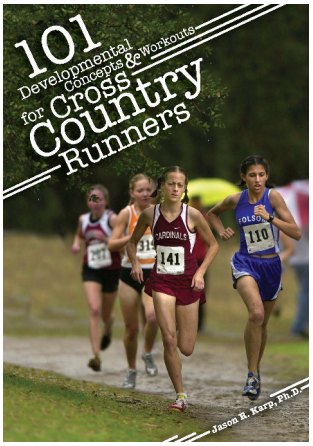
Excerpt

From *101 Developmental Concepts & Workouts for Cross Country Runners*



Concept #1: To run fast, athletes must first spend a lot of time running slow.

Although this concept may seem counterintuitive, it is first and foremost the volume of training the cross country runner performs that induces the biological signal for adaptation and dictates the performance capacity. And in order to accomplish a large training volume, the runner must perform most of the running at a relatively slow pace. Lots of easy, aerobic running forms the basis of any distance runner's training program. That's because aerobic running develops many physiological and biochemical traits needed for good endurance. For example, it increases the number of red blood cells and the amount of hemoglobin contained within them, giving athletes' blood vessels a greater oxygen-carrying capability. It also increases muscle capillary volume, providing more oxygen to athletes' muscles. Finally, it increases the volume of mitochondria (the aerobic factories inside muscles) and the number of aerobic enzymes, enabling the muscles to use more oxygen.

Initially running slow is a difficult concept for young runners to understand. They will likely ask questions like, "Don't I have to run fast in practice to run faster in a race?" and "When are we going to do more speedwork?" While speedwork gives athletes more bang for their buck and improves their performance faster than simply running lots of miles, any short-term success may likely occur to the detriment of their long-term development and consistency of performances. The more runners attend to the qualities of aerobic metabolism, the more they will ultimately get from their subsequent speedwork. Since recovery is an aerobic process, being more aerobically fit allows athletes to recover faster both during the rest periods of their interval workouts and following a workout. Recovering faster within a workout allows athletes to run more repetitions. Since one of the keys to improving VO_2max is to spend as much time as possible running at VO_2max, the benefit to being able to run five 1,000-meter repeats compared to three is obvious. The rapidity with which athletes recover from intense workouts will dictate how often they can perform other intense workouts, which may ultimately influence their ability to reach their running potential.

So, how much aerobic work is enough? It depends on a number of factors, including the athletes' genetically-determined propensity to continually adapt to high mileage and tempo runs, the amount of time they have to run, and the specific racing distance for which they are training. Obviously, the longer the race, the more mileage they need to meet their potential. The best way to determine how much aerobic work each runner needs is to slowly and systematically increase his mileage from month to month and year to year, taking care to note how he responds to the training stimulus. Don't increase the mileage unless the prior training and racing experience gives you reason to believe that he will continue to improve with more mileage. If the runner hasn't reached a plateau in his performance at 40 miles per week, there's no reason yet to increase his mileage to 50.

Workout #20: VO_2max Pyramid

Objective: To increase VO_2max while running different distances and adding variety to the workout.

Description: Athletes run 800, 1,000, 1,200, 1,000, and 800 meters at their VO_2max pace, with a 1:≤1 work-to-rest ratio. For example, a runner who can run two miles in 10:45 (5:22 pace), should run 2:41, 3:21, and 4:01 for the 800, 1,000, and 1,200 meters, respectively, with 2:30 to 3:30 jog recovery. For high school boys and girls who race 5K, this workout will cover nearly the entire course.

Coaching Point: The combination of different distances and different paces for each athlete can cause mayhem on the cross country course. Therefore, to have an organized workout in which each athlete achieves the objective, make sure each athlete knows what pace he or she is supposed to run for each distance.

Workout #29: Anaerobic Capacity Ladder

Objective: To increase anaerobic capacity while adding variety to the workout.

Description: Athletes run 2 to 4 sets of 300, 400, and 600 meters at their mile race pace, with a 1:1½ work-to-rest ratio. For example, a runner who can run one mile in 5:30 should run 61 seconds, 82 seconds, and 2:03 for the 300, 400, and 600 meters, respectively, with 1:30 to 3:00 jog recovery (with the upper end of the recovery range following longer work periods) and 3:00 to 5:00 recovery between sets.

Coaching Point: Since this workout gets progressively harder within each set, make sure athletes don't run too fast for the 300 and 400. The pace should be the same for each repetition.

Workout #40: The Classic Aerobic Fartlek

Objective: To play with changes in speed up to the acidosis threshold.

Description: A variation of the classic fartlek, athletes run 3 to 8 miles, picking up the pace according to how they feel, with all of the speeds used throughout the run being aerobic, with the acidosis threshold being the fastest speed.

Coaching Point: Emphasize the importance of this workout remaining aerobic so athletes don't push the pace. The use of a heart rate monitor during this workout is beneficial to prevent running too fast. Have athletes set the heart rate monitor to beep at their acidosis threshold heart rates (about 85 percent of maximum heart rate).

Workout #52: The Early Kick

Objective: To practice kicking early for races.

Description: This workout can be done during an acidosis threshold or similar type of tempo run. The team runs their racing distance (5K to 10K) in a pack on the cross country course at AT pace or slightly faster (if there are many runners on the team of varying abilities, the team can be broken up into groups of similar abilities), with one runner being designated as the kicker (with only the coach and the kicker knowing who the kicker is). The kicker starts his or her kick at a pre-planned place on the course (far enough out from the finish to serve the purpose of an early kick). When the kicker kicks, it's his or her job to pull away from the pack and each of the other runners' job to try to stay with the kicker. Throughout the season, each runner on the team should have a chance to be the kicker.

Variation: To more closely simulate kicking off of race pace, the athletes can run at race pace instead of AT pace, with the distance of the run shortened (for example, if the athletes race 5K, this workout can be done over a 2-mile course).

Coaching Point: Make sure the kicker doesn't simply sprint away from everyone in the last 100 meters. This workout is about developing a kick that can begin as early as can be held, so it's better to run at 90 percent for 600 meters than 100 percent for 100 meters.

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