

Manipulating Sets and Reps to Maximize Strength Gains

**By Jud Logan
Head Track Coach
Ashland University
4X USA Olympian**

Throws coaches at every level preach technique as the key for long term success in all throws. This is the proper game plan, and with all good field generals, you want the newest technology and a full arsenal to insure victory. The weight room is a vital tool to increase power and maximal velocity at the point of release. Most programs are utilizing Olympic Lifts, Bench, Incline, Squat and a variety of auxiliary movements to eliminate functional weakness. Doing the right exercises is only half the job; we must also be concerned with:

- 1) How many sets? How many reps? At what intensity levels?**
- 2) Is the goal Hypertrophy? Is it Max effort work? Are we peaking?**
- 3) Is the total volume overtraining the athletes? Is it enough to get the job done?**
- 4) How can we manipulate Sets and Reps to Maximize those goals?**

I will go over a few of the “Rep Schemes” I have used as an athlete and as coach to realize these goals. Which programs give us the most bang for the buck?

The 5% Solution

Duration: 6 Weeks

Efficiency: I have used this program for pressing movements, pulls and squats.

When and Why: Depending on what 3 rep bracket you choose will determine if you are looking for volume or as I often choose to break a new record in a lift that has hit a plateau. You need to choose 3 concurrent reps between 8 and 3. 8-7-6, 6-5-4, or for the purpose of this discussion, 5-4-3. We will use the Back Squat with a Max of 400 lbs.

Starting weight: You can either know the 5rm or start at 83%-85%. This is the starting point for workout # 1. 4-5 sets of 5 reps. 3-4 minutes of rest is needed.

Week # 1 (83%= 332) 335 x 5. Goal complete 4 sets with a bonus available.

Week # 2 (add 5%= 348.6) 350 x 4. 4 to 5 sets

Week # 3 (add 5%= 366) 365 x 3. 4 to 5 sets

Week # 4 (Week 2 weights) 350 x 5. 4 to 5 sets

Week # 5 (Week 3 weights) 365 x 4. 4 to 5 sets

Week # 6 (add 5%= 383.3) 385 x 3. 4 to 5 sets

Through out this program we have increased our strength levels by 5% and this is assuming we only made one full set each workout. Assuming our work capacity is good, 3 is good, 4 great and 5 excellent. 385 x 3 now has a value of 420 and perhaps much higher- usually 7% in presses and pulls and 10% in squatting movements, due to multiple sets. Forced or assisted reps are allowed in weeks 3 and 6. Whether or not you choose to max the following week is up to you- we can have squat max day or try our best to calculate.

<http://www.gk22.com/tools.shtml>

This program is done once a week and a second day favoring chest, back and tricep work is recommended. I like to use Westside speed bench here to keep bar speed fast and not overload a second heavy day.

The Patient Lifters 6 x 4

Duration: 3-4 weeks

Efficiency: This is a challenging workout that borders on mundane, but taps into an athletes sense of pride and desire to not get left behind. I prefer this program with squats and pulls and especially dead lifts!

Starting weight: 80% of max and for our example a 500 lb. dead lift.

Rest Periods: 3-4 minutes for maximum replenishment of glycogen.

Week # 1 6 x 4 @ 400 lbs.

***The athlete must complete every rep of every set or the workout must be repeated the following week.**

Week # 2 Assuming goal was met- we add 4-5%- athletes choice!

6 x 4 @ 415 or 420

***Same rules apply for achievement.**

Week # 3 Assuming goal was met- we add another 4-5%- athletes choice.

If we are extending 4 weeks maybe 4% and if this is final week most will choose 5%.

6 x 4 @ 440 (one set predicts 492 max, but cmon! 6 sets!)

This program favors low volume but increasing intensity- 24 reps stay constant. With training age of less than 5 years- a 4th week will produce another increase, but not a guarantee for elite athletes. Done once a week!

Cluster Training

Duration: 5 to 6 workouts

Efficiency: This is a peaking program that is hell bent on driving the nervous system. I used 5 Clusters to peak Kibwe Johnson for the NCAA all time 35 lb. weight record of 82' 3"1/2. This is best used for pulls and especially the snatch, and 6 for both Jackie Jeschelnig and Adriane Blewitts NCAA records.

The workout is 25 sets of 1. Explained!

Kibwe had a one rep snatch max of 125 kilo's or 275 lbs.

Starting Weight: 70%

Week # 1 87.5k x 1 15 sec. rest and repeat for a total of 5 reps.

Rest 3-4 minutes

***Research has shown that it takes 15 seconds to restore ATP to make a maximal firing effort and 3-4 minutes to restore glycogen to maximize bar speed in another cluster. Movement is made from boxes at mid shin to save low back. This**

**is speed work- we use a tendo machine to measure the bar speed and only allow a slight increase in weight if 1.7 meters per second or better is achieved. (Bert Sorin).
Coaches eye works just as good!
Repeat for 5 clusters.**

Used 2 x per week and usually coupled with a pre-cursor of snatch grip jumps and followed by some type of speed squat. Monday and Thursday.

Peak Week- The final cluster workout is scheduled based on how athletes are throwing-

Kibwe- final workout Tuesday or NCAA- record was done on Friday.

Jackie- 3 clusters on Monday- 2 on Wed.- record on Thursday.

Adriane- same-, but big hammer- Thursday, discus Friday and re-stim with speed bench Friday after discus to produce shot record on Saturday.

**Know your athlete and what stimulates the best technique or feel-
Add:**

1) Recovery

2) Light Implements

3) 20-40 contact plyos

Results= Big Performance.

Questions?

Thank-you to Charles Poliquin.

<http://www.charlespoliquin.com/members/index.php>