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**The “new breed” coach is advancing a safer, more scien**



**...skill training  
and conditioning  
are specific  
to a sport, but  
strength training  
is general. . .**

BACK IN THE EARLY 1900s, weightlifting was the exclusive province of the professional weightlifters and circus strongmen. Right up to the early 1960s, the average person and most athletes seldom lifted weights.

A well-developed physique was often considered somewhat freakish and unnatural, and a lot of otherwise scientific coaches believed it reduced flexibility, dulled the reflexes, and diminished the skills. The great fear — muscle boundness — still persisted.

As athletes began experimenting with weight training, these fears gradually subsided. Once coaches realized that weight-lifting could be beneficial, they began hiring individuals to develop and administer their strength programs.

Unfortunately, the perceived “experts” of that era were the competitive weightlifters. Since olympic-style weightlifting was more popular than powerlifting at the time, many of the early strength coaches came from olympic-style weightlifting backgrounds.

Small wonder. What other pools of candidates were there? Remember: (1) relatively few people — other than competitive weightlifters — were lifting weights; (2) there were no specialized or formalized schooling to educate potential coaches; and (3) the only theoretical body of knowledge on weightlifting that was being handed down was that of the competitive weightlifters.

And so the competitive weightlifters became the strength coaches; and, knowing little about the physical demands of other sports, they began inculcating the programs and routines that they themselves had used to train for competitive weightlifting.

Their basic protocol involved specific movements: the overhead press, the snatch, and the clean and jerk. With the powerlifters, it was the squat, the bench press, and the deadlift.

Most of these weightlifter’s protocols were highly impractical for anyone else. The movements required a great deal of time, effort, and patience to learn and then perform with any degree of proficiency and safety.

Eventually, the weight-training coaches formed a national organization that advocated the methods used by Eastern European weightlifters, particularly the Soviets,

Bulgarians, and East Germans.

As a result, most of our athletes in the early 1970s were actually using modified weightlifting under the guise of strength-training programs.

By the mid 1970s, a second school of thought emerged. Realizing that the “first generation” of strength coaches was merely training athletes to become better weightlifters, the “new breed” of strength coaches developed a much safer and more time-efficient method of training based upon scientific investigation and common sense, rather than anecdotal evidence and speculation.

Needless to say, the vastly different perspectives of the two factions sparked bitter and emotional controversies about proper approach to weight training — though virtually every disagreement related to the application of the training concepts that had been inherited from the competitive weightlifters.

The romantic and emotional attachments to many of these beliefs were fed to the coaching community with a religious zeal. But they failed to hold up under the searching light of scientific research by the “new breed.”

Following are some of the traditional (old line) practices that have been discredited by the academic community and the new generation of

By Matt Brzycki  
Strength Coach,  
Princeton University

# MARCH

**ific, and more time-efficient protocol**



strength coaches.

## **Explosive Lifting**

Since the olympic-style lifts are performed in a rapid or explosive manner, it was assumed that these lifts and related movements — such as the power clean and the push press — would develop explosiveness.

Lifting a weight in a rapid, explosive fashion is ill-advised for two reasons. First, it introduces a momentum into the movement that makes the exercise less productive and less efficient. It also produces a muscular tension in the initial part of the movement, but not in the last part.

The requirement for muscular force is thus lessened and the potential strength gains are reduced accordingly.

Second, explosive lifting can also be dangerous. When momentum is used to lift a weight, it increases the internal forces encountered by a given joint, and the faster a weight is lifted, the greater these forces are amplified, especially at the point of explosion. Once the forces exceed the structural limits of a joint, an injury will occur in the muscles, bones and connective tissue.

## **Specificity**

Another well-intended but misguided

practice handed down from competitive weightlifters involves the use of weighted objects, like barbells and medicine balls, to mimic sports skills.

For example, power cleans have long been touted as being specific to an incredibly wide range of skills from the breast stroke to the golf swing to the shot put.

It's absolutely impossible for one movement to be identical in such a broad group of differing skills. The principle of Specificity states that an activity must be specific to an intended skill in order for maximal improvement — or "carryover" — to occur.

Specific means *exact* or *identical*, not similar or like. So, power cleans may be similar to jumping for a rebound and lunges may be similar to driving toward the basket, but the truth is that power cleans *will only help you get better at doing power cleans and lunges will only help you get better at doing lunges.*

Likewise, heaving medicine balls around is great for improving your skill at heaving medicine balls around and nothing else. Furthermore, there is no barbell or machine exercise that will expedite the learning of sports skills.

Remember, skill training and conditioning are *specific* to a sport, but strength training is *general*...

## **One-Rep Max Attempts**

Success in competitive weightlifting is determined by the ability to lift as much weight as possible one time. However, athletes who don't participate in weightlifting competitions have no business performing a one-repetition maximum (1-RM). It's dangerous.

Attempting a 1-RM with heavy weights places an inordinate amount of stress on your muscles, bones, and connective tissue; and an injury will occur when this stress exceeds the structural integrity of those components.

A 1-RM attempt also tends to increase the blood pressure beyond that normally encountered when using submaximal weights.

Finally, a 1-RM lift is a highly specialized skill that requires a great deal of technique and practice.

## **Periodization**

Also referred to as "cycling," periodization is a *theoretical* training schedule used by weightlifters to peak for their competition. The idea is to change or "cycle" the number of sets, reps, and workload of the exercises performed in the weight room.

For example, in Week #1 you might do 3 sets of 10 reps in each exercise with 75% of your 1-RM. In Week #2, you might do 4 sets of 8 reps with 80% of your 1-RM, and so on until you are performing a 1-RM.

The concept of periodization is based upon the fact that highly competitive weightlifters peak for only several months a year. This kind of protocol isn't going to do much good for the athlete who may have to peak two or three times a week for several months.

Indeed, what competitions do you peak for? Aren't they all important? Imagine an athlete saying, "Sorry about my performance tonight, Coach, But I'm not scheduled to peak for 10 more days."

Trying to implement periodization with athletes other than competitive weightlifters is not only confusing but also unnecessary.

## **Free Weight Superiority**

Yet another myth advanced by the competitive weightlifters is that free weights — barbells and dumbbells — are superior to machines.

Keep in mind that the implement used in competitive weightlifting is a barbell.

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## ON THE MARCH

brought their devotion to that specific modality to the strength-training arena.

The fact is that you won't develop one way with machines and another way with barbells, assuming that your levels of intensity are similar with both modalities. A muscle must be fatigued with a workload in order to increase in size and strength. And since your muscles don't have a brain, eyeballs, or cognitive ability, *they can't possibly "know" the source of the workload.*

So, it doesn't matter whether you fatigue your muscles with a resistance that comes from a machine, a barbell, a cinder block, or a human being. The sole factors in determining your response from strength training are your inherited characteristics and your level of intensity, not the equipment that you use.

### Orthopaedically-Unsafe

Scientific, athletic and rehabilitative professionals have questioned certain exercises and drills, such as power cleans, snatches, and plyometrics, in terms of being safe. Indeed, the potential for injury from most of the movements practiced by competitive weightlifters is positively enormous. The exercises expose the musculoskeletal system to repetitive trauma and extreme biochemical loading. Young athletes are especially vulnerable.

The sport of competitive weightlifting carries a certain degree of risk, which the lifters accept as part of the sport. But should the non-competitive lifters be asked to assume such an unreasonable risk of injury?

The movements done by competitive lifters should be confined to such lifters because the movement relates strictly to their sport.

### The Next Century

The strength-training profession has come a long way from the traditional weightlifting-inspired programming. The new breed of strength coach, armed with scientific research-based information and common sense, will propel the profession into the logical, practical, and science-supported protocols of the 21st Century. ■

**SCHOLASTIC COACH**

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