How Much Effort Do You Use? Part I

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When we talk about effort in the weight room it means many different things. Effort involves resistance, speed, power, endurance, strength and the list goes on. The effort that I am talking about here is the type of effort that you apply to your training programs. There are four main types of effort that I apply when training my athletes and each one of them prepares them for their specific sport. I believe all four efforts are required of an athlete however some sports may need more training in one particular effort than another.

In this industry it has become very popular to title a way of training as being sports specific. Well I have not seen many types of training that would not benefit an athlete. That's not to say that certain training parameters should not be used for certain athletes. For a basic example, I would not have an offensive lineman running a 5K to get ready for the season. Similarly, I don't feel it is necessary for a tri-athlete to train with the same parameters as an offensive lineman.

When I think of sports specific training I think of four variables. These four variables being: maximal effort, sub-maximal effort, repetition effort, and dynamic effort. It is from these four types of training, that a solid sport specific program is built. Here are the four methods by definition and how they can apply to your athletes.

Maximal Effort Method

Zatsiorsky defines the maximal effort as “lifting a maximal load” and “exercising against maximal resistance”. You might think that the definition would be more detailed but that’s it. It is simply taking a maximal amount of weight and lifting it for no more than 3 reps while keeping the weight at or about 90% of your 1RM. For safety and functional purposes, this method is only for compound lifts such as the squat and dead lift.

The pros to using the max effort method are that you get really, really strong. Another pro to this method is that you get really, really strong. Need I say more? Max lifting requires the athlete to tap into not only their muscle but their CNS (central nervous system). By doing this the CNS adapts to the load and teaches the body to handle that amount of resistance. The max effort method will train an athlete’s body to recruit to the greatest number of motor units he or she can for that lift. This method has the greatest benefit to sports that have a weight class (not necessarily bodybuilding however they would benefit as well.) The most obvious sport that benefits from this method is powerlifting however athletes from the Olympics, figure skating, track & field would benefit tremendously from this method.

Where there are performance advantages, the max effort method, if misused, can negatively affect how an athlete performs. For example, too much max effort training will lead to the CNS getting burned out. If you notice an athlete that has symptoms like decrease in energy, increase in depression or anxiety. If the athlete feels tired in the morning or has high blood pressure in a resting state than he/she could be overtrained. Another caution with the max method is an increased risk of injury. This training is not for the newbie. If the athlete has never trained before than I would avoid using this method until they mature as far as training is concerned. Some of the guys I train with can use this method physically but have the maturity level of a 5 year old. Lastly, if an athlete is in need of some muscle hypertrophy, than this method would not be optimal for them. That brings me to my next method.

Repeated Effort Method & Sub-Maximal Effort Method

The repeated effort method is defined as lifting a sub-maximal load to failure. This method trains the muscles to develop the maximum force in a state of fatigue at the end of the set. This method will also stimulate some great muscle hypertrophy. Arnold use to talk about the "pump" you get working out. Well if you want to experience what Arnold was talking about or if you have an athlete that has never experienced it, have them do a set with 40%-50% of their 1RM until they cannot do anymore reps.

This method helps young athletes develop muscle growth. If you have an athlete that needs to pack on some quality muscle try using this method with them on a weekly basis. Besides stimulating hypertrophy, it will also teach an athlete to recruit and will increase the amount of motor units being trained. Where this method is efficient in growth, it is not as effective in producing muscular strength. The only way this method is effective is if the athlete trains the lift to complete failure to recruit a maximum number of motor units. The expression "No pain, no gain" holds true in this case.

The sub-maximal effort method is very similar to the repeated effort. The only difference in the two is the desired number of repetitions. Unlike the repeated effort in which the reps are brought to complete failure, this method is used with a specific number of reps in mind. You do not train to failure but rather "leave a few in the hole" as the expression goes. The benefit of the sub-maximal effort is that it will add slabs of muscle onto an athlete's frame if need be. Though efficient in assisting hypertrophy, this method does not seem to be as effective at improving muscular strength or improving muscle coordination as other methods.

There are exceptions to this method producing strength & coordination as is the case with GTG(Greasing the Grove) and Smolov/sheiko programs. These programs will be discussed in detail in a later article of the series.

Dynamic Effort Method

The dynamic effort method is designed to lift a sub-maximal weight with the greatest force possible. What we are looking for is SPEED with this method. The weight being used is usually between 40%-70% of an athletes 1RM and it should be lifted as fast as possible. This type of training is used to improve explosive strength. Dynamic effort method can also be considered plyometric training. In this type of training an athlete is using his power to jump, run, or throw as strong and fast as possible. This is very similar to the dynamic effort. Example of the dynamic effort would be box squats for speed, squat jumps, depth jumps and the various Olympic lifts(cleans, snatches, etc.) This does not limit the use of the dynamic effort to these lifts. You can take almost any exercise and make it dynamic by making the concentric portion of the lift as fast as possible.

The Application

I feel that athletes in general will benefit from all four types of training however I believe that certain types of athletes will benefit more if certain methods are used more often. There is a time and place for everything and changing the program frequently is optimal.

The maximal effort method is best for the athletes that require short bursts of energy: Powerlifters, football, baseball, hockey, softball require this type of strength. The plays in this type of sport only last a few seconds therefore to have the ability to use the greatest amount of strength in a short period would be optimal for these athletes. Athletes that must keep a certain body weight would also benefit from the maximal effort since it would not increase muscle size however they would still get extremely strong.

The repeated effort method would best be applied to athletes in need of putting on some extra muscle. Football, baseball, hockey, lacrosse would all fall in this category. Endurance athletes would benefit as well since they would recruit the motor units with the most amount of endurance therefore making their general condition much better.

Athletes involved in swimming, biking, running for distance would benefit greatly from this method. I like the repeated effort method most with young athletes that need to grow. Young athlete's muscles are able to handle this type of training safer than something along the lines of a max effort training.

The dynamic effort method is a very important method for all athletes simply because in all sports speed is essential. In this method we work on explosiveness and speed with many different exercises. This method is most useful for athletes that are required to jump, run, hit, throw, and catch while possibly being defended. In sports timing can be crucial so therefore this method applies to athletes of all sports.

The benefits of combining the four efforts are tremendous. In training the proper sport specific variables, your athlete can become any combination of bigger, faster, stronger and more explosive with the conjugate training method. So how much effort do you use?

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This is part 1 of a series of articles pertaining to the conjugate method and athletes. Each method will be discussed in detail in later parts.

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