

Percent Training: What is it really?

By: Louie Simmons

In the squat, what is too heavy to train with and too light to train with? In Russia, much research revealed that 65-82.5% of a 1 rep max is best to build strength in the squat. They suggest 2-6 reps per set.

At Westside Barbell we do sets of 2 for 2 important reasons. One, more than 2 reps tends to cause bicipital tendonitis and shoulder discomfort. This pain is commonly felt while benching but, in fact, comes from squatting. The bar shifts to some degree, causing damage. Having your hands spaced too close on the bar may also be the culprit. Two, in a power meet, we don't do reps so if we do 12 sets of 2 reps we are getting 12 first reps per workout. If you do 4 sets of six reps, then you get only 4 first reps.

The velocity-force curve shows that weights can actually move too fast (weights below 65%) or too slow (weights above 82.5%). By staying within this percent range, we are continuously working with poundages that provide both adequate velocity and force to produce record-breaking squats. The multiset system with submaximal weights is referred to as the dynamic method. It produces maximum explosive force as well as maximum velocity. It is one thing to be quite strong and quite another thing to display it. This is important to sports teams if the weight room is to be compatible with the sport.

Let me clarify one important aspect of our training. On our squat/deadlift special exercise day we train with a revolving system of exercises that are switched every 2-4 weeks. We will work up to a top single (100%+) in a particular lift, for example, the box squat 3 inches above parallel with the Safety Squat Bar. After breaking a record or two, we switch to rack pulls. Again breaking records for a 2-4 week minicycle. We then switch again. By continually revolving special exercises and training at 100%+, we apply max force throughout the cycle. So as you can see, we have a velocity day and a max force day in the same week. This max force day is referred to as the maximum effort day. This enables us to maintain both maximum force and maximum velocity at the same time. We are able to train heavier longer than with any other system. The volume of weights by percent will make you stronger throughout the year.

What's wrong with the progressive overload system, commonly used in the United States? Recall what I said about the force-velocity curve. In the early stages of the progressive overload system, the weights are too light, too light even for velocity work. This can be illustrated by throwing a whiffle ball. No matter how hard you throw it, it just doesn't go very far, as compared to, say, a baseball. The weight of the baseball is more compatible with applying velocity and force. It's true that muscle hypertrophy is accomplished during this phase, but we are trying to achieve muscle strength, not size.

As the weeks continue in the progressive overload system, the weights reach the 65-82.5% range. For a while you are achieving maximum velocity, providing that you are trying to do so. But as the weights grow heavier, the force factor comes into play. Slowly but surely, you lose that all-important factor - velocity.

So as you can see, with the progressive overload system, it is impossible to maintain max force and velocity simultaneously. An additional negative effect occurs with progressive overload; you have lowered your volume to the point that it can no longer support the work needed to produce positive results at meet time. You may be at your strongest 2-3 weeks before the meet and fall on your face more times than not when it counts.

One must train at 90% and above for maximum muscle recruitment, but this can only be done for a 6 week period before training efficiency decreases dramatically. However, by training the squat with submaximal weights, with maximal velocity, and by rotating exercises that closely resemble the squat on a second day, you can stay within the boundaries of the force-velocity curve.

When you rotate special exercises, such as good mornings, rack pulls, or Manta Ray squats, anxiety and high blood pressure, which accompany the competition and are present when trying heavy training weights in the squat are eliminated. For most, training with heavy weights in the squat can be so stressful that ones adrenaline level drops drastically.

Another negative aspect of progressive overload is that you must always drop assistance work at the end of the cycle, even though these are the exercises that made you strong in the first place. When you stop doing special exercises, their effect is lost in a few weeks, sometimes a few days. So, for the most part, they must be maintained as close to the contest time as possible. Large muscle groups recover in roughly 72 hours; small muscles, in 24 hours. We do our heavy squat and deadlift work on Monday. It never has a negative effect on our Friday squat workout. Therefore, there is no reason to reduce the work done on Monday when the contest is, in fact, a day or two later than our regular squat day.

As far as deadlifting goes, we seldom do it. But when we do, we do multiple singles with very short rest periods (30 seconds). We start with 60% for 15 singles. During the minicycle the number of lifts decreases as the percentage increases. Use only one weight per workout. The top percent is roughly 85% and the lifts are reduced to 6-8 singles. If you do this type of training, jump about 5% a week. I recommend that only lifters built to deadlift do this cycle. You must be very explosive on each lift.

For example, if you pull a max 700 pounds and you are using 70%, or 490, you must exert 700 pounds or more of force when pulling the weight. Yes, with submaximal weight you can exert more force than is actually on the bar. This is

not possible when you do a max triple of 670 when your max is 700. If there was a force meter on the bar with 670, it may surprise you that not one rep would equal 700 pounds. This also explains why a particular lifter can perform 2 reps with 800, yet can do only 800 at a contest. His body can maintain 800 pounds of force for a period that allows two reps. But because of the slow bar movement, there is a lack of adequate velocity to lift the additional 30-40 pounds on the bar at the meet.

Box squatting on squat day works as the velocity day for the deadlift. On deadlift day, we do a combination of max singles and max reps on a variety of exercises, such as four types of good mornings, five types of squats, five methods of pulls, and an array of exercises for the low back and abs. We may also do static work and isokinetic work. Special exercises with special devices allow maximum speed at the beginning of the lift and maximum overload at the top portion.

Let us review. When using percent training, one can control volume, keeping it constant throughout the yearly cycle. Speed work and maximum weight can be incorporated into the workout, unlike the progressive overload method, where one is sacrificed for the other. A very important aspect is that special exercises can be maintained throughout the yearly cycle, as well as during the time leading up to the contest. Percent training is far less demanding psychologically, reducing anxiety and stress and keeping blood pressure from rising too high. By constantly breaking gym records in special exercises, confidence is built and a sense of well-being is maintained leading up to the contest. A book entitled "Science and Practice of Strength Training" by Vladimir Zatsiorsky may help clarify many of the points discussed here (1-800-747-4457).

We qualified 10 lifters for the WPC Worlds by training with these guidelines. We welcome potential world champions to move to the Columbus area and train with us. Interested and qualified lifters should send their resumes to Westside Barbell.