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# break-through training strategy

## Why you need explosive reps in your training techniques

by Phil Campbell

If you've been in the

gym during the past few years, you've probably heard these strength training strategies tossed around: **light weight/high reps** and **heavy weight/low reps**. The newest strength training strategy on the block is **slow reps**, which refers to a slow moving weightlifting tempo. Think about doing a standard barbell curl in super-slow motion.

I've seen fitness fads and gimmicks come and go. And I've even seen some training gimmicks reinvented under different names. New training techniques can be positive, particularly if they evolve from an established and proven system of training.

Plyometrics is a good example of the positive evolution of training methods. Plyometrics take different forms, but these exercises are closely related to calisthenics that were used by coaches and drill sergeants during the '40s - '70s. Then some Russian engineers took calisthenics, applied some basic science for sports specific training, and evolved this form of exercise to a new level, and today, we call these exercises plyometrics. Coaches use plyometrics worldwide to improve athletic performance by developing fast-twitch muscle fiber.

The evolution of plyometrics teaches us that it's important to

challenge training methods and improve them when possible. On the positive side, **slow reps** reinforce the need to isolate muscle groups during strength training. Since Author Jones hit the training scene in the '70s with his version of high-intensity training, the principle of **isolation** has been one of the three key concepts in my strength training programs.

Isolation means to train one muscle group completely by eliminating other groups that attempt to jump in and assist the targeted muscle. This allows the muscle group to get more work, and the targeted muscles adapt to this training method by becoming bigger and stronger.

Isolation is an important training strategy, and slow reps clearly help to isolate targeted muscle groups. But it can be limiting because muscles adapt. You can't be around an exercise physiologist very long without hearing the word "adaptation," because that's what muscles do. Training slow develops slow-twitch muscle fiber, but it's necessary to train fast to reach fast-twitch fiber.

Slow reps, as well as the traditional lifting tempo of up-on-two, down-on-four, works slow muscle fiber. And that's positive because slow-twitch fiber is close to half of your muscle fiber, but that leaves you with the other half of your fiber decreasing in size and



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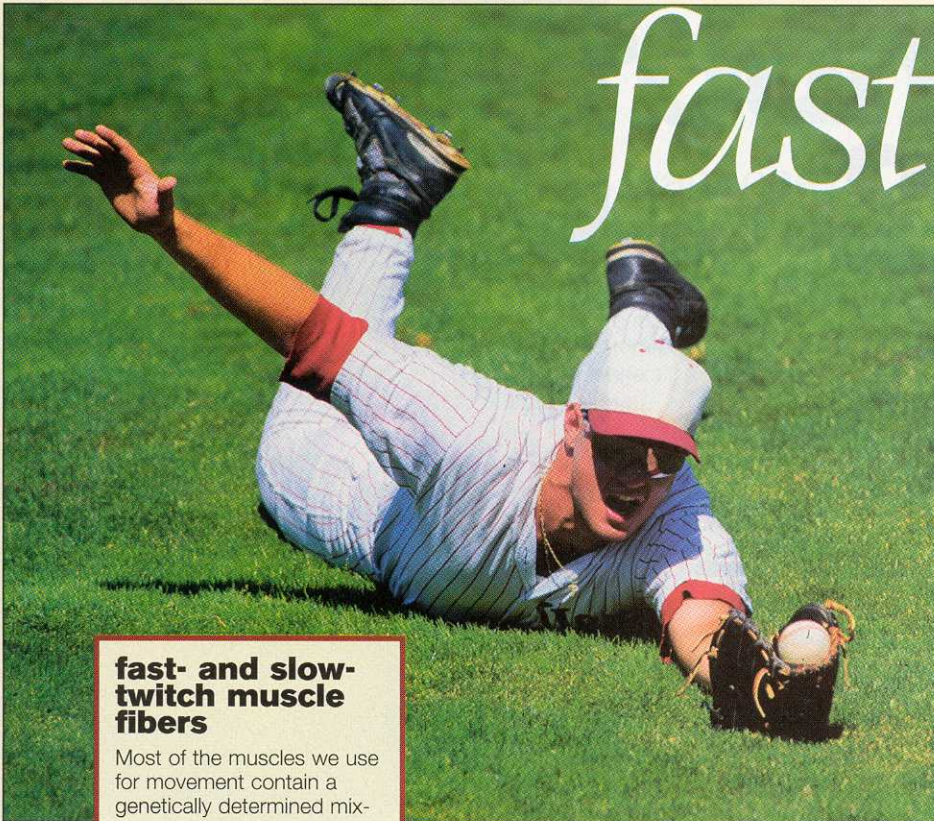
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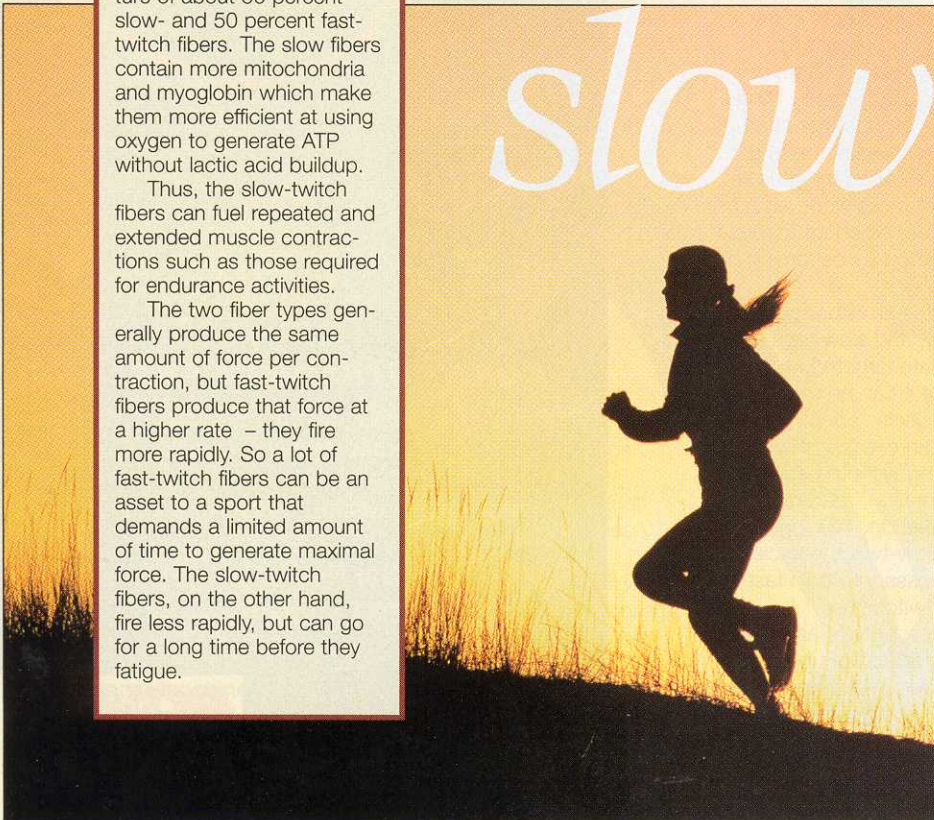


### fast- and slow-twitch muscle fibers

Most of the muscles we use for movement contain a genetically determined mixture of about 50 percent slow- and 50 percent fast-twitch fibers. The slow fibers contain more mitochondria and myoglobin which make them more efficient at using oxygen to generate ATP without lactic acid buildup.

Thus, the slow-twitch fibers can fuel repeated and extended muscle contractions such as those required for endurance activities.

The two fiber types generally produce the same amount of force per contraction, but fast-twitch fibers produce that force at a higher rate – they fire more rapidly. So a lot of fast-twitch fibers can be an asset to a sport that demands a limited amount of time to generate maximal force. The slow-twitch fibers, on the other hand, fire less rapidly, but can go for a long time before they fatigue.



strength.

Now, if you plan living life in slow motion, or play a sport where being slow is positive, then you may not want to add E-Lifts to your training program. But if you want to work all of your muscle fiber, then just try E-Lifts one time, and you'll know that this method is the real deal.

### why you need to work all muscle fiber types

There can be variations in muscle fiber composition, but essentially, we all have three types of muscle fiber that need to be trained. The fast-twitch muscle actually has two types of fiber – fast and super-fast. The fast muscle (what the researchers call IIa) moves five times faster than the slow muscle, and the super-fast (called IIx or IIb) moves 10 times faster than the slow muscle fiber.

The following chart shows that while there are differences in muscle fiber composition, muscle types can be developed based on the way they are trained.

MUSCLE FIBER TYPE	AVERAGE PERSON	SPRINT TRAINED	AEROBIC TRAINED
Slow (type I)	40%	40%	55%
Fast (IIa)	50%	20%	40%
Super-fast (IIx)	10%	40%	5%

Sprinters, who train fast, have higher percentages of the super-fast (IIx). Endurance trained individuals, who train slow, have more slow muscle fiber (type I). While we are born with slightly different muscle composition, the point is, super-fast muscle can be developed, if it's trained correctly. And E-Lifts do the job.

Since we live life in-motion at varying rates of speed, and most sports movements are dynamic (if not ballistic), E-Lifts, therefore, offer a more functional strength development method for sports applications and life in general.

### e-lifts for professional athletes and older adults

Professional athletes use explosive types of lifting because Olympic lifts are proven to yield better results in power than traditional power lifting (bench press, squat, and deadlift). Researchers show that 88 percent of U.S. professional football coaches use Olympic lifting in their training and 94 percent use plyometric drills.

The reason so many professional teams use explosive techniques in their strength training programs is simple, superior results. And a complete body of research shows that E-Lifting yields better results in performance. Researchers report: Results suggest that Olympic lifting can provide a significant advantage over power lifting in vertical jump performance changes.

# smart

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weights and more reps, and each week increasing the weight amount appropriately and decreasing the number of reps.

E-Lifts are clearly superior for athletes, but what about the rest of us? E-Lifts again outperform other training methods. In a major new study, researchers show that older adults respond better to rapid-rate-of-force movements, and this type of training can be performed safely even at older ages.

Progressive resistance training that incorporates rapid-rate-of-force development movements may be **safely undertaken in healthy older adults and results in significant gains** in muscle strength, muscle power, and physical performance. Such improvements could prolong functional independence and improve the quality of life.

Another hot new study validates the fact that explosive lifting is the most successful training strategy for older adults.

Therefore, using heavy loads during explosive resistance training may be the most effective strategy to achieve simultaneous improvements in muscle strength, power, and endurance in older adults.

We're not talking about using light weight and moving through a set with a lot of quick up-and-down repetitions. We're talking about using heavy weight with explosion during the movements away from the center of the body.

And there's a big difference in performing repetitions quickly as opposed to explosively.

## e-lifting mechanics

E-Lifts is short for the explosive technique and is an attempt to take the best from the world of Olympic lifting – clean & jerk, and snatch – and the best from traditional lifting techniques used by bodybuilders and fitness trainers.

Simply adding an explosive movement on all push and press exercises will accomplish the fast-fiber training goal, which means you're working more muscle fiber than with slow movements, and that's why E-Lifting yields better results. Train fast to get fast; train slow and you're only using the slow muscle fiber.

Exercises performed as a push or a press type of exercise are connected to muscle groups loaded with fast-twitch fiber. And these muscle groups require a fast, explosive tempo when pushing the resistance away from the body in order to reach the fast fiber. Examples of exercises would be bench press or any chest press type of machine, leg press, shoulder press, and even calf raises as a push type of exercise.

E-Lifting involves a brief, 1- to 2-second pause at the bottom of a lifting exercise. This will fully stretch the muscle and perhaps make the slow reps fans feel more comfortable with the technique. Then push the resistance with explosive thrust away from the body.

The down movement prior to the explosive thrust should be similar to the traditional weightlifting tempo of a 2- to 4-second pace.

For safety, there are two key points. There should be a warm-up set performed using the traditional lifting tempo of up-on-two, down-on-four. And you should fully extend the repetition all the way out on the push away from the body, but stop the explosive pushing at the 90 percent point to avoid injury to the elbows or knees. You don't stop at 90 percent, just stop pushing at 90 percent and fully extend.

When it comes to strength training I have experimented with every new method that makes sense. And I've found no other training method that comes close to getting results from strength training. Not just for athletes preparing for the pro or college combines, but adults of all ages get superior results with E-Lifts.