

What is a primary goal of all serious distance runners? **TO RUN FASTER!!!** The training strategies used to achieve this goal that runners are most familiar with typically include different types of running workouts like interval, tempo, and fartlek workouts.

### **STRENGTH TRAINING**

One training strategy that has often been overlooked or relegated to a minor aspect of training is strength training because of the misconception that strength training is counterproductive to running. Runners mistakenly believe that strength training will build larger muscles that will slow them down, increase body weight, decrease flexibility, and ruin form. Strength training, done properly, will not cause any of these adverse effects. In fact, it has been shown to contribute to improved performance.

Runners do not need to be concerned about gaining excess body weight from strength training because high mileage running and high volume aerobic training in general, decrease body weight and compromise muscle mass gains. Second, many long distance runners have ectomorphic body types (naturally slender, linear builds) and research has shown that ectomorphs do not gain as much muscle mass or weight from strength training compared

to other body types. Third, proper strength training for runners is NOT bodybuilding training! The goal (and result) is increased strength, NOT size.

The need for power during running comes into play when climbing steep upgrades, breaking away from another runner, and during the all-important finishing kick (Lentz).

In 1990, Steve Spence, a world-class marathoner, increased his stride length from 70 to 73 inches after a year of heavy strength training. This saved almost "a mile's worth of strides in a 2:11 marathon" (Lentz). By improving running economy, a runner will be able to run faster over the same distance, or run longer at the same speed, due to lower oxygen consumption.

### **FLEXIBILITY**

Another mistaken belief is that runner "keeps my muscles flexible." Running without proper stretching will just make you tighter and tighter. Most distance runners have tight calves, hamstrings, quadriceps, hip flexors, ilio-tibial bands, and pectoral muscles.

What type of stretching is best - Static, dynamic, active isolated, PNF? Should stretching be done before or after? This program will answer these questions

and show you how to properly perform all types of stretching.

A complete flexibility program integrated into your running routine will make you faster, able to recover more quickly, and prevent injury.

### **INJURY PREVENTION**

Both acute and overuse injuries can be prevented by strength training. More powerful muscles provide better shock absorption during downhill running, thereby preventing joint injury. Asymmetry of strength between left and right extremities can also lead to an array of musculoskeletal injuries.

The vast majority of running injuries are of the overuse variety. Remember, the average distance runner makes approximately 3,000-foot strikes per mile. Each leg bears the weight of the entire body, as both feet never touch the ground at the same time. The force of landing is about three-time body weight in three or four tenths of a second depending on running speed. For a 150 pound runner that means a force of 450 pounds occurs on each leg during each stride!

Lentz, D,

<http://www.fitnesssports.com/Strengthtraining.html>

### Program Creator

**Dr. Steven Horwitz** is certified as a Chiropractic Sports Physician, Strength and Conditioning Specialist and a USA Weightlifting Club Coach. Dr. Horwitz was selected by the United States Olympic Committee as the sole chiropractor for the 1996 United States Olympic Team and has traveled internationally with U.S.A. Track and Field. He has worked with track and field athletes from George Mason, Georgetown, American, and University of Maryland.

In 1996, the Governor appointed Dr. Horwitz to the Maryland Council on Physical Fitness and served as Chairman of the council from 2002 to 2004. In 2004, Dr. Horwitz was selected as the Maryland State Director for the National Strength and Conditioning Association. He is a recipient of the Maryland Chiropractic Association's Outstanding Achievement Award. *Washingtonian* magazine has chosen him as one of the area's top sports medicine doctors and he is the author of the book **YOU CAN BE FIT!**

Dr. Horwitz has run two marathons, run a 10K in under 40 minutes, and a 10 miler in under 70 minutes. He has competed in bodybuilding and currently competes in powerlifting.

## STRENGTH TRAINING AND STRETCHING FOR RUNNERS

### REGISTRATION



**Course # 145890**

Register On Line at:

[www.montgomerycountymd.gov/rec](http://www.montgomerycountymd.gov/rec)

Call: 240-777-6870

*Strength Training and Stretching for Runners* starts in April 2006 on the following Thursdays:

4 Sessions:

April 20, 27; May 4, 11

Time: 7:00p.m. – 8:00p.m.

Cost: \$60.00

Location: Potomac Community

Recreation Center

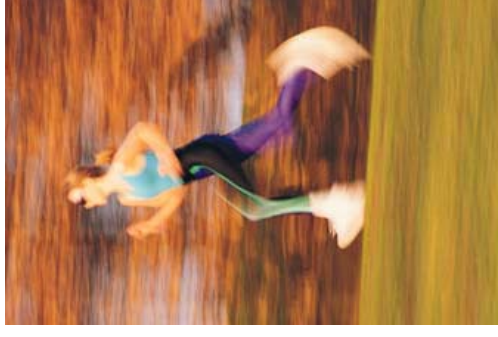
11315 Falls Road

Potomac, MD 20854

301-983-4471

The center is just south of Glen Road at the corner of Falls Road and Woodington Drive.

## STRENGTH TRAINING AND STRETCHING FOR RUNNERS



Montgomery County  
**RECREATION**  
DEPARTMENT

Starts April 20, 2006

Program by:

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**The Best Equipment You Can Invest In Is Yourself!**