

Should Athletes Train Like Bodybuilders?

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Bodybuilding was once focused on building not only beautiful bodies, it was about building healthy, functional bodies. In fact, if you review old bodybuilding magazines from 1950 or earlier, you will find many of the top bodybuilders were also competitive Olympic lifters! An excellent example of the athleticism that existed in bodybuilding, John Grimek (a multiple Mr. America winner) regularly demonstrated his ability to military press 285 pounds for reps (see Figure 1 below)! Review bodybuilding magazines published between 1900 and 1940, and you will find there was a strong emphasis on whole food eating, not on chemically mediated get big quick schemes and florescent colored drinks containing 20 syllable ingredients!



Figure 1

Women in the 30s, 40s, 50s and even 60s were not exposed to the she-men seen in today's televised female bodybuilding contests. Beautiful women lifted gracefully, becoming ever more beautiful (see Figure 2 below). In fact, Marilyn Monroe is reported to have lifted free weights with a trainer several times a week. Unfortunately, TV exposure to modern bodybuilding has produced a culture of women who think if they touch a dumbbell or barbell, they will begin sounding like Mr. Ed (the talking horse) and need to shave twice a day!

In Figure 2 below, as presented in *Strength and Health Magazine* in May 1952, a swim team is shown lifting weights. Since steroids had not entered female bodybuilding, women had not yet developed a fear of free weights.

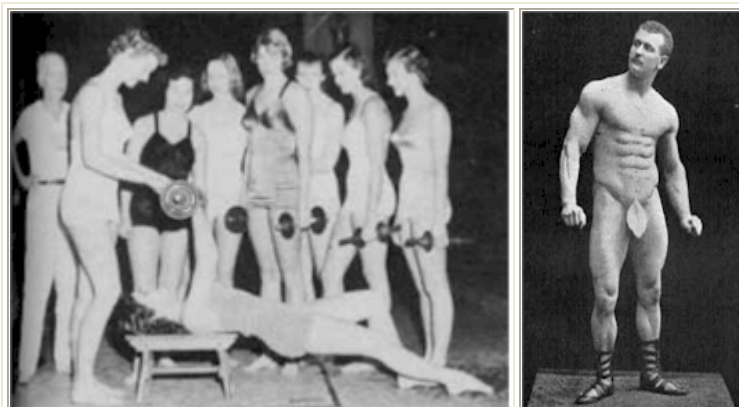


Figure 2

Figure 3

In Figure 3 above, Eugene Sandow demonstrates the unique, beautiful physical development that can be developed through free weight training. Sandow proved this by developing thousands of bodies around the world, as documented in his book *Life Is Movement*, published 1929. This image is from his book *Strength and How To Obtain It*, published in 1897. Not only do women in general much prefer the naturally beautiful physique of a free weight lifter over the modern bodybuilder's physique (as developed on isolation machines and all too frequently via the use of steroids), few if any modern bodybuilders could match the strength of the old bodybuilding champions such as Sandow, who could perform a single arm press overhead with a 300 pound dumbbell!

Today, if you were to take a poll in any major city and show people photos of modern bodybuilding champions and the champions of the pre 1950 era, I'm sure you'd find the women prefer the bodies of the original bodybuilders. The men were hard looking, not puffy or manufactured in appearance. Free weight lifting in general and Olympic lifting exercises produced a unique muscular development (see Figure 3 above); the muscles were longer and more natural looking, reducing the look of being muscle bound. Today's bodybuilders commonly suffer significant health problems, often struggle with skin blemishes, foul smelling sweat and other indicators of toxicity. This is a common by product of so-called scientific nutrition and its super foods and supplements. Sorry to burst anyone's bubble, but nothing produced under a microscope will ever top what Mother Nature has consistently provided!

I write this preface to make sure you understand my intent and the message contained in this article. No, I am NOT against bodybuilding, not even against modern bodybuilding with all its pills, props, drugs, packaged and processed foods and the rest. I just want to be sure that everyone wanting to achieve health, fitness and/or beauty through resistance training really understands what they are getting if they use the modern approach to bodybuilding. I want to be sure they understand that just because you have big muscles, it doesn't mean you are a superior athlete, that you will feel healthier or even that you will be able to lift better on a construction site or any job for that matter. All modern bodybuilding really offers are bigger muscles and better symmetry if you are properly coached. What true bodybuilding offers (the kind of bodybuilding that was alive in the pre 50s or even 60s in many areas of the world) is a healthy, athletic body that will work for you, a body that you can be proud to live in, one that is less likely to hurt... the kind most people would look at with envy, not with fear of the unknown!

Now that we are clear that this IS NOT an attack on bodybuilding but an opportunity to benefit from my many years of experience as a trainer of athletes (including bodybuilders!) and a specialist in orthopedic rehabilitation and nutrition and lifestyle counseling, let us get into it:

Does modern bodybuilding aid in athletic preparation? To answer this question, we must also consider another: could a modern bodybuilder using today's machine based routines and processed nutrition survive in the primal environment in which we evolved? Skills and abilities necessary to be competitive in sport today are very similar to those essential for survival in a Neolithic environment. If we evaluate which biomotor (bio = life + motor = movement) abilities were necessary for survival as a primal being and which biomotor abilities are necessary for sport we find numerous similarities, placing the primal being far above the genus "Bodybuilder" on the evolutionary scale!

There are six physical factors (biomotor abilities) that athletes must possess, the exact order of importance varying from sport to sport.

- Strength
- Power
- Balance
- Agility
- Flexibility
- Endurance

How many of these were necessary for Primal Man? Is bodybuilding really the best way to train for each modality today?

Primal Man certainly needed strength for the purpose of building shelter, protecting himself/herself and family from neighbors who did not agree about property lines, or who wanted their food! But what kind of strength was it? Not the kind that is developed on knee extension, leg press and hamstring curl machines! These machine-based exercises don't help improve functional squat strength and I doubt such exercises would do squat in an environment that was as athletic as a good football or soccer game!

Power, the ability to apply force quickly, would definitely have been more of an asset to Primal Man than possessing bulky muscle build using slow and super-slow tempo training. Just consider that you would have had to feed all those cells during periods when food was scarce; certainly there were no muscle-building shakes to keep you going. To put it bluntly, if you couldn't throw a spear or a rock with serious intent, or run like hell when necessary, you may well have smelled cat breath, and I'm not talking domestic cat here!

Balance and agility were no doubt high on the prerequisite list for Primal Man. Running through the brush, hopping rocks across streams and down mountainsides was risky business when you consider that a broken leg could have very well been fatal; sounds like rugby, not bodybuilding!

Flexibility would have been developed proportional to the working environment; if you lived in the mountains your flexibility would certainly have been greater by necessity than those who lived in the plains. Although I doubt Pebbles and Bam Bam held regular stretching sessions, today we have evolved to the point of realizing the prophylactic value of stretching. However, there is a definite science behind correct stretching, and the nonscientific method most used by athletes and teams makes you wonder if perhaps they would be better off back in the Stone Age.

Endurance was also very likely related to Primal Man's dominant activities. If you were an inland Aboriginal who trekked for miles to obtain a specific plant, grub or water, you would no doubt have developed a strong endurance base. Alternatively, if food was plentiful but moved quickly (think rabbit), you were probably very cunning and had a high anaerobic capacity. Pure speed was not the entire issue, as I have never met a sprinter who could outrun an animal you would eat in the wild; well, I take that back - Ben Johnson outran a race horse a few years ago, but I don't think he ate it!

An interesting fact with regard to energy systems is that, by necessity of survival, Primal Man developed the energy system most dominant in his daily activities. This is important when applied to athletes today. I consult with and see numerous athletes, coaches and sports teams that compete in a purely anaerobic environment and yet still run five to 10 km regularly as part of their training program. Would someone please pass on this very insightful quote I picked up from Al Vermeil (Retired Strength Coach of the Chicago Bulls and holder of numerous championship rings from both the NBA and NFL!): "Train Slow - Be Slow!"

Let's get down to brass tacks here. If you are in a sport that requires any form of first step quickness or explosiveness and you are lifting with the traditional bodybuilding protocols (eight to 12 rep sets on a slow (3:0:3) tempo using 1:00 rest periods), you are training strength endurance, not maximal strength or explosiveness! Just look at the time under tension (time the muscles are actually under load) for each set:

8 reps x 6 seconds = 48 seconds

9 reps x 6 seconds = 54 seconds

10 reps x 6 seconds = 60 seconds

11 reps x 6 seconds = 66 seconds

12 reps x 6 seconds = 72 seconds

This equates to an average time under tension of 60 seconds, which is well into the fast glycolytic energy system or what is often referred to as the lactic acid energy system. This is clearly strength/endurance training. This type of training is fine in a base-conditioning phase for a rugby or football player that needs to put on eight to 10 kg of muscle, as part of a carefully periodized plan or for a tennis player that must perform for hours at a time. The point here is that the only athletic component current bodybuilders encounter is having to walk across a stage and selectively spasm their muscles to their favorite tune! That is not how you win a tennis match, test match (rugby), wrestling match or volleyball game. Sadly, those practicing modern bodybuilding constitute a microcosm of people at best, yet for financial reasons, the machine and supplement industries have funded the popularization of inferior training and conditioning methods. Somehow, they even managed to penetrate major university physical therapy departments, regardless of the fact that motor learning science and physical medicine research has negated the concepts since about 1950!

What is Functional Exercise?

Today, many athletic programs and professional sports teams use bodybuilding machines and protocol to condition athletes. When we consider that most bodybuilding exercises require neuromuscular isolation (working a single muscle), not integration (working multiple muscles and muscle groups) and virtually every sport or functional activity known to man requires high levels of neuromuscular integration, we are off to a bad start. Additionally, consider that most bodybuilding exercises are performed on machines (see Figure 4 below), requiring no activation of postural muscles, minimal activation of stabilizer and neutralizer muscle functions, and certainly don't require that you continually maintain your center of gravity over your own base of support; there's not much need to activate stabilizers and postural muscles when sitting on a machine with a huge base of support that is bolted to the floor!

Figure 4 below shows the Hamstring Curl Machine. Typically used to strengthen the hamstrings by bodybuilders and uninformed athletes, the strength developed on this machine has minimal carryover to function when compared to the hamstring strength developed during a deadlift, good morning or Olympic lift. In addition, when using machines, you are teaching the nervous system to use large muscles in relative absence of other necessary stabilizer and neutralizer muscles, which can't happen during any functional, unsupported activity!

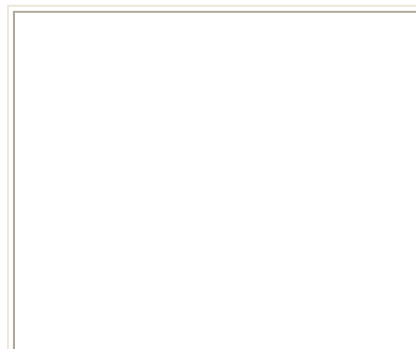




Figure 4

Compare traditional bodybuilding exercises to good old free weight training exercises such as the front squat (see Figure 5 below) or medicine ball exercises like the back toss (see Figure 6 below). When you perform a free weight exercise that requires maintenance of your own center of gravity over your own base of support and are unsupported by an outside means, you must co-condition all stabilizer, neutralizer and postural muscles directly involved with that given exercise or movement pattern. If you want to see what happens when you do too much bodybuilding, take any bodybuilder to rugby practice and watch what happens when the team starts practicing agility drills; sort of like watching a truck driver dance funk!

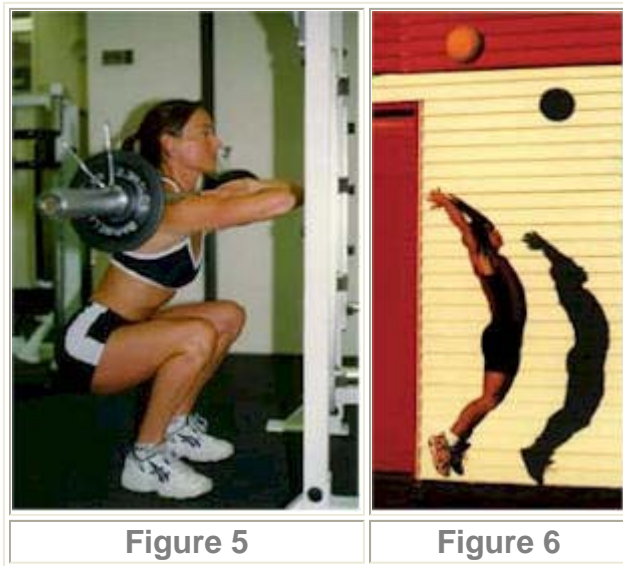


Figure 5

Figure 6

If I were a Bengal tiger in the wild, I would certainly be hoping to see a bodybuilder or two about now. I wonder if a tiger could taste the lack of neuromuscular intelligence in a muscle should he have eaten a bodybuilder. A good athlete will never know!

Now that it's obvious that primal beings were athletes and most bodybuilders are praying that we don't wind the clock back 2000 years, let's look at what athletes (and bodybuilders if they are still here) can do to improve function and prevent injury.

Balance and Proprioception

SWISS BALLS, also called Physio-balls, Stability Balls, Fit Balls, Medi-Balls, Gymnic Balls and most recently the new super strong Aussie-made Dura-Ball Pro (designed to be used with free weights), are incredible tools for both rehabilitation and performance enhancement. They allow unrestricted 3-D movement at any speed and also require that you constantly maintain your base of support. Exercising on a Swiss Ball enhances the development of both righting and tilting reflexes (Table 1). This is important because righting and tilting reflexes, or a combination of both, are required for optimal performance in virtually every sport, even posing in a bodybuilding competition! For example, walking on a balance beam (fixed object) requires righting reflex activation as the dominant reflex profile, while tilting reflexes are activated when you step on an object that moves under you (see Figure 7 below), such as a moving sidewalk in the airport, riding a horse or riding a surfboard.

SPORT	RIGHTING REFLEX USE	TILTING REFLEX USE
Gymnastics	XXX	-
Soccer	XXX	-
Surfing	XX	XX
Equestrian	XX	XX
Rugby/Football	XXX	XX
Basketball	XXX	X
Ocean swimming	X	X
Mountain biking	XX	XX
Moto-x	XX	XX
Walking on slippery surface	XX	XX



Figure 7

The Fitter is an excellent piece of equipment, originally designed to improve ski performance. This unique piece meets all the requirements for decreasing your chance of being eaten by a tiger and increasing your chances of scoring goals! As you can see in Figure 7 above, you will develop balance, coordination, learn to maintain your center of gravity over a constantly changing base of support, and by the way, you will have to learn to do it fast! Sounds like sport, doesn't it?!

Olympic lifting and all unassisted free weight training will improve performance to primal standard and beyond if guided by an experienced conditioning coach. To clarify what I mean by "primal standard", consider that as developmental beings we had to squat, lunge, bend, push, pull, twist, walk, jog, and run efficiently and effectively to survive. If you couldn't perform these essential primal patterns, you were a drain on your family or dead, one of the two! An important point to make here is that all seven primal patterns (gait includes walking, jogging and running) required that you maintain your center of gravity over your base of support at all times. Additionally, they require high levels of neuromuscular integration and significant levels of coordination, and, depending on what you were doing, required one or a combination of both righting and tilting reflex activation. Can we say the same for today's modern machine-based training environment? Even if you don't consider yourself an "athlete" or if you are elderly, all the principles of developing athleticism apply to you! I commonly tell my patients, "If you can't, YOU MUST!" because it's the movements you have a hard time doing, or can't do, which get you that unfortunate day when you have to move that way.

The length/force relationships developed with free weights are exactly what the sports doctor ordered in every way. With free weight training, our joint mechanics and gravity create an environment that produces the greatest load on the muscle-tendon complex at a point approximating the strongest point of the length/force relationship of any given muscle-tendon-joint complex. For example, if you were to do a biceps curl with a dumbbell, the load is at its maximum when your forearm is parallel to the earth; that is about mid-range with relation to the sliding (contractile) filaments in the muscle. In contrast, a biceps curl done against stretch cord resistance produces continually increasing load as the stretch cord lengthens. Therefore, the obvious point of maximum loading becomes the point at which the muscle is maximally shortened, which is not where we tend to use our muscles to perform functional activities; with that in mind, you may wonder just how valuable stretch cord training is over the long term.

To improve performance and prevent injury, consider we are all still cave men and women wearing nice clothes and driving cars. When embarking on an exercise program for general health and fitness or for sport, you must ask yourself what biomotor abilities your leisure, work or sport environment requires and select exercises that will enhance performance, not detract from it. In short, the best

thing you can do is train predominantly with free weights, a Dura-Ball and some balance and proprioception training toys. You will not only improve performance and prevent injury but you will have fun! If you feel you need guidance, there is a network of highly skilled, highly trained C.H.E.K Practitioners available to assess you and develop conditioning and nutrition programs specific to your needs.

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