



By Wayne L. Westcott, PhD

High-Intensity Training

Have you been working out for some time now? Maybe at first you made progress following the standard guidelines that recommend one or two sets of 10 different exercises twice a week, but now you have reached a strength plateau. What do you and your trainer do?

At first, logic would suggest you need to perform more exercise sets. Longer workouts and more training sessions *seem* to offer the best solution. Unfortunately, such programs increase both the time requirements and the risk of overuse injuries. Just as few people can run two hours a day without experiencing physical problems, few people can lift weights two hours a day without experiencing tissue damage.

To date, the most promising approach to time-efficient advanced exercise is high-intensity strength training. Chances are your trainer is already using some of these techniques in your program.

HOW DOES IT WORK?

The basic premise of high-intensity strength training is to increase the exercise intensity, rather than the exercise duration and frequency. We can exercise hard or we can exercise long, but it's difficult to do both! With high-intensity training, we make a muscle work harder rather than longer to make strength gains. Due to the greater muscle demands and longer tissue-recovery period, this type of training should be used prudently—probably no more than once a week.

SLOW TRAINING

One means of enhancing the training stimulus is a slower exercise speed that reduces movement momentum and thus increases muscle tension. This is typically referred to as slow training. With slow positive-emphasis training, the lifting movement is performed more slowly than the lowering movement. For instance, in

a biceps curl, you might take 10 seconds to lift the weight and four seconds to lower it. As you might guess, slow negative-emphasis training is just the opposite: You take four seconds to lift and 10 seconds to lower.

BREAKDOWN TRAINING

Another way to enhance muscle effort is to complete a few postfatigue repetitions with slightly less resistance. Let's say you perform 12 barbell curls with 75 pounds and reach fatigue. At that point, you find you can't do any more curls with proper form. Instead of having you stop, however, your trainer removes two five-pound plates from the barbell, and you perform a few more reps.

"Breaking down" the resistance to better match your fatigued strength level increases the training intensity in two ways: First, you experience temporary muscle failure twice during the extended exercise set. Second, you fatigue more muscle fibers by immediately performing more reps with the reduced resistance.

ASSISTED TRAINING

Although similar to breakdown training in theory, assisted training may be more productive. Breakdown training reduces the resistance for both lifting and lowering movements. With assisted training, on the other hand, you perform enough reps to reach fatigue, and then your trainer helps you perform a few more reps *only during the lifting movement*.

Because properly performed assisted training produces greater stress positively and negatively, it provides an excellent muscle-building stimulus.

SUPERSET TRAINING

Superset training is versatile and has a number of applications. The most productive application is to perform two or more sets for the same muscle group with little

rest in between. Generally, a rotary exercise for a given muscle group is followed immediately by a linear exercise for the same muscle group. For example, you may perform a set of lateral raises immediately followed by a set of shoulder presses. You fatigue your deltoids with the lateral raises, and then further fatigue them—along with your triceps—with the shoulder presses.

HARDER, NOT LONGER

The basic intent of high-intensity strength training is to provide a different or deeper stimulus to the muscle fibers. With breakdown and assisted training, your trainer reduces the resistance at the point of failure so you can perform a few more reps and fatigue a few more muscle fibers. With superset training, you perform different but sequential exercise movements that apparently activate different muscle fibers to fatigue. With slow training, you increase muscle tension through reduced momentum.

While traditional strength training methods are certainly effective, high-intensity techniques provide efficient and productive alternatives that allow you to break through strength plateaus without increasing the length or number of your training sessions. ●

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