Secrets of Russian Sprint Training

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Almost every coach is constantly looking for ways to increase the speed of their athletes whether it be for track and field events or organized team sports (Football, basketball, baseball, ice hockey, etc.). Many different methods of speed training are available today, with many of the newest innovations trickling down from our Olympic National Teams. I found a program while working as strength coach in college that has been touched on in the past, that works, and is worth discussion. Over the years the Russians have been innovative in their experimentation with everything from anabolic steroids to preselecting elementary children for future athletic careers. I was introduced to the Russian method of sprint training (plyo-metrics) during the early 1980's and was impressed with the increased performance and reduced stop-watch time of each athlete who trained in this fashion. Today many large colleges and universities use this program along with many professional teams.

Physiology of training for speed

As a coach or athlete it is important to understand that there are only two ways of improving speed:

INCREASING THE LENGTH OF THE STRIDE FREQUENCY OF THE STRIDE

Many coaches/athletes are mislead by stride length. They believe the stride can be improved in running by "reaching" out further with the lead or front leg. It is the back or "driving leg" that determines the ground you cover in a given amount of time. The greater the leg power, the better the chance of developing a longer stride. This leg power and increased stride can be developed through the traditional weight training, running steps, and running up hills. Stride frequency refers to how fast the legs actually move during the sprint. Genetics determine faster stride frequency in many of the elite athletes,(an example would be Carl Lewis). It is a common belief still today by many coaches that stride frequency cannot be improved with training. I disagree, especially after seeing improvements both personally, and the athletes that I had the opportunity to work with.

The Program

The idea is to train the body beyond its normal capacity which will allow the athlete to get the most our of their training. By prompting your arms and legs to move faster than they can move through normal training, you can achieve your goal in speed training. This is the principle behind downhill training which is part of the plyo-metric philosophy for increasing performance. The best way that I have found to implement the program is over an eight week period. The speed work is performed on Monday, Wednesday, and Friday, while the weight-training days are scheduled for Tuesday, Thursday, and Saturday.

It is important to implement a concentrated program first of warm-up and then flexibility to reduce the chance of injury. All times are recorded on a stop watch and recorded as pre-training times, which also assists in grouping the athletes in 3 to 4 per group based on their personal times in the 40 yard sprint.

Week 1 through 7 the work-out for sprinting remains basically the same, with the work consisting of 12 repetitions of 40 yard sprints. The first week the sprints are run on a flat surface. During week 2 through 8 a 10 degree downhill slope is introduced, increasing up to a *45 degree* downhill slope by week 8. Talk about steep!

Mechanics to Increasing Speed

Downhill sprint training works in the following way: An athlete runs a 4.8 forty yard sprint on a flat surface. Moving to the downhill slope will increase his speed an average of two-tenths of a second (his speed downhill in the forty yard sprint now has been recorded at 4.6 seconds). The pull of gravity

is forcing the athlete to run faster than he would be able to prevent falling. It is important to concentrate of good form and drive while running downhill. During this 8 week training period the athlete will increase his speed as his/her body has adjusted to the fast stride frequency, and the arms and legs can move through space as much greater speeds.

I have increased my 40 yard time two-tenths of a second in 8 weeks and have seen other athletes improve their time by as much as four-tenths of a second after completing this program. The lone draw-back to this type of training: athletes peak very fast employing this type of training. This new level of speed can only be maintained for a short period of time. The average athlete will be able to maintain this speed for approximately eight weeks. This type of training can be cycled two to three times per year for optimum results