

Training for Mass, Second Edition

Working sets

After thoroughly warming-up you should perform a high-intensity set. Within the construction of an individual training routine, intensity is a relative concept, so the definition of what constitutes a high-intensity set will vary. For example, in the case of some lifters, training to positive failure constitutes a degree of intensity that should be adequate to stimulate growth. In this case, the lifter should continue with the set until he absolutely cannot perform another rep without assistance. Sets taken to positive failure are useful for beginners who have advanced past the initial break-in phase and intermediate lifters who are still making gains with them. Most weightlifters and bodybuilders opt to train beyond positive failure in an attempt to produce a maximum-intensity set. Since high-intensity training is founded upon the idea that the degree of the body's response is proportional to the intensity of stress it receives, those employing it often seek to achieve the greatest levels of intensity possible. There are several tactics by which you can achieve this, and those are covered in the follow few chapters.

High-intensity training is, in a sense, based on an idea that applies to most areas of human interest—that quality is better than quantity. Unlike the volume-trainer whose job is to knock out a large number of sets in every workout, the efforts of those employing the high-intensity approach by definition must be selective and concentrated. Put another way, every last rep counts. In the chapter on the specificity principle, it was mentioned that everything you do in the gym should have a well-defined purpose. The purpose of the working set is to stimulate the growth of muscle. This is accomplished by subjecting your muscles to intense contractions.

The character of individual repetitions is worthy of discussion. Each rep should be viewed as more than a mere number. It helps to mentally concentrate on the contraction of each rep, to feel your muscles generating force, to make sure that each contraction is complete and full. A slow rep cadence helps with this—where it takes a minimum of three or even four seconds each to complete the positive and negative portions of every rep. Although mental concentration is important, the critical technical reason for a slow cadence is that it nullifies the force of momentum. Muscular contractions need to be the only force responsible for moving the weights. After all, if you're lifting weights for the purpose of increasing your mass, making your muscles do the work is the whole reason for going to the gym. A slow cadence forces you to be deliberate, provides you with the opportunity to achieve complete mental focus, and give you a legitimate chance of making the set underway as difficult as possible. Momentum is a device used to make a set easier. Since you're only doing one set per exercise, show yourself no mercy.

Keep in mind that although three or four seconds might not seem like much, it's fairly common for bodybuilders to use a one-second cadence for most of their reps. The three-plus second recommendation is only a rough guideline—so don't concern yourself too much with the exact timing of each rep, and certainly don't go buy a stopwatch. Your rep cadence will slow down toward the end of a set, as your muscles' momentary abilities reach

their limit. Bear in mind that you want to feel your muscles generating force, and remember that you need to nullify the force of momentum. Do this, and your reps should keep themselves slow.

Slow reps also give you the advantage of being able to use somewhat lighter weights to get the same or better results. Since slow reps are more difficult than those benefitting from momentum, you'll be forced to use less weight to get the same number of reps compared to sets with a more conventional cadence. Although maybe your ego won't appreciate that you're using lighter weight, your connective tissue certainly will. This method is in fact far safer than the typical bodybuilder's fast-reps approach. Though lighter weights are being used, your muscles will still get bigger and stronger, and of course you'll be able to handle a greater amount of weight if you decide to complete a lift at full-speed. Your muscles won't "know" the difference. Their only concern is the intensity of contractions to which you subject them.

It is true that some very large bodybuilders train with fast reps. All things being equal, they would get better results from slower reps—but many of these individuals have the dual advantage of great genetics and chemical enhancement. The latter can atone for a great many training flaws, both in tactics and strategy. Fast reps may also be a legitimate technique for those who wish to build explosive power that can be useful for athletic events. However, that type of training is peripheral to strict mass-building and is therefore a subject for a different book. Fast reps by themselves are in fact sometimes capable of producing substantial gains—but slower reps are more effective and efficient.

There are however two legitimate exceptions to the slow cadence rule. The first concerns heavy free-weight exercises, for example squats. If you're particularly strong and lifting very heavy weights—we'll use the example of someone who can knock out a good number of reps with 400 or more pounds—don't concern yourself too much with cadence. Very heavy weights *should* force you to perform reps relatively slowly, or slowly enough—as long as you concentrate on using good form. (Recklessness with heavy weights rarely goes unpunished.)

The second exception concerns the use of an uneven cadence, where the positive portion of a movement is performed more quickly than the negative. For example, instead of taking a full three or four seconds to lift a weight, you can instead lift it relatively quickly. This needs to be done without breaking form or cheating. That means there should be no bouncing, swinging, or using any other deliberate technique meant to increase the momentum of the lift. Any momentum present in the lift should come only from the simple linear movement of the weight. The positive part of the rep might therefore take only one or two seconds rather than three or more. However, it's critical that each and every negative repetition be performed with a slow and deliberate cadence. In fact, the negative portion of all working sets must be performed in this manner. Never lower weights quickly or let them drop. When you lower weights quickly you deny your muscles the opportunity to experience intense contractions. Your sets will be less effective. Your results will suffer.

The purpose of the uneven-cadence scheme is similar to that of the three beyond-failure techniques discussed later in this section: Negative repetitions have the ability to generate contractions of the highest possible intensity. Thus all four methods take advantage of this ability. Lifting weights with a relatively fast ascent and slow descent allows the use of

heavier weights than with strict slow-cadence sets. In practice both methods have proven effective. There isn't sufficient evidence to declare one method superior, although with a slow-only cadence you're able to control the variable of momentum. Because of this, for repetitions up to the point of failure a slow-only cadence is theoretically better. A reasonable strategy might include switching periodically between slow-only and uneven-cadence sets—using each for perhaps a couple of months—as a means by which to avert stagnation.

References to the specific repetition ranges of working sets are made throughout this section of the book. Nevertheless, one of the most common and basic questions asked about high-intensity training concerns the ideal number of reps for each set. A grossly simplified answer would be ten—or somewhere around that number. The chapters on *Time under tension* (p. 119) and *Staggered progression* (p.129) give examples of modified ranges. To remove any confusion, the number of reps in any given set reflects the work performed before failure is reached, and doesn't include additional reps that result from high-intensity tactics like rest-pause or assisted repetitions. In other words, a set of ten reps with three rest-pause reps ends up being a total of 13 reps, but for the sake of keeping things straight, it's listed as being a set of ten reps. It's worth mentioning that rep ranges in HIT workouts are more or less the same as those used in conventional strategies. One exception is that HIT sets normally don't use very low rep ranges, like five or less. Also, many advocates of both camps hold the opinion that higher rep ranges (10-20 or even higher) are more effective for lower-body training. There's a fair amount of evidence supporting this claim.

It's also worth noting that the importance of rep ranges—the number of reps that you should perform in order to build mass—has historically been overrated. What's most important is that a set is able to produce highly intense contractions. In a correctly-performed set, the most intense contractions will take place on the very last rep. Whether this last rep is the eighth or twelfth or fourteenth of any given set likely won't make a huge difference in your results. The importance of paying attention to the number of repetitions in a set is the same as being mindful of the amount of weight being lifted: Both simply provide a yardstick by which to measure progress.

One final topic of contention with working sets concerns the soreness experienced in the days following a workout. The purpose of working sets is to stimulate growth. The stimulation of growth may or may not make you sore. Soreness indicates that a muscle has been sufficiently fatigued, but it provides no indication of whether the work you did fulfilled its purpose. The idea that soreness is a gauge of a job well done is indicative of a general confusion: The majority of weight-trainers do not differentiate stimulation from fatigue. Stimulation will entail some fatigue, and this might make you sore. It usually does. However, fatigue by itself in no way guarantees that there was stimulation. Most bodybuilders believe otherwise, and they construct workouts designed to fatigue rather than stimulate. It is for this reason many believe that once inside the gym, all hard work will pay off. Many become disappointed, all because they do not understand the purpose, rationale, execution, and limitations of the elemental component of growth-stimulating exercise: the working set.