

Strength Training for Runners & Walkers

A great way to prevent injuries and improve running and walking performance is to supplement your marathon training program with a strength training routine. The benefits of an appropriate strength training program include improved "strength balance", muscle symmetry, flexibility, and range of motion. By nature, marathoners do a lot of repetitive training, resulting in overdeveloping some muscle groups (e.g., quadriceps), while others are underutilized (e.g., hamstrings). The result is a muscular imbalance that may increase your risk for common running injuries (e.g., plantar fasciitis, patella femoral syndrome, achilles tendonitis). Strength training can help maintain the muscle strength balance and keep you on the roads and off the injury list.

Have you ever noticed how world-class runners and walkers look so relaxed while competing? A common saying among strength training coaches is, "the arms propel the legs". Adequate upper body and core strength allows the body to stay upright, balanced, and relaxed during a long run or walk. These attributes are important, for they increase the economy of running and walking. In other words, one can improve their "miles per gallon", resulting in running or walking faster or longer before exhaustion. Regardless of your athletic ability, spending time in the weight room can result in improved race performance.

Weight training for distance runners/walkers requires careful self-analysis and a unique mindset when hitting the gym or home weight equipment. The goal of a running/walking strength training program is not to add muscle mass. Lift weights like you are runner or walker, not a power lifter! Emphasis should not be on progressively adding weight to the routine over time. Slow and controlled lifting motions using lighter amounts of weight will result in a stronger, more flexible athlete. You'll have to find the right mix of exercises on your own and if you have any pre-existing orthopedic conditions, seek the advice of a properly certified fitness professional.

Preventive Strength Training vs. Performance Strength Training

Before embarking on a strength training routine to supplement your running/walking program, it's best to define your objectives. A traditional weight training program will certainly help improve your overall fitness level and maintain muscular strength balance in the lower and upper body. This approach is "preventive" in nature and can help us avoid orthopedic injuries from overuse. A typical preventive strength routine for runners and walkers might include the following exercises:

- **Dumbbell lunges** for improved hip and leg thrust
- **Dumbbell step-ups and step-downs**, also good for hip and leg thrust
- **Leg curls** to strengthen the hamstring muscle group
- **Dead lifts** for torso stability (proper dead lift technique is crucial!)
- **Stability ball crunches** for abdominal and core strength
- **Back extensions** for lower back strength
- **Bench press** for chest strength, improves arm drive
- **Lat pulldown** for upper and middle back strength
- **Calf raises** to improve ankle flexibility and foot/calf strength
- **Pull ups** are a great exercise for overall shoulder and back strength
- **Leg extensions** focusing on quadriceps contraction, help keep quad muscles evenly balanced
- **Bicep curls** for arm strength (helps us relax!)
- **Tricep kickbacks or Tricep pulldowns** , also for arm strength

Most experts recommend two to three strength training workouts each week. Perform two to three sets of each exercise, 8 – 12 repetitions per set. Choose a weight for each exercise that is challenging, but allows you to perform the entire set in a slow and controlled manner. The emphasis should always be on proper technique and focus on the muscle(s) being worked.

If you are new to strength training, it's beneficial to have a fitness professional help you with proper technique and formatting your routine.

A strength training program can also be designed to improve athletic performance.

Your best gains in athletic performance (running and/or walking in this instance) will be achieved when key parts of your training mimic what you do when you compete. As the specificity of your training increases, the better the chance that training-induced physiological gains will improve your race performance. This is absolutely true for running and walking training programs: performing 5-minute intervals at your 5K race pace will do far more for your 5K race performance than will long runs at slower paces.

The concept of specificity also applies to the transference of physiological gains from strength training to running and walking. When most runners and walkers go to the gym, they focus on the usual workout they've read about in magazines or learned from friends. These exercises are great for developing strength, but none of them help much with improving race performance. There are a few advanced strength training exercises that duplicate the muscular movement patterns associated with running and walking.

The following three exercises have been shown to closely duplicate the overall body posture and muscle mechanics of running and walking:

- **One leg squat or lunge** – this is an advanced exercise that should be done on a Smith Machine, a common piece of equipment in most gyms. The Smith Machine will provide stable and safe way to perform a squat or lunge movement using one leg at a time, utilizing a very light weight load on the barbell. Special attention should be given to safe back alignment during the exercise motion;
- **High bench step-ups** – as the name indicates, you'll need to find a stable bench or an aerobics bench commonly found in health clubs. Create a bench height of 12 – 24 inches and perform step-ups, one leg at a time, starting with 25-30 repetitions per set. Keep your pace even and concentrate on maintaining proper balance and a smooth, fluid motion. Start with two to three sets and increase the number of repetitions as your fitness level improves, and;
- **One leg hops** – once again, this exercise sounds simple, but it is advanced in nature. The key is balance and concentration. Focus on establishing a comfortable rhythm - keep hopping on one leg as long as possible. Alternate legs and begin this exercise in a very conservative manner. Make sure that your hopping leg maintains a slight bend when landing. Start easy and build your "hopping time" from week to week.

Boosting horizontal power

The idea behind strength training to improve running or walking race performance is to improve your power in a horizontal direction (most of don't run or walk in a vertical manner; we run or walk straight ahead – toward the finish line!).

If you've decided to incorporate performance improving strength training exercises like one leg squats, high bench step ups, and one leg hops, consider adding elements to your running/walking program that will improve your "horizontal power". The following exertions are excellent workout "enhancements" that will boost horizontal power:

- **Speed bounding** – bounding along with longer than normal running strides while attempting to maintain high running speed (this is different than the traditional bounding drills historically performed by track and cross-country athletes, which involved excessive lifting of the body during the bounding motion and overly slow movements, ignoring the need to move quickly in a horizontal direction). This is a running drill only;
- **Running/walking while wearing a weighted vest;**
- **Hill training, and;**
- **Hill training while wearing a weighted vest.**

The above methods are listed from least to most effective in developing "horizontal power", leading to improved race performance. As with any type of training, it's best to start conservatively and work your way to longer or more difficult training sessions.

Fred Klinge is currently certified by the American College of Sports Medicine as a Health/Fitness Instructor. He participated in 1984 U.S. Olympic Marathon Trials and has a marathon PR of 2:18.15.