

ASSISTED ECCENTRICS

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Have you ever thought that ideas should be reversed? What if we were born with the wisdom and the reasoning of a 65-year-old? We would make more right decisions and possibly stay out of trouble and make the most of our time while we're young. Then as we get older, we could start thrill-chasing and taking chances that instinctively we would never consider. This of course would lead us to live by the code of the poet Dylan Thomas, "Do not go gentle into that good night, old age should burn and rage at close of day; rage, rage against the dying of the light" (1940). I try to live as Dylan Thomas put into words, and yes, I have the scars to prove it. But of course we can never live our lives in reverse.

There are a few that have read the exploits of a person who has been said to have made great progress doing let's say eccentrics. But were there other factors involved in their training? I have read several articles by sports experts around the globe, yet none have conclusive evidence that eccentrics work. Mel Siff in *Supertraining* explains eccentrics as action in which the proximal and distal muscle attachments move away from one another. Eccentric work uses significantly less energy than concentric work. When doing slow eccentrics with large loads, there is no reason to associate these advantages with the possibility of developing the ability to move quickly and powerfully in concentric work. Lowering weights slowly builds larger muscles for body building but will not assist concentric actions.

Let's look at depth jumps. One is accelerating close to 9.8 meters/second/second when one lands on the floor. Everyone knows they work, so why would you lower a weight at 0.1 or 0.2 meters/second and destroy the stretch reflex? In the book *Science of Sports Training*, T. Kurz states that some athletes can lower 10% to 60% more than they can overcome concentrically.

All this said, slow eccentrics have no place in powerlifting. To build larger muscles, yes. If you want to become very sore, yes. What does it matter if you can lower 60% more than you can raise? If I recall correctly, you must raise the bar from the floor in a clean, snatch, and deadlift. In the bench press after the bar is lowered to the chest, after the pause, you must raise the bar to completion. The squat is similar. After lowering to parallel, you must, for a fraction of a second, hold the weight statically and then raise to completion. If you load the bar with 60% more than your best squat of, say, 1000 pounds, the total bar weight would be 1600 pounds. Does this sound like a good idea to you?

A weight that feels fine at the top becomes much too heavy in the bottom. How can a bar weight be perfect at the top and also at the bottom? It can't. That's precisely why we use a combination of bar weight and bands or chains to accommodate resistance, causing a reactive method. But that's another story.

The key to eccentric success is overspeed eccentrics. Hopefully, you already know that force equals mass times acceleration. But the force is almost always connected to concentric movements. What about eccentric work? Light weights can be lowered with greater acceleration than heavy weights, just as in concentric movements. You must understand that the largest force may not always be associated with the heaviest loads. Jump-Stretch bands can produce much greater acceleration properties by pulling the bar down by means of great tension. This causes overspeed eccentrics, adding to kinetic energy. If one could triple the bar speed on the eccentric phase, it would produce 9 times the kinetic energy. In a simple action, such as a depth jump, a 200-pound man jumping off a platform of 10 feet will produce many times his body weight.

Force will decrease on concentric movements due to deceleration, while force will increase on eccentric movements due to acceleration. This leads us to a problem that many never consider: optimal eccentrics. How much muscle tension should one use on eccentric

movements? If it is true that an individual can lower 60% more than they can raise, then applying 100% of his eccentric strength, he could hold the bar at any position. However, he would destroy the stretch reflex with heavy weights. Overcoming inertia is done with light weights with a fast eccentric stop to build reversal strength. This is ballistic training. The bar never touches the chest. One to three inches off the chest is recommended. If you drop a 10-pound rock and a 1-pound rock from the same distance, they hit the ground at the same time. But as one lowers a heavy weight, as the weight increases, the eccentric phase slows down. This is due to too much eccentric muscle action.

There are optimal bar speeds for velocity training, where the objective is fast movements with light loads, and for force training, where the bar speed may be zero or very low, to produce maximum force. There are optimal bar speeds for these efforts, and they are always measured in concentric movements. So should there not be an optimal eccentric speed? Of course, it is just that no one has ever considered it. Until now.

How can you learn to optimally lower heavy loads in the pressing and squatting or good morning exercises? You can use a foam block for assisted eccentrics training. In my experiments with a Tendo unit, comparing the eccentric and concentric bar speed with speed strength benching and squatting, the difference was one-tenth of a meter per second. The same was true for a circa-max phase in the squat. A combination of band tension and weight was used. The bands cause an accommodating resistance effect on the concentric phase and an overspeed eccentric effect on the eccentric phase, increasing kinetic energy in the stretch reflex.

The eccentric/concentric phase on speed strength should be 0.7 to 0.8 meters/second. On near-max weights, this should be 0.5 meters/second. Remember, this was done with adding bands to the bar. But how do you lower just weight in a fast manner? This is done by using roughly 60% of your eccentric potential. I have done ballistic

benching with 200 pounds when my raw bench was 500. As you can see, I am dropping almost 40% of my best raw bench. I was lowering the bar at around 0.5 meters/second.

Watching Elite benchers at Westside perform at similar eccentric speed, I noticed that this has led to a faster concentric phase. How did we learn to lower heavier loads in the bench and squat? We use foam blocks to bench off of, lowering the plates onto the foam. We sit on the foam for box squatting. Here are some of the methods we use.

For floor pressing, lie on a 7-inch foam pad. Your entire torso will sink into the foam, which causes an unstable effect. Floor presses can be done while lying on the floor and adding small, 18 x 18 inch, foam pads under the arms only. This will enable the arms to relax concentrically more than normal.

The king of all optimal eccentrics for benching is to lower the bar so that the plates are lowered into the foam blocks. One can almost totally relax eccentrically. This contributes to a fast rate of reversal strength, adding to a powerful concentric phase. This will undoubtedly help not only raw benching but also lowering weights in bench shirts.

For deadlifting, we stand on foam pads while doing pulls. It will immediately build leg drive, in conventional or sumo style. For box squatting, we sit on a 24 x 28 inch foam block. It feels like a half box squat and half regular squat. We also stand on a foam pad while box squatting to get extra leg drive and for superior glute and hip development and lower back strength and flexibility. A standard box squatting method is to place a 7 x 24 inch pad on a hard box.

We have used these methods for 3 years. They work. They are also great for rehabilitation of knees and ankles, by walking in place without shoes. Proof positive is a high school senior jumping onto a 57-inch box. These methods work for explosive work as well as max effort work. If you're smart, it will be prehab if you start now.

Optimal eccentrics, a muscular and reflex phase of strength training, can bring about superior gains, just as Verkhoshansky found shock training produced after watching triple jumpers perform. A new idea, a new training method can revolutionize strength. So don't quit; rather, don't go gently into that good night. "Old age should burn and rage at close of day. Rage, rage against the dying of the light."