

Examining the 40-yard Dash
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Have you ever watched the NFL Combine, checked out the results of the latest high school camp, or evaluated your favorite recruit's measurable on his online recruiting profile? If so, you have probably seen measurables for the most commonly noticed test of speed, the 40-yard dash. If you are like me, you want to evaluate and ask "Why?" for everything you see or hear regarding strength, speed, and conditioning. So, let's ask the questions, "Why 40 yards, and how do I dominate it?"

According to most speed experts, an athlete does not reach full speed until around the 60-yard mark, so why is it common practice to stop timing at 40 yards? One commonly accepted reason we began timing the 40-yard dash originated on the football field. One of the primary special teams, the punt unit, can have a major impact on a football game. A good punt can pin the opposing team's offense deep in enemy territory, allowing a much better opportunity for the defense to be successful. On the other side of the coin, a bad outing by the punt team can give the opponent's offense great field position meaning a better chance of putting points on the scoreboard. Originally, it was observed that the average punt traveled a distance of 40 yards with a "hang time" of 4.5 seconds. Therefore, an athlete who can run 40 yards in 4.5 seconds or less can ideally get from the line of scrimmage to the punt returner in the amount of time (or less) that it takes for the ball to reach its end point.

Nowadays, the 40-yard dash is a new animal. Every position group times this event. We are seeing athletes become bigger, stronger, and faster every day. Elite offensive linemen who are well over 300 pounds can now run the 40-yard dash in sub-5 seconds. That is lightning speed for a man of that size. Remember, force equals mass times acceleration. As the mass goes up, the athlete must be able to produce more force in order to accelerate to a sub-5 40-yard dash time.

So, with all the focus on 40 times (whether that is a good thing or not), let's take a look at the components of the event and how to nail a good time. The components of a 40-yard dash are: stance, start, drive phase, cycle phase, finish, and deceleration.

Stance: Many coaches have varying ideas as to how an athlete should set up to run a 40. Some coaches teach the athlete to fall out front and walk themselves back in a coiling fashion. Others teach to get a stance that is comfortable. My philosophy is to train to become comfortable with what works best. I teach my athletes to place their front foot a foot's length from the starting line with a staggered stance. The front of the rear foot should be in line with the middle of the front foot, and the feet should be directly under the armpits. The hand opposite your front foot should be directly behind the line (crowd the line and get as close to the finish line as you can) with the thumb and first finger on the ground. Your back should be flat, eyes down, butt elevated, and bodyweight leaning forward. You are not coming out of blocks like a track sprinter, so you must engage a tremendous amount of force from the glutes, hamstrings, and calves to propel yourself out of this starting position.

Start: The start is the most important piece of the puzzle in a 40-yard dash. The start can catapult you to a solid time, or it can crush you. Do not roll into your start, do not pick up your hand before your body moves, and do not fire your off arm forward before your body moves (if you use a stance with your rear arm up). Whether you are being timed by laser or hand, the clock starts ticking when you move. If you roll or move an appendage into the start before your body, you are wasting valuable hundredths. It is crucial that you drive through the ground from both feet. This may feel a bit awkward at first because your feet are staggered, but it makes much more sense to use both your wheels to take off rather than just one. Fire out low to enter your drive phase. If you pop straight up, you are opening joint angles which need to be more closed during this phase.

Drive Phase: You enter the drive phase immediately from your start. This is the primary component of your 40-yard dash. You are pushing against the ground with great force, launching yourself with each step. If you were sprinting a 100-meter dash, you would likely be in your drive phase through 40 yards, but since we are only sprinting 40 yards it turns out to be a bit different. The mistake many athletes make when timing a 40 is getting out of their drive phase too soon. In your drive phase, your body should be like a torpedo fired from a submarine. Your cycle leg should drive up toward your chest while your plant leg should extend into the ground and launch your body with each step. The less time you spend on the ground (the amortization phase), the better. The intensity of your arm motion should match that of your legs. Generally, coaches teach "cheek to pocket" with the arms. Whatever works for you is fine, as long as your elbow is close to a 90° angle and it is driving back and forth in a powerful range of motion. Make sure the arms are not crossing your body. This will cause you to sway side-to-side slightly costing you valuable time.

Cycle Phase: You should not spend a lot of time in this phase when sprinting a 40-yard dash, but you will run a portion of your drill in this part. You will most likely enter the cycle phase around 25-30 yards depending on your level of power production. Many athletes enter the cycle phase much sooner and it costs them time. We will get into the mechanics of your cycle movement in a later article.

Finish: Coaches preach it all the time – finish full speed through the line! If you begin to slow down early you will hurt your time. And, it's only 40 yards. Don't be lazy. Finish past the line.

Deceleration: Deceleration simply means slowing down. This should not happen until around the 50-55-yard mark. To decelerate, sink your hips and use your arms to slow the movement of your legs. Your upper body and lower body must stay in sync, so use your arms as a braking system. Make sure you sink your hips and keep your chest up so you do not trip, flip forward, or put undue stress on your knees and ankles.

Work on your sprint mechanics often, and remember to stay in the weightroom. Speed is strength. Until next time...

Stay strong and Finish First!
Charleston Speed Academy