Plyometrics and Distance Runners

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"How many miles do you run per week?" is perhaps the most common questions when runners discuss their training programs. A quality training program is much more involved than how many miles are completed over a day, week, or month. In working with coaches and athletes from around the country, I've noticed that among runners performing in 5000m through marathon races, there is an increasing trend of focusing more on the specific workouts rather than the number of miles run.

Weekly mileage is an important part of a training program, but to improve performance times, quality workouts must be included where increasing mileage does not decrease one's ability to perform well in the quality workouts. These workouts include interval work, tempo runs, threshold runs, fartlek runs, speed workouts, and plyometrics.

Plyometrics are not the most important in the above list of workouts, but should not be ignored. Our best US marathoners include plyometrics in their training once or twice per week. This article is not intended to describe how to do plyometrics, but rather to stress the importance of them for distance runners. A good description of what plyometrics are can be found at http://en.wikipedia.org/wiki/Plyometrics and some examples of typical exercises can be found all over the Internet.

Plyometrics focus on helping the body quickly react to the ground. At speed of typical distance runners, the foot is only on the ground for 0.12-0.25 seconds and reaches a peak force on level ground running of 2-4 times body weight all on one leg. Mileage and traditional workouts help with this a lot, but plyometrics work in a different way. Plyometrics load the body to a greater peak force in a short amount of time conditioning the body to handle a larger maximum force. When conditioned in this way, where the body can handle larger maximum forces, the smaller forces seen in distance running become easier to handle and running economy improves. This translates to faster performance times. The references at the bottom of this article show some studies that investigated the effect of plyometric training on running economy and performance times.

Plyometrics should be introduced gradually into a training program to avoid injury, but over time they are thought of to help reduce injury risk due to the development of stronger tissues through the training. As programs are modified to include plyometric running as one component of many workouts, performances will improve.

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