# Starting Strength

## The Most Important Thing You Will Ever Learn About Lifting Weights

by

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Your lower back may very well be doing absolutely nothing that you tell it to do. Learning how to control the muscles that set the curve of your lumbar spine may be the most important thing you learn this year, because I can't think of a more important part of your body to have under control. More than any other piece of the support structure, it directly determines your lifting efficiency.

We teach a lot of people to do the basic barbell exercises in our weekend seminars. In groups that range from 10 to 35 people, we have spent the last 4 years showing thousands from every demographic group how to squat, bench press, deadlift, press, and power clean. All of these movements demand the use of an extended, or "arched" lower back, for efficiency of force transfer and production, and for safety. I will admit to being guilty of having said, "Safety is for pussies." But that is my peculiar way of saying that safety is a by-product of efficiency, which you are expected to utilize anyway. And this arched low-back position is inherent in the effective use of the spine as the transmission – for power produced in the hips and legs and applied at the shoulders, upper back, and hands.

And in every group we teach there are always, without exception, at least a couple of people that cannot either produce or maintain a lumbar extension. In other words, when I ask them to "arch your lower back," or do an "anterior pelvic tilt," or to "stick out your butt," or to "make your tailbone touch your mid-back," or any number of other artful commands designed to stimulate the attendee to produce the desired low-back position, a couple of people cannot do it.

Interestingly enough, all the women can do it perfectly. I don't even ask to see them demonstrate this position – not because I am leery of an inappropriate-behavior accusation (although this has happened, funny story, I'll tell you sometime). I don't ask because I have never met a female who could not immediately, and with pride, produce a voluntary lumbar extension. It is a normal posture for any woman not swaddled in a burqa, a display position learned when they are young. The biggest problem with many women is an exaggeration of the arch into overextension, probably a worse position than flexion under load.

So I just save time and only check the guys. Many tall, skinny kids (maybe most of them) cannot even bend over without rounding the low back into complete flexion, as if reluctant to bend the knees but quite happy to round the spine. Many of these kids grow up to be relatively normal-looking adult males without ever learning to use the low back correctly. There are always a couple that have no

concept of this position, and once they're shown how to do it, all of them will tell me that this is the first time they have ever voluntarily assumed this position.

I'll not insult your intelligence here by explaining why the low back needs to be in the normal lordotic – the extended, or "arched" – position to bear a load. It's been written about by me and many others elsewhere, and if you're interested enough to be reading this magnificent article you already know this. The thing you need to know is why so many people don't have the ability to voluntarily assume this position. And whether you might be one of them. And, of course, how to fix it if you are.

The reason that you and many other people can't arch your low back and hold it there in a squat or deadlift is because you actually don't know what position your back is in. Your *kinesthetic sense* for the position of your spine remains undeveloped. You may actually think it's arched already when it's really in flexion. An awareness of the position of your back is necessary for the control of that position. Until you can identify lumbar extension – what it feels like to have your lower back in a position where the erector muscles are in contraction – you won't be able to assume this position when you want to, or when you have to, like in a squat or at the start of a deadlift.

More importantly for lifting heavy weights, unless you can produce a voluntary concentric contraction of the lumbar muscles to set your lumbar spine into hard extension, you will not be able to reliably control those same muscles isometrically under a load. If you can't arch your back when you want to while standing up without any weight on your back, how in the hell will you be able to control it when controlling it gets hard?

Here's what typically happens: After I identify the guys who have a "quiet" lower back, I'll stand beside the worst one and place my thumb and fingers on the muscle bellies of his erectors at the level of about T8, and then trace the muscles down to the sacrum. This tactile cue is sometimes sufficient to trigger a contraction of the lower back muscles. I'll say "Arch this part of your back." Then I'll watch carefully to see what he moves. Most guys that don't get it right will lift the chest instead of arching the low back, or lean forward by slightly flexing the hips without changing the position of the spinal components.

The problem is not that the muscles won't contract – it's that he's never tried to make them contract before now, and he doesn't know how. There is no connection between his brain and his neuromuscular system that involves these muscles. Like asking me to play *Amaj7* on my guitar (I never learned that chord), I'd have to think very hard about where to place my fingers, watch them with my eyes, and practice doing it several hundred times before a "motor pathway" was established that allowed me to actually play the chord in a useful, non-nauseating way. Fortunately, the motor pathway to the lower back is much easier to establish, because the motor units involved are not as small – it doesn't take fine motor control to arch your lower back, so there are fewer nervous system components involved in the movement. And they can be taught much more quickly, if you can figure out how to get the guy to do it right just a few times so he can *feel* what he's supposed to do.

When this doesn't work, I've got several tricks I use to produce the position. The cues continue: "Lift your sacrum (I then touch it) up here to your mid-back (I touch his spine at T8). Make these two spots come together." Or I'll turn around and have him lay the palm of his hand flat across my low back and produce the contraction I want him to do myself. This works surprisingly well; some people can learn from watching the lower back of another lifter go into contraction and then copying the motion. Feeling it with the hand reinforces what the eyes see.

Or I might explain the concept of the pelvic tilt. The pelvis is hooked up pretty thoroughly to your low back, and if you tilt the top of your pelvis forward, the bottom tilts backwards and the low back goes into extension. With a combination of demonstration and manual assistance I can produce

the anterior pelvic tilt that arches the low back. A helpful cue for males is, "Drop your dick down between your knees." Grandiosity being common, this usually works better than any other cue.

But if all these things fail, Plan B goes hot: I lay the guy down in the floor on his belly with hands behind the head. I have him relax his chest into the floor, then I say, "Lift your chest and elbows up off the floor." This produces an extension in the thoracic area of the back, well above where I want it. I have him do this a couple of times, and then explain that this is lifting the chest. Then, "Now, lift your knees and feet clear of the floor. Keep your knees straight." I have him hold this contraction for a few seconds, and then I touch the lumbar muscles, which are now in contraction. "Do you feel the difference between this and raising your chest up?" He can now feel my hand on the muscles, like before when he was standing, unable to make them contract, but now they are tight – he has produced a voluntary contraction in the muscles that before were previously unresponsive to the command, because it is impossible to produce this movement without an active contraction of the lumbar erectors. I let him relax a second, and then he does a set of 10 reps, holding each arch for a couple of seconds. At the end of 10 reps the previously-lazy muscle bellies have accumulated some lactate, and the burn is an identifiable product of the contraction. Then I stand the guy up and tell him to make the same motion he did on the floor. The muscles are still burning, and he remembers exactly what action made this happen. A combination of these cues and this position on the floor works every time.

Why is this the most important thing you will ever learn about lifting weights? A lifter who cannot control his lumbar spine is not as good a lifter as he can be. The rigidity of the spine is so important a component of the force-transfer mechanism between the floor and the bar that your pulling and squatting efficiency is severely compromised until you learn this. Many people get away without knowing about this control deficiency for years because their abs and related muscles are strong enough to compensate for this missing component. This is why some guys just lean forward into hip flexion when I try to cue the low back – ab contraction has been the default mechanism for spinal stability because that's all that was available.

I have discovered experienced lifters that lacked the ability to concentrically control the lumbar muscles. These guys immediately improved their pulling and squatting upon being shown how to produce the contraction – immediately meaning the *next set.* Olympic lifters with this hole in their preparation will exhibit bar path problems that do not respond to the usual cues. If a slightly different amount of pull gets transferred to the bar on every rep, a slightly different bar path will result, due to the difference in force transferred to the load. If you are coaching a lifter, don't forget to check the low back for tightness, since it has such a bearing on performance. And, just for the hell of it, ask your lifter to demonstrate his low back arch for you. You may be surprised.

So when you get through reading this amazing article, here in about 10 seconds, stand up and see if you are one of the guys whose lifting can immediately benefit from learning how to control your low back muscles. If you are, you're welcome.

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