

Speed Training Concepts for the High School Coach and Athlete

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SUMMARY

THIS COLUMN OUTLINES PRACTICAL APPROACHES FOR DESIGNING AN EFFECTIVE SPEED- TRAINING PROGRAM FOR THE HIGH SCHOOL ATHLETE. IT INTRODUCES CONCEPTS TO ASSIST THE COACH IN IMPLEMENTING A SAFE TRAINING SESSION ALONG WITH OUR SPRINT TRAINING DRILL. THE PRIMARY FOCUS HERE IS TO HAVE THE COACH TAKE A CLOSER LOOK AT HIS OR HER TRAINING METHODS AND SPARK CURIOSITY ABOUT PREPARATION AND RECOVERY FOR 13- TO 19-YEAR-OLD DEVELOPING ATHLETES IN ALL SPORTS.

A goal of our high school athletic department is to make our teams faster and prevent injury. The challenge is to effectively train both young boys and girls who are at different ends of the developmental and chronological age spectrum to achieve that result. We have implemented basic structural training

guidelines and created a sprint training drill for the coaching staff to follow to address these differences. This column outlines a few practical approaches designed to improve speed on the field while maintaining a challenging, competitive, and safe environment.

Training at this level begins with a sound fitness base. All the components of physical fitness such as, but not limited to, strength, endurance, coordination, balance, and flexibility are essential in the development of speed in our program. With daily routines, homework, sleep habits and proper nutrition requirements of high school student/athletes, the quality of training becomes a major issue. In general, we do not have the luxury of working with very many elite athletes. Each team consists of various levels of proficiency. How then can we address all these differences and still produce quality performances?

We began by implementing a mandatory 2-week program involving all athletes for 45 minutes each day after school for preseason conditioning. Our conditioning staff supervised a group medicine ball training program to prepare athletes for the rigors of practice before they meet their specific sport coach (5).

We also designed more effective training protocols and practice sessions. A coaching course was developed to help analyze their particular sport in a competition modeling procedure (4). This program included critiquing game films and focusing on the time that it takes to run each play, the rest intervals

between those efforts, and the movement patterns involved in each sport. When the season began, sport coaches then introduced various drills, technique, and running mechanics along with explosive medicine ball throws, plyometric box jumps, and Olympic lifting movements in a complex training regimen (2). These efforts helped give our teams a competitive edge and attempted to reduce injuries. Our athletes were able to work harder and recover better from each workout.

While observing sprinters on our track and field team, we noticed that after about 45 m or about 5–7 seconds into the 100-m dash, athletes began to decelerate. We also observed that the recovery time after each repetition to achieve a similar result on the next repetition was not long enough. After some trial and error, we found that when their resting heart rate came down to about 120 beats per minute (bpm), they were ready to run the next repetition with a similar result.

We have instituted simple guidelines for all coaches to standardize speed-training drills for all sports.

1. Perform dynamic movements after aerobic warmup (3).
2. Use rest intervals with at least a 1:3 work/rest ratio for sprint drills and a heart rate response of around 120 bpm before another interval (1).
3. Keep repetitions to no more than 7–10 for sprint drills of more than 40 m (4).

4. Perform speed drills early in the practice session to allow for maximal effort (1).
5. Take frequent water breaks during practice.

During the first year of implementing these guidelines, there was a consistency in the training protocol of all our teams. There was an observable difference in the way we trained as a school. We were able to point out performance-related problems more effectively and make adjustments to our training. We believe that our new initiatives have helped keep our coaches and athletes more focused and aware of the details of sport training.

Although there are many great drills designed to develop and improve speed, our favorite speed training drill incorporates all the components stated in the coach's guidelines. It is a fun, competitive, and manageable drill for the whole team.

SPRINT DISTANCE DRILL

Equipment: cone or beanbag, stopwatch, whistle or horn.

Place: track or field.

Line up 4–6 participants in a standing position at the starting line. Partners stand approximately 45 m away holding a cone or beanbag. On the command, athletes sprint for 7 seconds. A whistle will tell the runners when 7 seconds are up. Partners place a marker at the spot passed at that time. Runners then walk back to the starting line and take their pulse. In about 90 seconds and at a heart rate around 120 bpm, the next repetition begins. When there is about a 10% reduction in the distance traveled or about 3 strides, the drill is over. Most athletes get about 6–8 reps before there is a reduction in yards covered.

In an effort to prevent overtraining, the next speed training session should occur when proper rest and recovery have taken place. The sprint distance drill is repeated every 48 hours during the preseason and once per week during the season at the beginning of the practice week. There are very few motivational

drills at our school that compare to the competitive nature of the sprint distance drill. Although speed may be inherent in an individual from birth, just being fast does not necessarily make for a great high school athlete. The control of that speed and the will to excel are essential to performance on the athletic field. The implementation of game and skill analysis, along with training guidelines that focus on running mechanics and training protocols, has given our high school coaches a research-based philosophy to help our athletes reach their potential and improve performance. ■

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