

SPECIAL STRENGTH

Louie Simmons

Do you know the importance of special strength development? What are the velocities of explosive strength and isometric strength? The answer is high velocity and zero velocity. But what does this have to do with you? Will one help develop mostly speed and the other strength?

Isometric work will increase strength where speed is less important. Explosive strength is essential when high velocity is required against small loads. Remember, the amount of speed obtained is a direct reflection of external resistance.

Let's look at how to build special strengths and to understand how important a role they play in the development of a world class powerlifter. Through much study of world class weight lifters, the average weight lifted by percent and total volume goes up as mastery of the sport increases. This rule holds true for throwers and sprinters as well. I'm probably the only person to collect data on world class powerlifters, so some may think my findings inconclusive because there's no other data to compare to. However, they are along the same lines as the Soviet Olympic lifters.

One must possess all special strengths to succeed. Explosive strength is also referred to as explosive power and is the ability to rapidly increase force (Tidow, 1990). It is best developed through jumping, bounding, and other forms of plyometrics, not Olympic lifts. To be the fastest would require no resistance.

For jumping, one must use a rotational system: vertical jumping, jumping from the knees, jumping from the knees with weight on your back, power snatch on the knees, power snatch while seated, power snatch into a split stance.

We have had enormous success with football 40-yard times from jumping with dumbbells of different weights and onto different box heights, jumping with ankle weights up to 20 pounds on each leg, a combination of jumping with dumbbells and ankle weights, and jumping onto a box while standing

on a foam pad. It is to be noted that many don't know how to jump or land. Here we do a series of jumps up to a box and down and up to a second, and possibly a third.

Jumping is not as simple as it looks. For general explosive strength, jump down and onto an even higher box. For the development of concentric strength, we jump down from a low box to a much higher box. Eccentric development is best gained by jumping down from a high box and rebounding up to a low box. The optimal box height depends on general fitness.

Jumping with resistance does not disturb jumping form, but running with resistance will. You need to know these basic concepts. Much information can be found on this subject in the book *Explosive Power and Jumping Ability for all Sports* (Starzynski and Sozanski).

Speed strength is the ability to exert maximal force during high-speed movement (Allerheiligen, 1994). It is most common to train athletes of all types with small weight resistance to build speed strength. This is a very sensible method to increase speed, sometimes referred to as the dynamic method. This is quite common for football players. By using light weights of the same resistance over and over, one can develop a phenomenon known as the speed barrier. I watch runners run at the same pace; then eventually they cannot run faster. This is true for football players as well. If a player trains with only light weights, he will not become any stronger or faster. The problem of a speed barrier occurs most likely with novices who start sport-specific training too early without extensive GPP. You have all seen it: Ball players that only play their brand of baseball, football, or basketball (Naglak, 1977).

The answer is to raise absolute strength. Increasing maximal strength improves speed of movement with heavy weight and will have a positive effect on small loads or even body weight. Let's say lifter A can squat a max of 300 pounds and trains at 60%, or 180 pounds, for speed strength for multiple sets, and lifter B can squat 600 pounds for a max. Now let's say lifter B uses lifter A's 60% (180 pounds). Can you imagine how fast he

would move the same 180 pounds? This points out the importance of raising your limit strength to improve speed strength.

How can the speed barrier be broken? On speed strength day, we use a 3-week wave with bar weight ranging from 40% to 60% of a 1-rep max. To vary the accommodating resistance, we use one, two, or three sets of 5/8-inch chain hanging from the bar. (The Westside Barbell DVDs will show you how to use chains correctly.) After a 3-week wave, switch to weight releasers. Increase or decrease the weight during the 3 weeks. We also use a wide variety of band tensions. We also hang kettle bells from the bar using a doubled-up mini-band. Use your imagination. There are many ways to break the speed barrier. For more information, see *Science of Sports Training* (Kurz).

Strength speed is sometimes referred to as slow strength. When lifting near-maximal loads over 90%, the barbell will move slowly due to minimal acceleration. As Dr. Hatfield said, no one can lift a heavy weight slow. Instead one tries to complete the lift as fast as possible. The top weight lifters overseas use weights from 75% to 85% 51% of the time.

All strength types are connected. When one is properly trained using the three methods—dynamic, repetition, and maximal effort—each method will contribute to the other two.

Of course, a barrier exists with heavy weights as well. We have all been stuck at some weight in some lift. We know that one must train as heavy and often as possible. If one trains with a weight of 90% or more for more than 3 weeks, one will fail, thus causing a slow speed barrier. What's the answer?

At Westside we use the conjugate system. Each week we max out, but we switch the core exercise each week. For example, for squat or deadlift training, on week 1 do a low box squat with the Buffalo bar; week 2, rack pulls; week 3, lightened band deadlifts; week 4, Safety squat bar on a foam box while standing on foam. On bench max effort day, on week 1 do 3-board press; week 2, cambered bar with 5 sets of chains; week 3, floor press; week 4, steep incline press. These are just examples, and of course,

the small exercises or special exercises will change as well, but not as often. By constantly changing the core lift each week, one can max out throughout the year without burning out. This system allows you to work on your weaknesses. This is a tremendous advantage over other systems, plus it perfects your form.

Another special strength is isometrics. Bob Peoples experimented with isometrics years ago. He found them very taxing yet very productive. He would sometimes hold the weight for 40 seconds. Bob found it hard on the circulation. A second method was to select a position and barely move the weight off the pins. Set a goal of 5 reps and work up to 10 reps; then add weight. For both systems he would use very heavy weight. We use more moderate weight for many sets.

Isometrics will build strength 15 degrees in each direction, above and below the bar position. The Eastern Bloc training system found that it was just as effective to pull on a static bar for time as it was to pull very hard for 3-6 seconds. Select three or four positions to work from in each workout.

In isometric action the muscle tension changes while the length of the muscle remains constant. The effort for the most part should be increased gradually until the desired intensity is achieved. Of course, it is hard to gauge the amount of effort being displayed. You can approximate the effort more closely by lifting a predetermined weight off one pin up to a second pin. Hold for the time desired. Always do isometric work at the end of the workout.

It is your job as a coach or a self-taught weight enthusiast to learn where and when to use the strength methods described above.

Westside Barbell

614-801-2060

www.westside-barbell.com