Desk Jockey: What Sitting All Day is Doing to Your Body

The Cause. A lot of people's musculoskeletal problems can be attributed to the fact that they sit down for 16+ hours a day. They are "desk jockeys." If you have a job that requires you to sit down at work, you probably sit all day, and then come home and sit some more (at dinner, in front of TV, in front of PC, etc.). Sitting is not bad for your body. Indeed, slouching is not bad for your body. However, putting your body in one position (be it sitting or sitting with a slouch) and then holding it still all day for years–decades even–can and will have repercussions, especially for those who have a genetic predisposition to some sort of musculoskeletal problem, like I do.

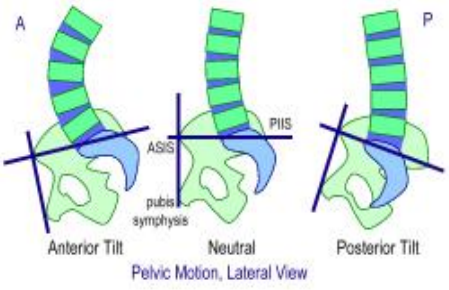
Engineering Muscles. I find it's best to examine one's body like an engineer would. Muscles always cross some joint, they always connect to two or more bones. Muscles can be lengthened or tightened on a semi-permanent basis by stretching and exercise respectively. For example, by exercising your hamstrings, you will, over time, increase the resting muscle tone of your hamstrings, effectively shortening the muscles. So think of all your muscles like a piece of rope and imagine your goal is to get those ropes to their ideal length (your tools being exercise to shorten/tighten and stretching to lengthen/loosen).

Muscle Adaptation. Now, complicating the picture is the fact that your muscles and ligaments adapt over time to conditions to which they are repeatedly subject. So, for example, if you slouch all day in front of a computer, the thoracic portions of your erector spinae muscles will lengthen and become weak because (1) they're constantly being slightly stretched and (2) they're not being exercised. It may also be the case, though I don't know for sure, that the ligaments that encase your spine will loosen on the posterior side of your spine from the stretch exerted on them by slouching.

Adaptation to Sitting. So how do your muscles react to sitting down all day? First we have to separate sitting down from (a) slouching and (b) sitting in front of a computer. These are three different concepts. Sitting, even in good posture, is still going to have certain negative effects on your body, so, for simplicity's sake, when reading the following, just conceptualize sitting with good posture as sort of a less-bad form of slouching or sitting in front of a computer. Most people slouch in front of a computer all day, which is worst case scenario, and that's what I'll address here.

When you sit at a computer your body is positioned as follows:

1. Your pelvis is tilted posteriorly to a great degree (imagine the end range-of-motion if you were trying to hump something while standing, sometimes referred to as "freaking" on the dance floor).
2. Your lower back is in flexion (i.e. your lumbar spine is curved (concave) backwards) to a great degree.
3. Your upper back is in flexion (i.e. bent forward) to a great degree.
4. Your shoulders are vertically positioned over your thighs, not your pelvis.
5. Your head is positioned even farther our over your thighs than your shoulders.
6. Your forearms are internally rotated (i.e. pronated) to nearly end-ROM.
7. Your iliacus and psoas are in a lengthened position.

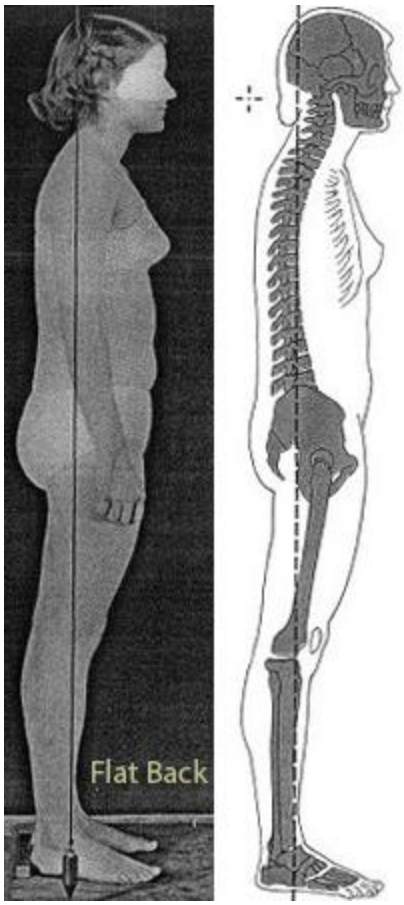


Pelvic Motion, Lateral View

This is the positioning that your muscles and (possibly) ligaments will adapt to over time. Your body will get "good" at assuming this position. Everyone has a different body, so everyone's body will react differently. The following is typical:

1. Leaning back. This new posture actually puts your iliopsoas muscle into a lengthened position in the same way that sitting down does.

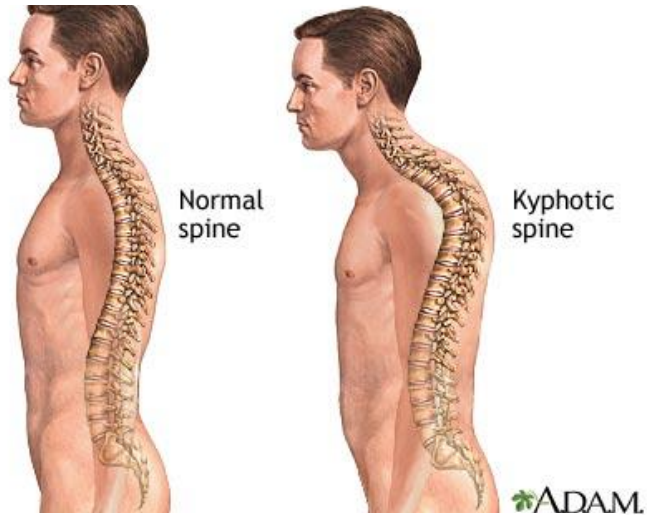
How do I Fix all this? Whoa, easy there. Don't jump the gun. Remember, this article makes vast generalizations about how a typical person's body reacts to a seated lifestyle. You're not the typical person. You may play a sport, you may be fat, you may be old, you may be young, you may have a joint disease; you could by anyone. Before you start googling "posterior pelvic tilt" and "excessive kyphosis" and "flat back" you need to figure out whether you have any of these problems. Would it give you pause if I told you that some people's bodies react in the exact opposite way to what I described above and that doing corrective exercises and stretches for the conditions I described above could actually make your problem worse? The last thing I need is my readers going to some screwball website and hurting themselves. Been there, done that.



You will need a professional to analyze your body, including your posture, with the assistance of a digital camera. For now, lie down supine (i.e. face up) on a hardwood floor and get a friend to try to fit their fingers underneath your lower back while you're relaxed. If your friend can't get anything under there you may have reduced lordosis. If your friend can roll a softball under there, well, then you have different problems.

Application. I think people run into problems when they try to exercise because they assume their body is and should function normally. Instead, they should be viewing their body through a different lens: their body is good at sitting. It has adapted to sitting over time. This makes it predisposed to certain injuries and problems. This is the paradigm we should have before entering the gym or coming up with a rehab plan. Most everyone in modern society spends the day sitting. Do not assume normalcy.

Lastly, if you are an athlete don't assume this article doesn't apply to you. You can take this article's principles and apply them to your sport. So, for example, if you're a cyclist, this article has special meaning for you: you put your body in even more extreme spinal flexion and posterior pelvic tilt than the desk jockey does, often for hours on end. If you're a runner (and especially a weekend runner who has a day job in an office), think about what having excessive kyphosis does to your gate. It's going to put your weight more over your toes as your run. This may, in turn, cause anterior knee pain and a host of other problems.



Sitting Shuts off Fat Burning: To add more fuel to the fire, science has shown that when you sit, the little fat-burning enzyme that sits on top of each fat cell actually shuts off. So that's why it's a good idea to move about every 40 minutes or so.

When you have a desk job, the fat-burning process is definitely slowed down….going to the gym for an hour a day will help, but not to the same magnitude as if you had a job where you were on your feet all day. Maybe it's time to think of a new career?