, incorporate some jogging with walking. Add volume and intensity gradually over time. If you already have an exercise plan for yourself, stick with it.

## Stretching

If I had a dollar for every day that my clients spend stretching ...  
I'd be a poor man!

Stretching is one of the most important components of an exercise and fitness program. Yet most people underestimate the value of stretching, and they don't fit it into their routine.

Regular stretching will help keep your body limber and mobile. For the short term that will make your exercise workouts more enjoyable and productive. For the long term, stretching will help prevent injury.

I recommend stretching every day, even on exercise "Rest" days. The time of day that you stretch is up to you. But whatever time of day you choose, make it part of your daily routine EVERY DAY.

I do a full stretch routine including some basic yoga, every morning before breakfast, and I also do an additional abbreviated routine after exercise to prevent muscle and joint stiffness. A few minutes of stretching after a workout helps prevent the blood from "pooling" as your muscles cool. This in turn, prevents muscle cramping.

Here are some basic principles to consider when you stretch:

- Stretch the entire body, one body part at a time.
- Hold the stretch position for 20 to 30 seconds.
- Breathe during the stretch. Don't hold your breath.
- Don't bounce the stretch. Hold it static.
- Pull the stretch just slightly beyond your normal range of motion.

- You should “feel” the stretch, but it should not hurt. If you feel pain, back off. You may be stretching the muscle, or connective tissue too far.

There are probably hundreds of possible stretches that a person can do. My book **GEARING UP FOR A BETTER YOU ... BY LIVING A HEALTHY AND BALANCED LIFESTYLE** includes a section on stretching with specific examples of stretches and basic yoga positions for your various body parts.

A sampling of stretches with photographic displays is included in the Appendix at the end of this chapter.

## Core Training

During the past few years, core training has become a very popular type of exercise, and most athletes as well as people serious about fitness now include core training as a basic element of their exercise routine.

Core training builds strength and stability to those muscles that run from the shoulders to the pelvis. Core training results in improved posture, better overall balance, and enhanced coordination. These, in turn, greatly help improve performance, be it swimming, running or cycling.

Some specific benefits of core training are:

- Improved postural alignment which improves overall motor function efficiency;
- Improved balance and proprioception (how the body senses and adapts to stimuli);
- Improved joint mobility and flexibility;
- Corrected muscular imbalances;
- Uniform development of muscle groups for better motor function;

Core training exercises can be performed in a variety of ways. Some exercises include floor mats and balance pillows, fit balls (inflated exercise balls), and stretch cords, while other exercises can be done with no equipment. For all of these, focus on controlled movements and deep breathing. Make core training a part of your year-round exercise schedule and you'll be better for it.

For a sampling of core strength exercises, go to the Appendix at the end of this chapter.