

Compensatory Acceleration Training-Maximizing Each Rep, Each Set

Bodybuilders talk about muscle intention, this means feeling the muscles you are targeting. For example, if you are performing a bicep curl, you feel the biceps do the work.

I am going to introduce a concept I call “movement intention.” This simply means when performing a core barbell movement on the concentric (positive) portion of the rep, you explode as hard as possible.

If lifting a barbell is a war, The Central Nervous System (CNS) is the General that directs your muscles (the soldiers) to accelerate the bar as quickly as possible.

Lifting a submaximal weight with maximal force will provide many of the strength training adaptations of lifting maximal weights; on the same token, lifting a maximal weight with intent to move it as quickly as possible provides explosive strength benefits. Take home point is your body adapts, in a large part, to your CNS intent to move the weight as quickly as possible.

Compensatory Acceleration Training is the brain child of ISSA co-founder, Fred Hatfield.

By using this technique each rep and each set, you can maximize training adaptations. You can half squat more than you can full squat. As leverage improves you have two options, either accelerate the weight or put on the breaks and ride cruise control. Compensatory Acceleration Training (CAT), simply means you compensate improving leverages by accelerating the weight.

From a common sense stand point, do you think you get more out a workout if you force your muscles to produce maximal force through a partial rep or the whole thing? Regardless of your goal, unless it's to be weak, small or slow, it's the entire range of motion!

A plethora of machine manufactures have attempted to design machines to compensate for improved leverage. Machines have preset movements patterns, eliminate stability

requirements, control resistance and movement speed. Because of the limitations of machines, you severely limit the training benefits your central nervous system (CNS) stands to derive.

Fred Hatfield says, “Slamming a weight to the end point in the range of motion certainly would cause injury. The “learning curve” involved in slowing the movement down just before lockout is very small. Anyone can learn how to do it on the first try. It should never be a problem.”

Let’s say this week you are squatting 5 sets of 4 reps in training full range of motion powerlifting squats, using the same weight each set. If you are training like most folks, you come out of the hole forcefully, but as leverage improves, you flip on cruise control and coast to the finish.

Training in that manner severely hinders gains, look how.

Set 1-No squats were heavy enough to stimulate any sort of overload that lead to strength or power gains. Zero out of five reps provided adaptive overload, that’s a 0% efficiency rating.

Set 2-The bottom half of the last rep required enough intensity to induce some overload. Half out of 5 reps produced an adaptive overload, that’s a 10% efficiency rating for true strength gains .5/5.

Set 3-The Same as Set 2.

Set 4-The bottom half of the last two squats produced adaptive overload. Two halves equals one whole, this set as an efficiency rating of 20%, 1/5.

Set 5-The bottom half of all five reps produced adaptive overload. Five halves equal two and a half, still only a 50% efficiency rating.

Your squat session consisted of 20 total repetitions; only nine halves produced stimulation for adaptive overload, or in other words, actually helped you get stronger. Nine halves is 4.5, 4.5

out of 20 is 22.5%, that's a pretty poor efficiency rating. While people make some gains training this way, they stagnate quicker and are never maximized.

Just think if for all 20 reps you squatted the weight with maximal force? You'd be a heck of a lot stronger over time. You have to produce force to lift a barbell; force is mass x acceleration, so even lifting submaximal quickly you can produce maximal force with less weight and less strain on your CNS.

When Dr. Fred Hatfield trained for his world record 1,014-pound squat he would rarely go above 800 pounds, but he put more than 1000 pound of force in the barbell when he trained!

Since y'all are my dogs, I wanted to share CAT, give it a try.

CAT has one downside, the negative acceleration phase which we will cover next time and how to combat it.