



Mike Nitka, MS, CSCS
Column Editor

summary

The 40-yard dash can be a useful tool for the high school coach with respect to assessment, talent analysis, and promotion of those athletes with high levels of speed and acceleration. The 40-yard dash can be enhanced through technique refinement and specific training.

The 40-yard dash has been used in football circles for many years to assess an athlete's speed. So much emphasis has been placed on the 40-yard dash that the public now judges an athlete's athletic performance and potential on the athlete's performance in this test. For a high school coach, this test can prove useful in identifying athletes with superior speed potential, provide results and feedback on the effects of the conditioning program, and help promote the high school athlete to collegiate coaches. With the advent of high school combines that mimic the National Football League combine, athletes' desire for an improved 40-yard dash has increased in

The Forty-Yard Dash for the High School Athlete

Michael Gough, CSCS
Athletic Edge Sports, Sarasota, Florida

recent years. Although genetic factors play a role, performance training for speed and power, along with specific technique instruction for the 40-yard dash, will enhance an athlete's performance in this test.

Why Use the 40-Yard Dash Test?

The 40-yard dash can be great tool for the high school coach. It can be used to compare athlete A with athlete B, assess team speed and positional speed, evaluate athleticism, and chart metrics from year to year on the success of the conditioning program. Ultimately, it is a measuring stick that college recruiting staff use to evaluate the athleticism of a potential scholarship prospect.

Analysis

Before starting to refine technique and implement a training program, each athlete must be analyzed to determine where his or her deficiencies lie. Time analysis of 10-, 20-, and 40-yard time intervals will determine if acceleration or top end speed needs improvement. Video analysis can be used to correct technique flaws and as feedback.

Technique

The more efficient the athlete's running technique, the faster the athlete

will be able to move. Proper running mechanics should be stressed. The starting position is essential to achieving acceleration through explosive arm and leg action. Acceleration occurs from the start position until the athlete reaches top end speed. A powerful triple extension of the hip, knee, and ankle joints is important for maximum power development off the start. Forward body lean is critical during the acceleration phase. Once top end speed is achieved, the athlete finishes strong through the 40-yard marker. During the top end speed phase, relaxed running mechanics and stride length should be the focus.

Training

In addition to refining technique, performance in the 40-yard dash can be improved through enhancing the athlete's speed, power, flexibility, and core strength.

Speed can be enhanced through improving running mechanics by way of resistive and assistive sprints, acceleration drills, and top end speed training. Depending on the athlete's limitations, specific speed-training exercises can be implemented to target areas of the 40-yard dash that need improvement.

Power can be developed through the use of plyometrics and Olympic-style lifting, with a focus on the posterior chain development. Explosive plyometric movements such as squat jumps, split squat jumps, and tuck jumps are great exercises for developing power in the legs and hips. Olympic-style lifting movements such as cleans, pulls, and snatch squats activate the neuromuscular system, forcing muscles to fire in synch in a quick and explosive manner. This type of training also activates the posterior chain.

A structured flexibility program targeting the hip, knee, and ankle joints is critical for speed improvement, allowing the athlete to lengthen his or her stride and maximize power output. The hamstring, psoas, quadriceps, and gastrocnemius need functional range of motion to achieve maximal force and speed enhancement. Finally, core strength must be developed to increase the athlete's ability to have proper running mechan-

ics and for optimal power development. The abdominals, obliques, erector spinae, and gluteals are key stabilizers during sprinting.

Although the focus on training specifically for the 40-yard dash is secondary to the athlete's sport-specific preparation, more athletes are focusing on improving their 40-yard dash result. Through technique refinement and proper training, athletes can improve this outcome. The more educated the coaches can be in helping the athlete improve his or her performance, the more motivated the athlete will be to train and work harder. High school coaches should take this interest and use it to teach and motivate the athlete to train for speed and power. ♦

Michael Gough is the Director of Athletic Edge Sports-Pro Combine Training in Sarasota, Florida, where he prepares athletes for the National Football League combine.