Your Form Sucks

Poor posture can create poor results and cause injuries.
Dr. John Zimmer explains how to improve posture for best performance and safety.

By Dr. John Zimmer **May 2010**

Susannah Dy/CrossFit Journal

There is no replacement for having a thorough history and exam and a one-on-one relationship with your health-care practitioner, be it your chiropractor, physical therapist, massage therapist, acupuncturist, orthopedist or guru of choice.

Still, CrossFitters and athletes in the gym who find out I am a chiropractor often ask me about their neck, shoulder, back, knee, foot or whatever injury that bothers them when they run, jump, squat, clean, press, etc. Often when they ask, they are not looking to form a relationship that includes filling out paperwork, getting a thorough history, and doing a physical work-up that focuses on individual joint motion and looks biomechanically at the neuro-musculoskeletal system to see how well those joints are working together. They are just looking for a quick answer, and I give it to them:

"Your form sucks."

Posture for Performance

This harsh statement is something I politely announce on a regular basis, along with telling the athlete he or she is pulling with the arms or has muted hip function, and it usually comes in response to myriad questions that are either injury- or performance-related.

"Why does my shoulder hurt when I do cleans?"

"Why does my back hurt when I deadlift?"

"Why do my knees hurt when I squat?"

"Why do I jerk the same as my push press?"

"Am I doing this right?"

The quick answer is always easy: "Your form sucks."

When it comes to good form, the same fundamentals that apply in the gym still hold once we set down the barbell and leave the gym. CrossFit stresses midline stability—chest up, weight back on the heels. But what happens when we leave the gym? The first thing that happens is we lose this great positioning.

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The first chain of events starts when we lean our head toward what we are looking at. Watch anybody sitting at a computer and you'll see a head drawn toward the screen, anterior of our midline stability. (I bet you are doing it right now.) If you sit like this for eight hours at a time, you are setting yourself up for injury.
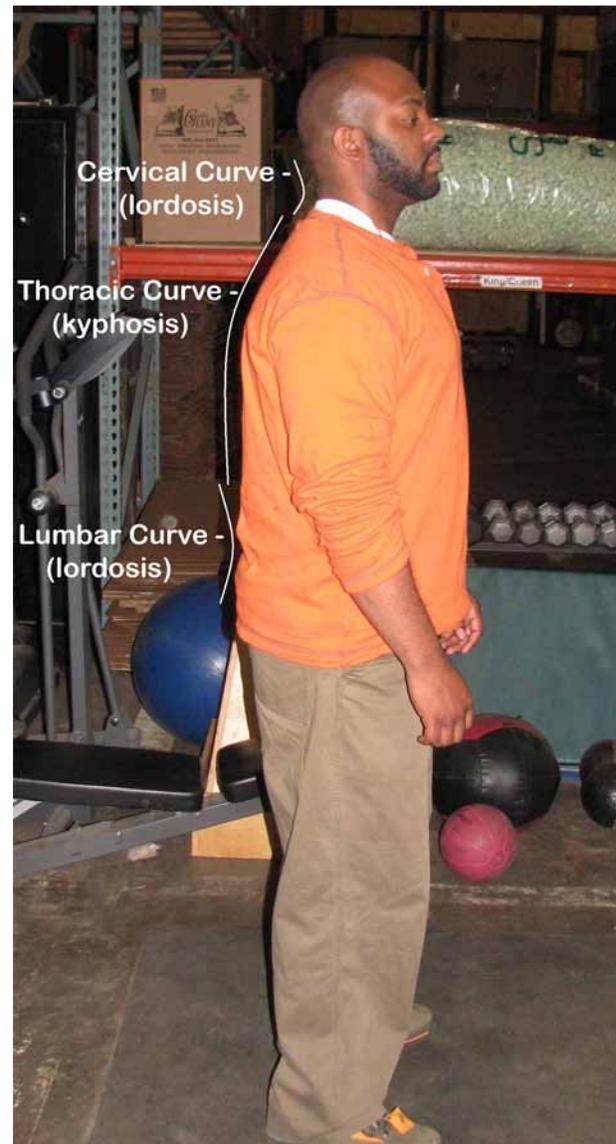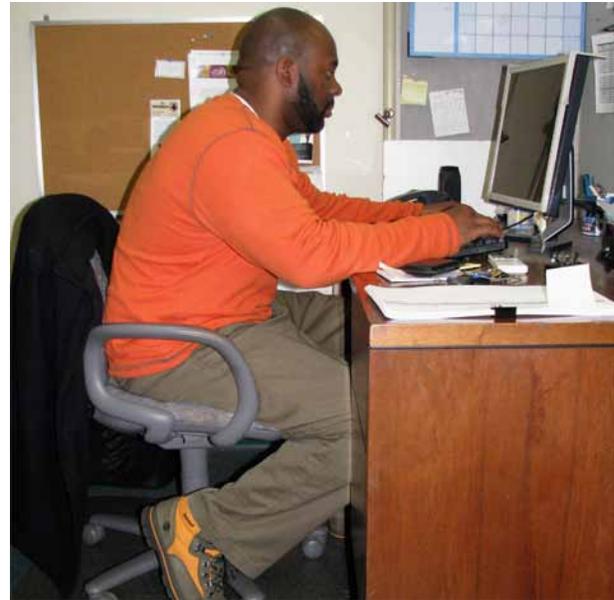

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The curves of the spine give leverage to the muscles around it. Maintaining these curves is essential to efficient and safe movement.

Look at the posture of most people as they sit in a car. Is the head's center of gravity in line with the center of their hips, or are they leaning forward toward the steering wheel? Is the low back stable in extension, or rounded forward in a weak position? Sitting like this for hours at a time can be worse than bad form during a workout. Bad posture puts undue pressure on the lower neck, the upper back, the shoulders and the lower back. It can also cause uneven joint pressure and strain, leading to less than optimal performance and even injury when the body is stressed under a heavy weight moved quickly over a long distance.

Let's look at the front squat as an example. What is the main thing during this exercise that keeps you from losing the bar forward? It is your core strength and your ability to keep your torso upright. What if you had spent the last eight hours sitting at your desk with your torso slumped forward? Maybe it would leave your core muscles well rested and ready for a heavy front squat ... not!

Maintaining the natural lumbar curve of the back is key to a great squat.

Poor posture is training your body over an extended period of time to have bad positioning. If your body is slumped forward or off to one side, then you have trained muscles, tendons and ligaments to be tighter on one side and more slack on the other, and your front squat (among other things) will surely suffer. Your muscles and tendons

Computer work is notorious for creating bad posture.

may not explode into a ball of fire or contract into an immoveable spasm, but you are not putting your body into the best position for success.
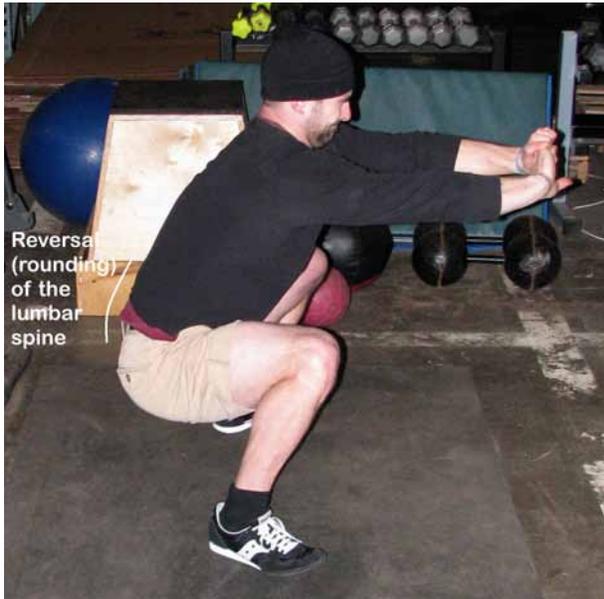
A Brief Review of the Anatomy of Posture

When discussing posture it is helpful to talk about the spine. The spine is made up of seven bones in the neck (cervical spine), 12 bones in the mid-back (thoracic spine), and five bones in the low back (lumbar spine). There are 24 freely moveable vertebrae that are able to rotate, flex and extend to the left, right, front and back.

Ideally in the neck, the first cervical vertebra is centered in line over the seventh and lowest cervical vertebra, with the cervical curve having its apex in the front.

The curve from the neck leads into the mid-back, a long curve with the apex at the back of the torso. This curve towards the back of our body is also called a kyphotic curve, or kyphosis. This leads to a strong curve in the low back.

Like the neck, the low back curves toward the front of the body, also known as a lordotic curve or lordosis. (In the low back, this is where the Ab-Mat goes.)

I never tell someone to "sit up straight." That could give people the mental image of straightening out their neck and the rest of the spine. We need these strong curves from front to back in our spine because they give leverage

and mechanical advantage to the muscles of the spine. They also help spread pressure throughout the joints of the spine so increased pressure isn't concentrated at a few joints.

Here is a helpful posture check:

- Stand up. (Go ahead. I'll wait.)

- Now reach behind your low back and put your hands on the muscles along the spine just above your belt line.

- Lean your head back until these muscles feel relaxed. (You might have to lean back more than you are used to in your regular standing posture.)

- Now lean your head forward just a couple of inches until your feel these muscles completely contract.

- Lean your head back again until you feel these muscles completely relax again.

- Notice where your head is resting in this position as the muscles in your low back are relaxed. If you sit or stand with your head in this position, you are likely putting your body in better posture.

- Instead of "sitting up straight," attempt to put the body's center of gravity in the best position. Many of the cues that we hear in the gym are helpful:

    "Chest up!"

    "Weight back!"

    "Heels and midline stability!"

    And last but not least: "Don't be so fucking lazy!" (Thanks to Jon Gilson for constantly giving me this helpful reminder.)

Remember: posture is a dynamic. If someone were to sit or stand with excellent posture, he or she would still need to move. Take, for example, the seats for pilots in space flight. NASA has engineered seats that essentially have four balloons underneath them. These balloons inflate and deflate individually in a slow and subtle manner. They shift the person sitting to different positions to keep muscles and joints from fatiguing from sitting in the exact same position.

We may not have million-dollar technology in our chairs and seats, and as CrossFitters we know that we don't need it. We can start by sitting with the head over the center of gravity, similar to having the bar in plane over the front
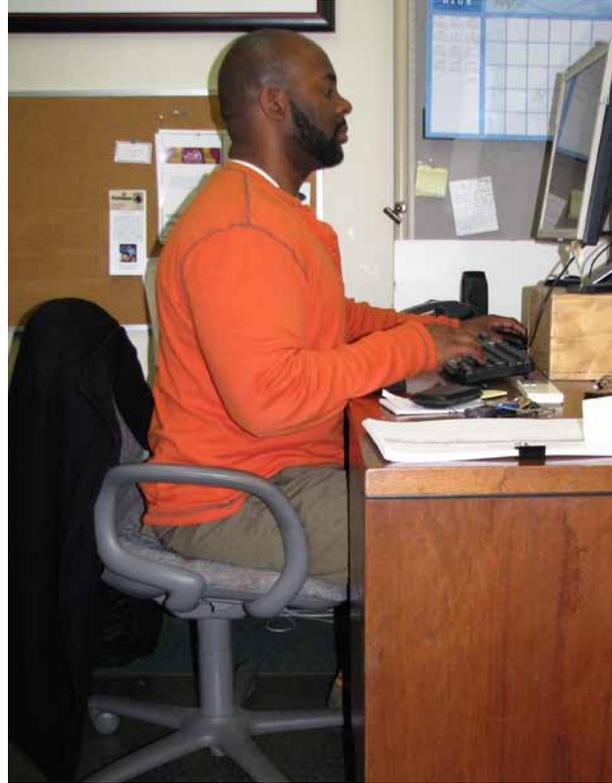
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of our ankles (the mid-foot) during a front squat. To add dynamism to this posture, we can sit in intervals broken up not only by shifting in the chair but also by standing, stretching, walking, bending, lifting, etc. You can be as creative as the confines of your office will allow.

The point is not to sit with "perfect posture" for the eight hours that you are at work or to stand with "perfect posture" for the entire day, even if such a thing is possible. Posture is a dynamic. It incorporates structure *and* function, mobility *and* stability.
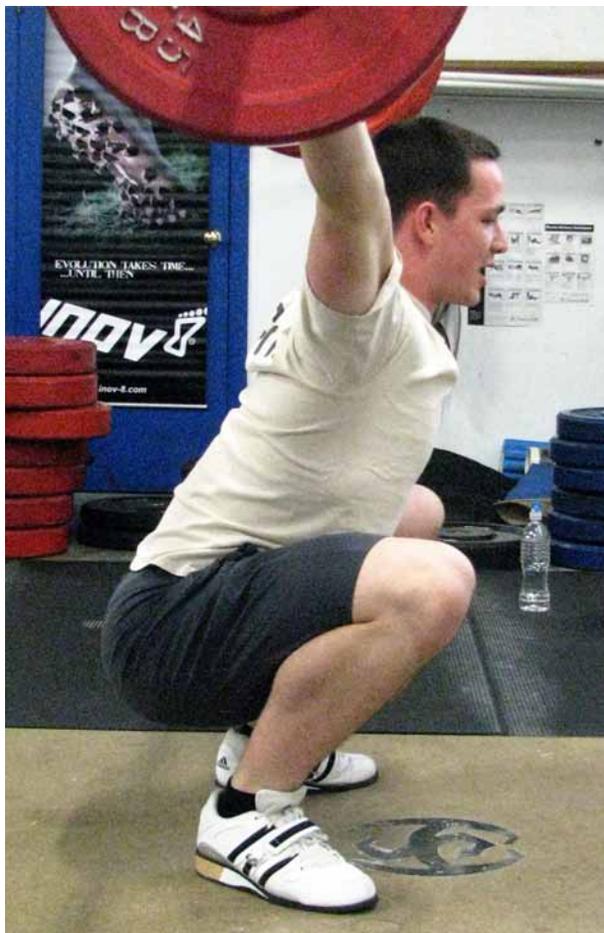
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The first step is to break up the patterns of bad posture and to avoid holding those positions for long periods of time. When you find yourself slumped into your chair with your head leaning forward and curving toward your computer screen, ask yourself, "What would happen if I caught a power clean in this position? Would it land neatly in the rack position or would it dump forward (like my posture) and land with a thud on the platform?"

When you are back in the gym, get feedback on your form from a coach or workout partner with a keen eye for motion, and film some of your reps and sets during your WOD. Any inexpensive handheld camera with a video function will do. Those seemingly hidden lapses in form will become painfully obvious when you hit play. Reducing weight and working to improve form is often the next step.
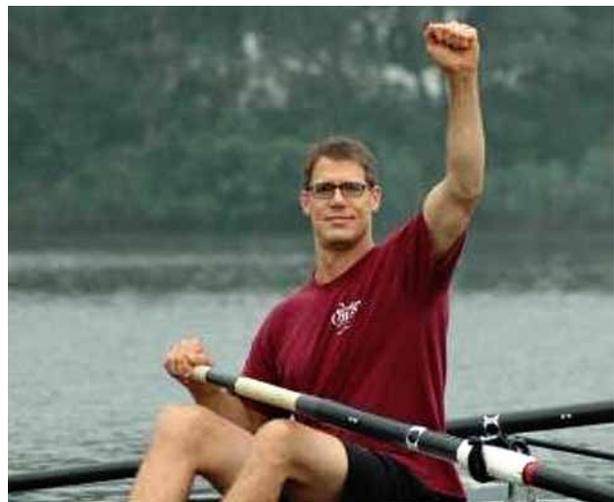
Form *and* Intensity

I am not a total "form Nazi." When it is game day, I have a huge appreciation for all-out effort at end ranges of strength, power and speed, where form not only breaks down but can also become an abomination. I am not denouncing a nearly exhausted marathon runner's lack of midline as he struggles through the last mile of the race. I am cheering the effort.

But if you practice with this "get 'er done" sense of wild abandon and lack of form, you are limiting your own success. Never be afraid to take a step back and focus on the fundamentals. Build the base of your pyramid as wide as you can that one day you can build it higher.

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James Hobart works to achieve great posture in an overhead squat. What if you worked to achieve great posture while reading this article?

About the Author

John Zimmer is the team chiropractor for Gentle Giant Moving Company, where he works with CrossFitters, rowers, runners, climbers, rugby players and martial artists who also happen to move furniture. In his spare time he can be seen hitting the WOD at Crossfit Boston.