

Weight Room Movements for Speed Improvement **by: Adam Smotherman, SCCC, CSCS, USAW-LISP**

I once heard a pastor say, "If you want to get strong, you have to pick up something heavy." This statement is true for both the physical structure of the human body and the things we must go through in life. From the standpoint of athletic speed, this statement is also true. In order to get strong, you must train to get strong. And, to be fast, you must be strong. Therefore, to improve speed, you must train for strength and power. Remember, speed is strength. So, with all the scientific research and proven age-old movements thrown into the big melting pot of training with new-age fads and internet videos, what should you believe and where should you look for legitimate training ideas? My advice...keep it simple and do not concern yourself with straying too far from the basic, fundamental movements. Be a beast at the basics!

Many of the new-age training ideas and exercises can be great if utilized as supplemental work and even as alternatives to core lifts every now and then, possibly in an unloading phase. But, let us not forget that "supplemental" means "in addition to," not "in place of." When you see an athlete who only uses light-resistance, minimal range of motion exercises, this person is not maximizing his or her athletic potential. You must move significant weight if you are to improve. It is a training principle as old as training itself, but in the muck and mire of modern training "innovations" some have lost sight of the fact that "if you want to get strong, you have to pick up something heavy."

Start with the basics. Put a bar on your back, over your head, or across your front deltoids; and squat it! Squatting builds the wheels (legs) and puts good stress on the transmission (core). The squat is the best lift for building strength in the musculature around the hip and knee joints. The squat is beneficial for athletes because, if performed properly and implemented in a periodized program, the lift requires utilization of the core, glutes, hamstrings, and quadriceps in a way that builds mass and strength; as well as taxing the central nervous system to develop greater power production, all of which are needed for sport speed.

In addition to the squat, put things (start with a barbell) on the ground and pick them up. The age-old deadlift is the best total-body lift on the planet. It places strong tension on the legs, back, core, and upper extremities. The first muscle group to contract when you drive out of a stance to sprint is the spinal erector group. Therefore, an athlete needs a strong back to produce great force into the ground, thus moving quickly in a sprint. When you have built up a good level of strength in the squat and deadlift, you are ready to clean. The clean, power clean, hang clean, clean and jerk, power clean and jerk, hang clean and jerk, snatch, power snatch, and hang snatch are excellent lifts for developing explosive power throughout the total body. In addition to developing the aforementioned strength and power outputs, the clean requires loaded triple flexion and triple extension of the ankles, knees, and hips; all of which are experienced during acceleration, deceleration, and change of direction movements.

Assistance exercises that should be utilized in your training program include lunges, step-ups, step-downs, abdominal exercises, oblique work, spinal erector training, upper body resistance training, weighted carries, sled pulls, sled pushes, and a variety of jump training. Remember, as an athlete you must develop the total body. Leave no stone unturned. Strength, mass, and power deficiencies and imbalances will catch up to you and result in injury at some point if they are not addressed now.

From a set-rep scheme, it all depends on what the primary needs are based on the athlete's sport. A football lineman needs strength and power, but also great mass; so he might spend more time than the average athlete in the hypertrophic phase if he is undersized and in need of more bulk. A 100-meter sprinter needs great power and strength for force production, but nowhere near the mass of a lineman. So, the training intensities, volume, and rest intervals all depend on needs. In a general linear periodization format for, let's say an 8-week training cycle, an athlete might spend two weeks in the hypertrophic phase (8+ reps per set at 50-75% of 1 rep max [RM]), two weeks in a strength phase (5-8 reps per set at 80-90% of 1RM), two weeks in a power phase (3-5 reps per set at 87-95% of 1RM), and one-to-two weeks in a peak phase (1-3 reps \geq 93% of 1RM). Keep in mind, this is a very general programming example, and is for the core lifts (press, squat, deadlift). The Olympic lifts are periodized, but there are few reasons to ever perform more than 5 reps per set on these movements. Hypertrophic means mass-producing. Think bodybuilding. This is when the size of the muscle fibers is enhanced by using lower resistance and higher volume. The strength phase includes a bit of a hypertrophic effect, but the weight gets heavier and the reps decrease, so we begin to see a stress on the central nervous system (CNS). The power phase is when we see a much greater impact on the CNS, allowing the body to hold and move heavier weights. Finally, in the peak phase, we have built the musculature through the hypertrophic and strength phases (a larger muscle has more ability to produce greater force), and we have transitioned the CNS to handle heavier loads through careful periodization (progression), so the body is ready to be tested in terms of a one-, two-, or three-rep max.

There are many factors which go into designing a program. A coach could determine his or her athletes need more muscle mass, and thus might stay in the hypertrophic phase for three or four weeks; or even come back around to another hypertrophic phase after the peak period. The coach could conclude that his or her team is experienced and big enough to handle heavier weights for a longer period of time, and thus bypass the hypertrophic phase altogether, focusing on strength and/or power. In another example, the programming may not be as rushed as a typical off-season training program for sports. A full-time, professional athlete may be on a yearly macrocycle program in which the periodization may be a slower progression. Furthermore, the coach may decide he or she wants the team to train in the classic format of two weeks of increasing intensity and decreasing volume, followed by one unloading week of higher reps and lower weight, concluded with a week of peak intensity and low volume. There are many ways to design a program and various factors which dictate the pace of progression.

The bottom line is, become a beast at the basics, remember that if you want to get strong you have to pick up something heavy; and if you want to get faster, you have to get stronger. Until next time!

Stay Strong and Finish First,
Charleston Speed Academy