

Starting Strength

“Core” Stability “Training”

by

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It is a matter of pride to me that I can go through an entire weekend seminar without once using the “C”-word. Out of a concern for my participants and my reputation I fastidiously avoid using the term “core” when referring to the trunk musculature or the stability thereof. I am so utterly goddamn tired of hearing about the “core” from members of the lay public, infomercialers, doctors, PTs, ATCs, personal trainers, and strength coaches that as a form of protest I refuse to use the term at all. That is why it will appear in this article only in scare quotes. “Core.” “Core,” dammit.

The “core” is the collection of muscles that stabilize the spine. It is composed of all of the abs, the three layers of the side abdominal wall, the posterior spinal muscles, the pelvic floor muscles, the hip flexors, and actually the diaphragm and the intercostals, although that may be working a little too far north. These muscles work together to control spinal position, which normally means keeping the spine rigid during work that involves force generated by the hips and legs and transferred through the trunk to a resistance at the hands, or in the specific training situation created by the squat, on the back or shoulders. The “core” muscles maintain the intervertebral relationships that allow the spine to both transfer force and remain uninjured in the process. They are extremely important in all sports, especially the barbell sports, and that is why I have an interest in this topic.

The problem with the concept of training specifically for “core” stabilization is that it doesn’t make any sense. Leaving aside the arguments for using it to prevent back pain in sedentary populations (everybody that doesn’t have a “stable core” has back pain?), it proceeds from several ridiculous assumptions, and it is completely inapplicable to an athlete who is training properly on a basic barbell program. While it is absolutely true that all movements in sports that involve a ground reaction – a movement involving the feet generating power against the ground while the body, usually through the hands, applies it to a resistance – utilize the pelvic and trunk musculature to stabilize the spine during the movement, there is nothing magical about this part of the muscular anatomy that causes it to function as anything but a normal link in the kinetic chain. The “motor” is the hips and legs and the “transmission” is the spine. Without a big motor, the transmission has nothing hard to do. The spine is important, and therefore its stability is important; when the whole system is loaded, the motor and the transmission adapt together at the same time. The entire kinetic chain is developed by barbell training because squats, deadlifts, presses, and the Olympic lifts utilize the entire kinetic chain – and therefore *strengthen* the entire kinetic chain in the same way you’re going to use it.

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But a trainer that doesn't use barbells wouldn't know this, would they? They have been taught to prescribe isolation movements on Nautilus-type selectorized machines that require no balance, and therefore no coordinated use of the axial and appendicular skeleton. A trainer that brings such a limited perspective into the weight room might well be of the opinion that the only way to train the “core” is to perform silly isolateral movements while balanced on a Swiss ball. If the only type of exercise you are trained to perform leaves out the coordinated use of the hips, the spine, and all the stuff above and below it working at the same time, I guess you might believe that Multi-Directional Lunges and Seated Marching on the Physioball are the best ways to wake up your sleeping “core”. These types of extremely submaximally-loaded odd movements are roughly equivalent to the stresses encountered when taking the groceries out of the back seat, or walking through a crowded bar without spilling your beer. They are quite literally equivalent to the same physical stresses encountered while cleaning the house thoroughly, and they cannot provide the stress necessary to cause an already-trained athlete to adapt further.

I shall illustrate my points by referring to a rather typical article regarding “core” stabilization training. This one appears at www.coachr.org/core_stabilisation_training_for.htm and was written by Dr. Michael Fredrickson and Tammarra Moore, PT, both of whose credentials reflect a specialization in training runners, and whom I predict do not either train with barbells themselves or prescribe them for their athletes. First rattle out of the box, they make this bizarre statement: *“For middle and long-distance runners whose events involve balanced and powerful movements of the body propelling itself forward and catching itself in complex motor patterns a strong foundation of muscular balance is essential. In many runners, however, even those at an Olympic level, the core musculature is not fully developed.”* This pretty much renders anything that follows suspect. How is it possible that athletes – at the *Olympic* level – are performing movements that involve balance, power, complexity, and strength, but that these athletes are not adapted to these demands? How can such movements be performed without causing stresses that produce adaptation? How can Olympic-level athletes achieve this degree of proficiency without having adapted to the stress imposed by their training? How can they perform at the *Olympic* level with such a glaring deficiency in their physical development? Either this assessment of these athletes' adaptive level is not true, or running is not all that balanced, powerful, complex, or strength-demanding. Perhaps both, eh?

So the method these people have constructed attempts to develop the “core” in the absence of enough resistance to actually make it strong. Strength still means “the production of force against an external resistance,” even if you're talking about muscles whose function is isometric and the thing they are working against is leverage along the spine. Yet they have decided to use “moves” (sorry, but lots of things in modern exercise “science” deserve scare quotes) that feature a variation on traditional abdominal training (planks, weird situps) or exercises performed on an unstable surface using only bodyweight resistance or any light dumbbell that features a chrome or colorful rubber finish.

Now, adaptation to stress is either specific, or it's not, right? Which actually happens: the shovel handle makes calluses on the palm of your hand, or it makes calluses on the back of your hand? Do runners, tennis players, volleyball players, judo players, or any other athletes that you can think of without getting too exotic actually compete on an unstable surface under extremely submaximal force production conditions? No? Then why expect this type of training to be useful to any but the most absolutely untrained of novices?

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“Specific exercises for the runner should progress from mobility to stability, to reflexive motor patterning, to acquiring the skills of fundamental movement patterns, and finally, to progressive strengthening.” I wonder if this is their approach for every runner, or just those recovering from brain surgery. It is hard to believe that runners are such initially poor athletes that such remedial actions are necessary. First you have to get them moving, then you get them to move without falling down, and then you get them to move enough that they don’t have to plan each movement every time, and after that you get them really, really good at basic stuff like putting one foot in front of the other foot efficiently, and finally you show them how to use the leg extension machine.

In their defense, they do say: *“These sequences may not be applicable to all athletes; therefore, the key is to analyse the individual in each exercise category and then to tailor an exercise regimen that will best suit that runner’s needs.”* But as is usually the case, all athletes are runners. So very tiresome.

But here is the important part: *“For example, it has been shown that runners prone to iliotibial band syndrome often have weakness in their hip abductors that predisposes them to increased stress on the iliotibial bands. Thus, a preventative training programme (Brits, I suppose) for runners with this syndrome must target the hip abductors, particularly the posterior aspect of the gluteus medius that assists external rotation or in decelerating internal rotation of the hip. Other muscles that prove weak or inhibited on evaluation should also be strengthened on a case-by-case basis.”* This is the nut of the situation: these people are apparently incapable of understanding that the body functions as a system, and as a result it is best trained that way. It is as though Arthur Jones has removed the part of their brains that allow them to understand the mechanisms by which barbell training affects the entire body, including the “core” right along with it. To the modern conventional exercise practitioner, there is always an isolation exercise for every isolated muscle weakness, and a good physical therapist – the final arbiter of all exercises – can always teach you how.

Let me ask all you “core stability” people a question (okay, a few questions): *why don’t you just squat?* What the hell is wrong with your reasoning ability here? Are the effects of deadlifts, cleans, presses, and squats too complicated for you to appreciate? Do you not see that an athlete with a 200 lb. press, a 300 lb. clean, a 400 lb. squat, and a 500 lb. deadlift has a stronger “core” than your runner who can just manage to do a Standing Reverse Wood-chop with a 2 kg medicine ball? Where did you manage to find a 2 kg medicine ball anyway?

Did you know that these numbers are not so high that they require the degree of specialization of training typical of a competitive lifter, and that any decent 200 lb. male athlete should be able to do them? Can you not see that the process by which a 400 lb. squat is acquired develops the ability to stabilize the spine by developing all the muscles that do so in the most functional way it is possible to imagine? That getting strong enough to stabilize the spine while pulling 500 lbs. off the floor strengthens the muscles that stabilize the spine? Do you not understand the magnitude of the task of keeping the spine stable while inserting your body between the bar and the floor during a 200 lb. press? Can you appreciate the dynamic forces that must be controlled while cleaning a 300 lb. bar to the shoulders, and that for an efficient transfer of force from the legs and hips to the bar the spine must be held rigid, and that the “core” muscles do this job? Can you not understand that if your spine is strong enough to do these relatively hard things it’s strong enough to do all the things that are easier?

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Can you not appreciate the ability of barbell training to precisely adjust the load to the ability of the athlete as he develops his “core” strength, and all her other strengths at the same time? Do you understand the full ROM-nature of correctly performed barbell exercises, and that as a result the full ROM is actually improved while being strengthened at the same time? Did you know that these exercises are actually quite easy to learn, much easier in fact than the material for the ACLS certificate you’re probably studying for right now? I’m obviously not that smart, and I promise that I can teach you how to do them and coach them in the time it takes you to analyze my kinetic chain.

But wait, I think I hear your objection, even from here in my office: you think barbell training is going to *slow down* your runner – uh, your athlete, sorry. You think getting strong will actually decrease the ability of your athlete to apply force in a pattern useful to his performance on the track or the road. You can just imagine the loss of mobility necessary for the full ROM used in running (humour, as it were), and other sports like tennis, volleyball, judo, or any other sport that would suffer at the hands of the “muscle binding” that *always* accompanies the process of developing a 400 lb. below-parallel squat and comparable strength in the other lifts. Yet you somehow believe that Alternate Seated Dumbbell Presses with 3 lb. weights will improve his athletic performance in some esoteric manner that my simple mind cannot understand.

I am puzzled that anyone who has actually gone through the process of getting strong themselves actually thinks that this approach to training really causes an improvement in athletic performance. Unless a person is an unadapted rank novice (for whom *anything* acts as an adaptive stimulus) or a genetic freak (for whom ineffective silly shit like 5 lb. Alternate Dumbbell Presses while standing on a Bosu® thingee) will not adversely affect an already elite performance (as said athlete will confirm when asked by somebody other than his coach), “core stability” training is an absolute waste of time that could be much better spent getting stronger – and therefore more stable – in much more effective ways. Any person who has first-hand experience with both heavy barbell training and fooling around at the physical therapist’s office knows this to be true.

And most importantly of all, this is actually the way the vast majority of the drivel that composes modern exercise “science” gets promulgated: people with no personal experience with the process of getting much stronger begin to hold forth on a method they like, one that seems like it ought to work. They try it on untrained populations, who – not terribly surprisingly – get better than they were before. They write about it in a peer-reviewed journal (whose reviewers are all publishing in the same journal) or on the internet. Time goes by, and a brand-new training system is born. Sound familiar? I hope so. Learn to evaluate before you end up wasting precious time.

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