

Cardiovascular Conditioning: *Endurance Training For Soccer?*

I remember playing and training for soccer in high school and college, going for 3-5 mile road runs, going for long trail runs and running 2 miles in 12 minutes. No matter how much distance running I did, however, I still seemed to be holding my shorts and struggling for air when preseason started. How could this be? I ran all summer long building up my endurance and soccer is a game of endurance, right? Not exactly.

We have all heard the saying in other sports: speed kills, speed wins and speed is king. The same is true for soccer, yet we continue to feel it necessary to build an endurance “base”. Soccer is a game of runs where a player needs to sprint between 10 and 30 yards, jog to recover and repeat for 90 minutes. Very rarely will a player make a run of 40 yards or more and a player will never stay at one pace for more than 20 or 30 seconds if they are to be effective.

To touch briefly in exercise science without becoming too much of a bore, any physical activity is supplied with energy through the use of three main energy systems: the ATP-CP system, glycolysis and beta oxidation. The ATP-CP system is responsible for power production and lasts approximately 10-15 seconds. Glycolysis can be broken up into fast and slow glycolysis. In fast glycolysis the body builds up the lactate responsible for the hurting and burning in the legs when running hard for up to 2 minutes. In slow glycolysis, lactic acid does not build up, and eventually leads to beta oxidation where long slow distance and endurance would take place.

In the game of soccer it is important to take these energy systems into consideration when setting up your training program. To be successful in soccer a player needs to have speed and be able to endure speed. The ATP-CP system is responsible for speed and power and fast glycolysis allows a player to endure speed. Slow glycolysis and beta oxidation are used when the player is recovering. By setting up your training program to alternate between these energy systems, you can more effectively train your body to truly endure the cardiovascular demands of the sport.

Setting up a conditioning session is actually a lot easier than it sounds. Try this conditioning drill, the next time you think about going for a long run to get in shape for preseason. (See Figure 1) This drill allows you to train the same way that you play: sprint, recover and repeat. I think you will find that this will much more closely mimic the demands of soccer. Good Luck and work hard.

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Energy Systems Training---Drill 1

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1. Sprint to cone 1, jog back to the end line, sprint to cone 2, jog back to the end line, sprint to cone 3, jog back to the end line. Repeat this series 3 to 5 times with no rest.
2. Rest 1 minute.
3. With a ball, repeat # 1.
4. Rest 1 minute.
5. Pass the ball to cone 1, sprint to the ball and dribble it back to the end line. Repeat this with cones 2 and 3. Repeat this series 3 to 5 times with no rest.

Effort on the sprint phase should be maximal. Focus on proper running technique, and get the most out of your training. This is a great drill to train the energy systems and to teach change of pace. Remember to warm-up adequately before and to cool down and stretch after. Good Luck.

