

WHY SHOULD I STRENGTH TRAIN? I'M A RUNNER !

Purpose of Strength Training

Strength training isn't just for body builders and football players anymore. Runners can benefit greatly from a properly designed strength-training program. In fact, most runners will never reach their peak level of performance without strength training. Training methods in the past and still today have ignored the benefits of strength training. Many coaches and athletes have even avoided strength training because of the mistaken belief that the increase in muscle mass will slow down or decrease the endurance of the runner. Current research has proven that this is not true. Strength training is a vital component of any runners training regime.

There are many benefits of strength training. As a runner, the primary benefits are: injury prevention; increased power; increase speed, increased stride length and running economy.

Injury Prevention

The repetitive stresses of running places great demands on the muscles, ligaments, tendons and joints. Nothing will totally prevent the occurrence of injuries. However, strength training will provide a defense against these overuse injures. When injuries do occur, an improved level of strength will decrease the severity of injuries and decrease the recovery time.

Strength training protects your body from injuries in several ways. The muscles fibers themselves are strengthened which will help prevent muscle pulls and tears. Muscle mass is increased which will help provide support to the joints, which are absorbing much of the impact of running. All of the connective tissues, which include ligaments and tendons, are made stronger. This will help avoid strains, sprains and tendonitis.

Increased Power

In physics, power is defined as "the time rate of doing work". In terms of running, power is a function of speed and strength. More simply put, power is the result of the combination of the force or strength of your stride and the velocity or speed of your stride.

During a typical running stride, you have a very small amount of time in which to generate the force necessary to propel you forward. The push off phase of the running stride is the point at which this forward motion is generated. For a sprinter, this happens in about 0.1 seconds. For a marathon runner it is between 0.3 and 0.5 seconds. To increase running speed and economy, it is necessary to maximize the force produced without increasing the time required to produce the force. This is what improving your power will do for you.

In order to increase the power of your stride, you must increase both general strength and explosive strength. General strength will increase the size of your muscle fibers, providing a base for the explosive strength training and helping prevent injuries. The explosive strength training will improve the ability of your muscles to generate its higher level of strength, in a short period of time, which will give you an increase in power.

Increased Speed

In order to maximize your running speed, you must maximize both stride length and stride rate. If either of these is less than optimal, you will not be running at your best possible pace.

Stride length is a subject that generates a lot of controversy. You will read and hear conflicting advice on stride length. Some coaches will tell you to maximize your stride length while others tell you a short stride length is more efficient. I have spent many hours videotaping and analyzing the strides of various runners, from beginners to elite class runners. From this analysis, I have found that, without a doubt, you must maximize stride length, while maintaining stride rate, in order to run at your best possible pace. The trick is to maximize stride rate naturally. If you try to unnaturally force a long stride, you will overstride, which will cause a braking action that will slow you down and possibly cause injuries.

A naturally long stride rate comes from a smooth, low to the ground stride with very little up and down motion, strong forward knee drive and a powerful push off, in addition to several other stride elements. General and explosive strength training is the key to developing these form elements.

Running Economy

One of the most reliable predictors of running performance is the velocity at which you can run at your VO2 max level. VO2 max is simply the maximum amount of oxygen that your body can process. In the past, VO2 max was the standard measure of potential running performance. Runners with the highest lab measured VO2 max, were expected to have the best performances. We now know that the velocity or speed at which an athlete can sustain while running at their VO2 max levels is a more reliable predictor of performance. The reason for this is that velocity of VO2 max takes running economy into consideration. If two runners with identical VO2 max levels are running together, the one with the most efficient running stride or running economy, will be running faster. That is because the runner with the highest level of running economy will be able to general more speed with the same VO2 max level.

Running economy is improved by maximizing stride length, maintaining stride rate, improving running form and running smoothly and effortlessly. Strength training provides the base for all of these improvements. Nearly all of the runner that I coach tell me that their running feels smoother and they feel that they are running with less effort after a period of general and explosive strength training.