

## Best Muscle Building Workout For Fast And Slow Twitch Muscles

### Real Difference Between Fast And Slow Twitch Muscles

Slow twitch muscles are the simplest to describe. They are powerful aerobically, meaning good at using oxygen. They are called slow twitch because they are slow to fatigue, not because they are slow to contract. Being slow to fatigue makes this type of muscle fiber important for endurance. These fibers recover fast after being fatigued. Slow twitch muscle fibers are useful to long distance runners and other endurance athletes.

Fast twitch muscles are more complicated, because they are classified into three subgroups. One is the Fast Oxidative fibers, which are good aerobically and are resistant to fatigue. Another type is Fast Glycolytic, which includes fibers that are more effective anaerobically (without oxygen transfer). They are the easiest to fatigue and the slowest to recover. The third type is intermediate, referred to as Fast Oxidative Glycolytic. The fast twitch muscles are so called because they fatigue fast. However, they recover slowly after being fatigued.

These are simplified descriptions of how muscle fibers are classified based on their ability to use oxygen and on the speed at which they fatigue and recover from fatigue. Slow twitch muscles actually twitch faster and recover faster from exercise than do fast twitch muscles.

### Engaging Each Muscle Fiber Type

Your brain recruits muscle fibers for force rather than speed of contraction. For this reason, slow twitch muscles are the easiest fiber type to engage. They also require the least amount of energy. In fact, if you lift weights too quickly, you primarily engage your slow twitch muscles.

Slightly more energy is required to engage the Fast Oxidative muscle fibers, and still more for the Fast Oxidative Glycolytic fibers. The highest amount of energy is required to engage the Fast Glycolytic fibers.

The key for an optimum workout, therefore, is to take advantage of what physiologists call orderly recruitment. This means engaging each type of muscle fiber in sequence, from low energy and fast recovery to high energy and slow recovery. The important factors for accomplishing this in the same workout are: 1) sufficient weight for bringing on muscle failure (i.e., the point at which you can no longer lift the weight); 2) the right lifting speed for engaging all types of muscle fibers in sequence; and, 3) the total time under load (TUL) for a particular set or muscle group.

The optimum strategy for accomplishing all of the above entails a very slow lift rate and an equally slow return rate. One extra advantage of such super slow movements is that it is easier to use good form. Fast lifting leads to jerking weights rather than lifting them, which recruits some slow twitch muscles and leaves other fiber types unchallenged.

### Scientific Research

All the recommendations in this article are backed by numerous scientific studies over the past few decades. The best summary of this research is now available in a book, *Body by Science*, by Dr. Doug McGuff, M.D., and John Little. It is the best and most recent book on this topic. By the way, the subtitle of this book is, *A Research-Based Program for Strength Training, Body Building, and Complete Fitness in 12 Minutes a Week*.

On a personal note based on my experience, 12 minutes a week may even be more than you need. My own muscle building improvements have accrued very effectively on about 10 minutes a week.

### About the Author

Dr. Dennis Clark is a retired university professor and research scientist, specializing in natural products biochemistry and human health. He shares his expertise on fitness and health based on scientific research. Get his analysis of how to increase lean body mass through the *Body by Science* workout method and in his free report, *How To Be Lean And Strong Without Exercise*, at [PersonalFitnessResearch.com](http://PersonalFitnessResearch.com).

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