SST SPEED

Decrease your 40 yard dash time in the weight room!

How to Decrease Your 40-yard Dash Time in the Weight room - Part I

If you want to go places in any sport, then you had better work on your 30/40/60yard dash. While the forty-yard dash is probably the most overrated test, it is also the test that most coaches rely on when scouting a player. Given the emphasis that is placed on this *one* test, We are surprised at how many athletes come to combines and camps unprepared. We see athletes wearing the wrong shoes or the wrong clothes and we can tell that many of them don't know the proper starting technique or running mechanics. Furthermore, it's obvious that most players haven't done any effective speed or strength training leading up to the big day. We tell our athletes that they must consider the forty-yard dash as a job interview that could land them a scholarship. Remember that first impressions mean everything, so plan and be prepared to run like a professional.

Don't get us wrong , running 40-yard dash doesn't mean that you're automatically a great player, but it will turn heads and give you the chance needed to show universities or professional teams what you can do on field/ice. Athletes fall into a slightly different category than the typical non-exerciser. An athlete uses protein primarily to repair and rebuild muscle that is broken down during exercise and to help optimizes carbohydrate storage in the form of glycogen. Protein isn't an ideal source of fuel for exercise but can be used when the diet lacks adequate carbohydrates. This is detrimental, though, because if used for fuel, there isn't enough available to repair and rebuild body tissues, including muscle.

There are three main factors that SST considers when designing a strength training program for athletes who want to decrease their forty-yard dash time. First, we assess the player's experience and abilities. Factors such as age, previous training experience, fitness level and amount of time available for training are considered. Next, we evaluate the player's 40 yard dash to determine weaknesses. Do we need to improve how they start, decrease their ground contact time or work on reaching maximum speed?

Lastly, we focus on strengthening the athlete's weakest muscles. As a general rule SST has found that a large number of athletes tend to have weak lower back, hamstring and VMO muscle *(VMO, or vastus medialis, is the teardrop muscle found on the inside of the quadriceps)*, therefore for the purpose of this article we will highlight, what we believe to be, the top six exercises designed to strengthen these muscles.

The following three exercises: snatch grip deadlifts, tire flipping and Olympic lifts and their derivatives strengthen lower back and hamstring muscles which are key components for achieving maximum speed.

Exercise #1 - Snatch Grip Deadlifts

If I had to choose only one strength training exercise to improve a player's 40-yard dash time, I would pick snatch grip deadlifts because they work the entire posterior chain (lower back and hamstrings). Snatch grip deadlifts are a bit different than your traditional deadlift in that they recruit more of the hamstrings due to the angle of the trunk and a wider grip.

Results: Improve start, increase maximum speed

Description: Starting position- feet are shoulder width apart. Grip is wider than your traditional grip. Elbows are turned out. Shoulder blades are retracted. Knees over the bar. Chest and shoulders over the bar. Lower back is arched. Initiate lift with hamstrings and lower back. Maintain lower back arch throughout. Keep bar path straight.

Variations: snatch grip deadlifts off a podium, snatch grip deadlifts with chains and traditional deadlifts.

Exercise #2 - Tire Flipping

Tire flipping is not your traditional weight room exercise but it's a functional way to develop the posterior chain (lower back and hamstrings). This is a grueling exercise that has a lot of return for its effort.

Results: Improve grip strength, decrease 40 time (after 12 weeks SST athletes decreased their 40 time by up to 3 tenths)

Description: Start in a deadlift position and grab the tire from underneath (fingers under the tire). Lift the tire using your legs and pop your hips forward. Flip your hands around (palms on the tire) and push the tire away from you in an explosive manner. You must keep your back arched throughout the entire movement to prevent lower back injuries.

Exercise #3 - Olympic Lifts and Derivatives

Olympic Lifts consist of power cleans, hang cleans and snatches. These exercises must be done explosively which means as fast as possible. The amount of weight doesn't matter as much as the speed of the bar. Of all the Olympic lifts the snatch uses the most muscles in the body. People tend to shy away from this exercise, but I have found it to be the most effective and easier to teach than cleans. To achieve maximum results and avoid injury it's important to employ proper technique and use the right weight when performing Olympic lifts.

Results: Faster starts and less ground contact time

Description: An explanation of hang snatch from thigh will be provided as it is the most applicable.

Starting position - feet are shoulder width apart. Grasp bar with hook grip. To determine the distance between hand placements, measure your elbow to elbow distance with arms straight out to sides. From this point move the bar explosively from thighs by extending the hip, knee, and ankle joints in a jumping action. This is also known as "triple extension" of the joints. Keep the bar close to the body. This is a very important element and should be perfected. At maximum plantar flexion (up on the balls of the feet), shrug the shoulders, flex and pull with the arms. Pull the bar as high as possible. As the bar reaches maximum height, flex and then rotate elbows around and under the bar. Then fully extend the elbows and lock the bar overhead. Catch the bar with knees and hips flexed and squat down slowly and under control. The hang snatch is a complicated exercise that should only be performed in the presence of a qualified coach.




In Part II, I will explain the remaining three exercises that focus on increasing VMO strength: squats with chains, wobble board split squats and sled dragging. Strengthening the VMO muscle will help decrease ground contact time which is vital to increase speed. The less time a player spends on the ground, the faster they will be!

How to Decrease Your 40-yard Dash Time in the Weight room - Part II

In Part I of this article readers were introduced to the concept that strength = speed. Specifically, Athletes wishing to decrease their 40-yard dash time were told to focus on strengthening their lower back, hamstring and VMO muscles (teardrop muscle found on the inside of the quadriceps). Part I reviewed the best exercises for strengthening lower back and hamstring muscles, so let's move on to the top three exercises for developing VMO strength: squats with chains, wobble board split squats and sled dragging.

Exercise #1 - Squats with chains

If you improve your speed during the first 10 yards of your 40-yard dash then half your battle is over. In the first 10 yards, it's all about quads and glutes so choose exercises that specifically work these muscle groups. SST suggests squats with chains.

When SST says "squats", we don't mean those quarter or 90 degree squats that most trainers advocate, we mean rock bottom squats. Why? It's simple; rock bottom squats do a better job of developing glutes and quads (especially the VMO).

To further increase the effectiveness of the squat, SST has their athletes perform squats with chains. During a squat an athlete is strongest in the top position and weakest at the bottom. By using chains, SST compensates for the strength curve by matching weight to strength levels.

For example, say you're squatting 300lbs plus 50lbs of chains. At the top, when you are your strongest, the chains are hanging so you are lifting 350lbs. As you squat down and your strength level decreases, you are only lifting 300lbs because the chains are resting on the ground.

Results: Increase VMO strength, decrease ground contact time, improve strength & speed during first 10 yards of the 40-yard dash

Description: Start with **c**hest out and lower back arched. Begin to drop hips to ground by first bending knees as far forward as possible and then lowering hips until hamstrings cover calves. Pause for 1 second at bottom. Lift up through legs while maintaining arched back. Feet must remain flat on the ground at all times.

Variations: 1 ¼ squats, front squats with and without chains, back squats with bands and jump squats

Exercise #2- Wobble Board Split Squats

You're probably thinking "What the heck is a split squat". Split squats are a lunge without the explosiveness. What is a wobble board? Imagine a small board with a hard ball stuck under it (it's not exactly that, but you get the idea). By performing split squats on a wobble board, you are training your leg muscles from the hip joint down in an unstable environment.

Destabilizing your leg muscles ensures that your VMO gets blasted…in a good way of course. It also allows you to recruit more leg muscles than you would have had you been training in stable environment.

Results: Increase VMO strength, stabilize muscle strength in legs, decrease ground contact time

Description: Starting position: place foot of non-dominant leg on wobble board. With chest out and shoulders back, move hips forward and downward while remaining upright. Allow the front knee to travel over toe of front foot until hamstring is covering the calf. Pause for a second then push off heel of front foot back to starting position. Repeat. The challenge is to keep the sides of the wobble board from touching the ground.

Variations: sit fit split squats, wobble board/sit fit split squats with dumbbells (only when you are good enough at balancing) and split squats with low pulley cable for added resistance

Exercise #3- Sled Dragging

Sled dragging is a great way to increase functional strength if you don't have a weight room facility at your disposal.The various sled exercises used by SST for speed training are too numerous to list in the article, thus we will focus on two of our most popular: walking backwards on the balls of your feet and walking lunges.

Results: Increase maximum speed and decrease ground contact time

Description: Walking Backwards - fasten harness around waist. Keep chest over feet. Maintain arched back. Bend hips and knees. Begin by taking slow, deliberate steps backwards. Move arms in a running motion. Word to the wise, this exercise will feel really easy for the first ten yards but by the time you reach forty yards, your quads (especially your VMO) will be screaming. Once you are able to cover 100 yds with ease slowly add weight to the sled. Walking Lunges – fasten belt around waste and attach rope from harness to belt. With sled dragging behind, perform a lunge with front leg. Upon landing explode upwards and out. Do not just pop up, the key is to push up and forward. Coaching Tips: keep your front heel down, maintain an upright posture and EXPLODE!

Bonus workout!

Sprinting in high intensity interval training (HIIT) format is the most commonly utilized type when paired with a traditional gym-based strength training routine. These types of sprints cause a large metabolic response resulting in increased calorie expenditure and an increase in the circulating levels of hGH and testosterone. The shortened rest periods for these sprints do not allow for full recovery, so the body has to rely on heavily on the anaerobic glycolysis energy pathway in order to produce ATP. This energy pathway results in temporary acidosis due to an accumulation of hydrogen ions, and it is theorized that this is what triggers the increase in hGH.3 On the other hand, these workouts are not as taxing on the central nervous system because the average sprint intensity is lower. Remember that the more you “feel the burn”, the greater the subsequent increase in hGH will be, so use that as motivation when you are wanting to call it quits before you have completed all of your reps. Workouts should be fairly short, under the 20-minute range. Do not perform these sprints immediately before a gym workout because you might be fairly wiped out after, making the strength training work you do following the sprints less effective.