

Classification of the Means
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In regards to strength training for sport; many comparisons and arguments have been initiated in reference to the Olympic weight lifts and their derivatives and the power lifts and their derivatives. Such debates are futile and often commenced by individuals who lack a fundamental understanding of the transference of various types of exercise to sports form.

First, all means (exercises) must be classified as general, general specific, or specific.

General means qualify as those which do not directly assist in perfecting or developing sport skill; but rather, serve to develop general physical qualities such as general work capacity, muscle cross-section, increased bone density, connective tissue strength, flexibility/mobility, etc.

General Specific means qualify as those which match the energy system demands (speed of muscle contraction, duration of effort, etc) of the sport skill and some or all of the active musculature yet do not match the amplitude and direction of the sport skill.

Specific means qualify as those which exactly match the amplitude and direction of the sport skill and, correspondingly, develop the special work capacity and have a direct effect on the development of sport skill.

Following are some examples of various means and their classification relative to different sporting disciplines:

American Football (Linemen)

- **General**- Olympic lifts, power lifts, any other lift performed with barbells, dumbbells, kettlebells , etc
- **General Specific**- pushing or pulling a weighted implement (e.g. sled, tire, special training apparatus, etc) for 4-10 second repetitions
- **Specific**- one on one contests against an opponent for 4-10 second repetitions

Track and Field (100m)

- **General**- Olympic lifts, power lifts, any other lift performed with barbells, dumbbells, kettle bells, etc

- **General Specific**- double/single leg bounds, jumps, landings, depth jumps, alternating bounds, sprints wearing a weighted belt or vest, sprints up a mild grade, etc
- **Specific**- variable intensity sprints over different distances

Track and Field (Shot, Disc, Hammer)

- **General**- Power lifts, rows with barbells, dumbbells, kettlebells, presses/swings with dumbbells, kettlebells, GHR, pull ups, back raises, step ups, lunges, jumps onto a box, bounds, landings, depth jumps, etc
- **General Specific**- Olympic lifts, powerlifts performed explosively with submaximal weight, weighted throws heavier or lighter than the competition implement, medicine ball throws, kettle bell throws, etc
- **Specific**- variable intensity throws (Range Throwing RE A.P. Bondarchuk) with the competition implement

Track and Field (High Jump)

- **General**- Power lifts, Olympic lifts, any other lift performed with barbells, dumbbells, kettle bells, etc
- **General Specific**- any bounds, jumps, weighted jumps, depth jumps, etc other than the competition exercise
- **Specific**- high jumps over various heights

Olympic Weightlifting

- **General**- rows with barbells, dumbbells, kettlebells, presses/swings with dumbbells, kettlebells, GHR, pull ups, back raises, step ups, lunges, jumps onto a box, bounds, landings, depth jumps, etc
- **General Specific**- front squat, back squat, overhead squat, box squat, SS Bar squat, cambered bar squat, squatting a barbell suspended in chains, squatting a barbell resting on pins, GM's, GM out of chains, GM off of pins, bench press with different grips, incline/decline bench press, push press, military press, overhead press off of pins/out of chains, jerk from stands, power jerk (if split jerk is used in competition), split jerk (if power jerk is used in competition), clean from blocks, clean from hang, power clean, snatch from blocks, deadlift with snatch/clean grip off of blocks, floor, suspended in chains, pulls with snatch/clean grip from hang/floor/off boxes/out of chains, snatch from hang, power snatch, accommodating resistance with bands

- and/or chains, lightened method with bands, contrast method with weight releasers, etc
- **Specific-** Snatch and C&J with varied intensities

Powerlifting

- **General-** rows with barbells, dumbbells, kettlebells, presses/swings with dumbbells, kettlebells, GHR, pull ups, back raises, step ups, lunges, jumps onto a box, bounds, landings, depth jumps, etc
- **General Specific-** bench presses with different grips, board presses, floor presses, incline presses, decline presses, overhead presses, pressing a barbell suspended in chains, box squats, front squats, full squats, SS Bar squats, cambered bar squats, squatting a barbell suspended in chains, squatting a barbell resting on pins, GM's, GM out of chains, GM off of pins, GM with specialty barbells, deadlift off of boxes, pins, chains, bench pressing/squatting/deadlifting with gear that is stronger or weaker than the competition gear, accommodating resistance with bands and/or chains, lightened method with bands, contrast method with weight releasers, etc
- **Specific-** competition squat, bench press, deadlift with competition gear and varied intensities

In reference to the material listed above, one may conclude that the sport skill must determine the classification of the means. Consequently, a general means for one sport discipline may qualify as a general specific or specific means for another sport discipline. Any arguments initiated over general means must, correspondingly, be initiated solely by those individuals who have a grossly insufficient understanding of the training process; as general means have little effect on the perfection of sport skill.

This fact is demonstrated in physical preparation of American football players in the National Collegiate Athletic Association (NCAA). Various Division 1 teams which have a history of winning/competing in national championships (for their respective divisions) all utilize widely varying means and methods of strength training in their weight rooms. These same organizations; however, all have excellent recruiting capabilities and top level coaching. Consequently, the process of deduction allows any intelligent individual to realize that what is done in the weight room, no matter how optimal, orthopedically sound,

or absurd, has very little correlation with the success of the football teams who have the luxury of being populated by the most gifted athletes and coaches. Here we see the glaring lack of impact which General means have on the highly qualified athlete's perfection of sport skill.

A careful analysis of the physiology, biomechanics, etc of sport skill allows the coach to understand what classifications of training means to employ at what volume/intensity throughout the training year. Former Soviet and Eastern Bloc scientists, coaches, and athletes have, for years, (at the Olympic level) demonstrated the significance of programming various means and methods, ranging in transference to sports form, throughout the yearly cycle.

Conjugate Sequencing (illustrated in Table 1 and modeled towards collegiate American Football) allows one to observe a visual representation of the percentage of the training load comprised of General (G), General Specific (GS), and Specific (S) methodics throughout the year cycle.

Table 1

Loading	Sequence of Training Blocks					
Concentrated	G	G	GS	GS	S	S
Distributed	G	GS	GS/G	S	S	S
Distributed	GS	S	S	GS/G	GS	S
Distributed	S	G	G	G	G	GS/G
	□	□	□	□	□	Comp

In reference to Table 1 we may conclude that G means are emphasized early in the preparatory period with GS and S means trained at an ancillary capacity. GS is the next regime of means to become emphasized as the competitive season approaches with S moving up the chain of priority and G dropping down to ancillary capacity. During pre-comp and comp S comprises the greatest concentration of the training load with GS and G retaining ancillary training load/intensity until the comp season where S and G comprise the majority of the training load.

Important to note is that spring ball is not accounted for in the loading of Table 1. If spring ball were to be accounted for, one would observe a spike in S means, up to concentrated loading, midway through the sequence of

training blocks followed by a decay back down to an ancillary status until pre-comp.

To put this into a more meaningful context with respect to the sport (American Football); we see that weight training initiates the off-season training at a concentrated capacity and sequentially comprises less of the volume/intensity of the training load as the comp season approaches. During the actual comp season the weight work does not comprise any significant volume (relatively speaking) of the training load intensity; as the primary function of the weight training during comp phase is to maintain the contractile strength of muscle tissue developed in the prior training blocks. During the comp phase weight training will also play a key role in prehabilitation and rehabilitation protocols. The GS means serve a vital function for bridging the gap between G and S and are extremely effective for developing the motor functions inherent to sport form. The 'general' aspect of the GS means, however, introduce motor patterns distant enough from sport form so as to avoid overuse injury which would be likely to occur as a result of cumulative/repetitive stress effect if S was emphasized year round. As comp phase enters; however, the training load volume of GS means are reduced, along with G means, as the S means comprise the vast majority of the training load intensity.

In order to provide any useful insights we must introduce meaningful and specific context. Accordingly, it is important to note that the Table 1 merely outlines one particular plan for the acyclic sport discipline of American Football and that the planning for one sport discipline must not be considered a universal template for other sport disciplines; specifically when considering acyclic and cyclic activities.

The classification of means is absolutely fundamental for the successful programming of the training load for any sport discipline. Consequently, any coach whose responsibility lies in developing the physical abilities of any sportsman must exercise the programming skill to integrate various methodics at varying degrees of the training load intensity throughout the yearly cycle. Here we see the value of not only physical but tactical (planning/strategy) and technical (regulation of GS and S means) preparation. The development of these qualities,

along with psychological preparedness, is inherent to the multi-faceted PASM.

The classification of the means is inherent to optimal programming and the regulation of the intensive components of the training load. Debating over General means, this lift or that lift is an elementary undertaking which serves no useful purpose in the training of any athlete.

The training process is an organic whole. General, General Specific, and Specific means must be accounted for in the overall plan regardless of which coaches regulate which regimes of work. As a result, the athletes will be optimally primed for, and throughout, the competitive phase.